TECHNOLOGY IN INDUSTRIAL AMERICA

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THE COMMITTEE ON SCIENCE AND THE ARTS OF THE FRANKLIN INSTITUTE 1824-1900

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FOREWORD

A belief in Yankee ingenuity is so much a part of the national self-image that it would be difficult to say when it first appeared. And yet, while "knowhow" has often been described in generic terms, the fact is that Americans have devoted a great deal of effort to stimulate and foster technical ability. Indeed, one of the best examples of their inventiveness is the variety of institutions devised over the years.

One of these institutions, The Franklin Institute, became the vehicle of a youthful group of manufacturers, engineers, and scientists looking for new ways to generate technical progress. Of the various instruments they fashioned, one of the most interesting was the Committee on Science and the Arts. It was given a broad mandate to conduct state-of-the-art investigations into any science and technology, the encouragement of which seemed important to national purposes. It also assumed responsibility for the impartial analysis of any invention submitted to it; that activity, too, had as its objective the country's technical advancement. In a way, the Committee was created to perform a function--the promotion of science and the useful arts--that many Americans thought the Patent Office should carry out. But to the dismay of the mechanic community, that agency narrowly defined its purposes. Patents were granted with an easy liberality, issues of novelty and infringement were frequently left to the courts, and the educational potential of the patent system was largely ignored.

The Committee on Science and the Arts, established as a corrective to this situation, was an immediate success, and other organizations soon imitated its work. It addressed itself to matters of general scientific

concern and also carried out a number of specific investigations on behalf of state, local, and federal governments. The examination of new inventions, however, always remained the CSA's principal activity and during the course of the nineteenth century it reported on a remarkable miscellany of inventive effort.

From the beginning the Committee sought to create an atmosphere of impartiality by considering its work confidental. To secure control over its records, it set aside from other institute archival materials a manuscript collection, carefully docket-folded and stored away, of unusual value to historians of American technology. This collection remained unavailable for study except on rare occasions. The approach of The Franklin Institute's 150th anniversary in 1974 called attention to the historical value of the Committee's records, and in 1972 work was begun to make the collection available for scholarly research.

The Committee's nineteenth-century records, now published in full for the first time, will raise a number of issues interesting to those engaged in teaching and research in American history. Reports on the many famous inventions analyzed by the Committee, for instance, Morse's telegraph, furnish material for a more detailed examination of those dramatic technical developments that had obvious national significance. Taken collectively, the investigations reveal that technical revolutions are really the result of many small changes over a period of time. Surely one of the most fascinating features of these source materials is that they are contemporary assessments by experienced judges of current technical ideas.

This first fruit of The Franklin Institute's archival efforts is also a matter of personal satisfaction, since I had something to do with the initial proposal to the National Science Foundation. Credit, however,

belongs to others for the successful development of the Historical Programs Department at the Institute, which will publish other important collections of documents relating to the growth of American industrial technology. As a potential user of these documents and a friendly observer of the department's emergence, I am glad for the opportunity to identify those others. Additional funding came from the National Science Foundation and the National Endowment for the Humanities. The Institute's president, Dr. Bowen C. Dees, provided the financial and moral support he has consistently given to historical research, and Joel N. Bloom, vice-president and director of the Science Museum and Planetarium, furnished administrative and physical space. The work itself was carried out by Michal McMahon and Stephanie Morris, who deserve the thanks of all historians of American science and technology.

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FOR THE PROMOTION OF TECHNOLOGY: An Historical and Archival Essay on The Franklin Institute's Committee on Science and the Arts

At the heart of The Franklin Institute's activities during the last century was a commitment to test the range and quality of the rising industrial technology. In 1824 the thirty-member Board of Managers, the governing body of the Institute, began to develop organizational machinery to encourage and channel the inventive impulse in a rapidly industrializing America. The Board searched ten years for a workable structure before settling on the Committee on Science and the Arts (CSA) as a vehicle for examining inventions and manufacturing innovations. In the spring of that year, the managers appointed the first of a series of select committees, each to be formed upon receipt of an inventor's application and chaired by a manager. The use of select committees the first year--all other committees already had permanent status--reflected the Institute's sense of the precarious public position involved in the evaluation of inventions. Mathew Carey, Chairman of the Board and a leading publicist of the industrial movement in America, explained in the first annual report that the managers had acted carefully "in the appointment of all special committees [to examine inventions], to avoid the nomination of individuals whose prejudices or partiality might affect their decisions in certain cases."[1] A concern for impartiality continued with the establishment of a standing committee on 2 June 1825. At first called a board of examiners, within six weeks it became the Committee on Inventions.

[1] First Annual Report . . . (Philadelphia, 1825): 60.

The constitution adopted on 5 February 1824 placed the examination of "all new inventions" prominently among the Institute's means for "the promotion and encouragement of Manufactures and the Mechanic Arts." Other ways devised by the society to promote manufactures and the mechanic arts were popular lectures on the sciences, a technical library, a cabinet of models and minerals, and exhibitions where premiums would encourage worthy manufactured products.[2] Yet of all Institute activities initiated in the early years, the work of examining inventions was novel, having no precedent as a continuous activity. Organized lectures, cabinets, and libraries had long histories in America and Europe. Although the Institute's exhibitions of manufactures represented the nation's earliest and longest series of industrial displays, agricultural fairs with industrial appendages had occurred often enough to provide familiar models. Prior to 1824 the goal of evaluating and promoting technical novelty had only a scattered existence through local governments and short-lived societies. The establishment of the Committee on Inventions in 1825 thus became the first substantial attempt by an American organization to direct technological innovation. The Committee quickly grew strong because the time was ripe; it emerged in Philadelphia because of the city's concentrated technical creativity.

It was Philadelphia's industrial community that made and sustained the Institute's position at the forefront of the movement to promote and introduce technical processes into American life. Gathering the city's industrial and scientific leaders--manufacturers, publicists, artisans, merchants, physicians, and physical scientists--the new institution acted chiefly to advance industrial enterprise in America. The founders smoothly

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[2] Ibid., 10.

merged self-interest with a patriotic desire to surpass the achievements of British industry. To accomplish its objectives, the Institute recommended labor-saving machinery and improved technical education for mechanics. In 1826 a technological and scientific periodical was established to serve as a national exchange for the technical ideas of the country's industrialists and scientists. Beyond any of this, however, the Institute sought to channel the development of industrial technology by directly examining and evaluating technical ideas, inventions, and innovations.

The Institute's ambitious programs consolidated important facets of the industrial movement. Rooted in the revolutionary years of the 1760s and 1770s, the industrial movement centered on the political quest for internal improvements and a protective tariff, and the economic and social urge to create and utilize a rapidly changing technology. By the 1820s the nation contained a young, yet strong and competitive manufacturing community. The Franklin Institute's founding, therefore, integrated fifty years of attempts to install the Industrial Revolution in America. During its first fifty years, the organization played a crucial role in the developmental phase of the age of steam; in the last quarter of the century, the Institute acted as midwife in the birth of the age of electricity.

The work of the Institute began with men like Samuel Vaughan Merrick, an iron founder and manufacturer of fire-fighting equipment; William H. Keating, a professor of mineralogical chemistry and natural science at the University of Pennsylvania; and Mathew Carey, an important idealogue of industrialization.[3] Each of the Institute's activities begun by these men

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[3]There are several accounts by contemporaries and participants on the origins of The Franklin Institute: "Observations on the Rise and Progress of The Franklin Institute," The Franklin Journal and American Mechanics' Magazine (in 1828 the Journal of The Franklin Institute; hereafter cited as JFI),

responded to the fundamental needs of an emerging industrial society. The industrial exhibition, as Merrick put it, introduced the consumer to the producer and hopefully spurred producers to improve the quality of their goods. Lectures and classes trained mechanics when few formal engineering schools existed, and, in a popular format, instructed Philadelphia's gentlemen and ladies in the technical ideas and achievements which more and more shaped their environment. The library collected books, periodicals, and pamphlets for the use of the membership; the Journal of The Franklin Institute, on the other hand, reached from textile factory towns in Massachusetts to agricultural villages in Ohio and plantations in the South. Like the Journal, the reports and awards issuing from the examination of inventions by the CSA informed and, indeed, helped to create a national community of technologists.

Of all the Institute's activities, the work of the CSA most engaged the enthusiasm and intelligence of the membership. The Committee and its predecessors encouraged inventors, mechanics, and engineers to submit their ideas and creations for examination. In return, the Committee's experts promised impartial evaluation, and within the broad parameters of their vision of industrial progress, they provided it. The CSA's work was far-reaching; its members responded to a vast body of improvers and inventors of technology, to the designers of new technical processes, and to anyone willing to submit an adequate description to the Institute. By the end of the century, over two thousand applications reached the Committee. The sixteen hundred reports issued by the Committee rested upon

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(February and March 1826): 66-71, 129-34; Samuel V. Merrick to Frederick Fraley, 11 September 1866, Commemorative Exercises of the Fiftieth Anniversary of The Franklin Institute (Philadelphia, 1874): 39-42. For a modern discussion, see Bruce Sinclair, Philadelphia's Philosopher Mechanics (Baltimore, 1974).

investigation, experimentation, and rational examination. The Committee either approved, disapproved, or advised the applicant on how to improve his work. In special cases the inventor or improver of technology received from the Committee an award or premium for his contribution to "the Mechanic and Useful Arts."

The archives produced by the investigations of the CSA constitute a massive record group of thousands of visual and textual documents. There are letters from inventors obscure and famous; additionally, with the inventors' descriptions are reports by some leading technologists. The collection compares in many ways with the records of the United States Patent Office.[4] Patent records extensively document the marketing experience of innovations when similar innovations were declared in interference. Running throughout CSA cases is marketing data with, however, less information than is contained in any single contested interference file in the patent records. Yet in crucial ways the records of the Committee improve upon patent records; the CSA's documentation is more consistent, including in most cases an unvarying range of documents such as application, correspondence, investigative information, drawings or other illustrations, and the report of the subcommittee. Furthermore, since the CSA often responded to impractical or unworkable ideas as it did to promising concepts, its records cover a broad and socially diverse spectrum of inventions.

It is important for the student of American technological history attempting to view industrialization in perspective to know that the Committee began its work as early as 1824. The records of the CSA are

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[4] There is an excellent archival introduction to the patent records: Nathan Reingold, "U.S. Patent Office Records as Sources for the History of Invention and Technological Property," Technology and Culture 1 (1960): 156-67.

invaluable, however, because of their final products, the reports of the subcommittees of experts. These reports contain evaluations by some of the best technical minds of the last century. Some of the applicants were: Zebulon Parker of Ohio, who tried to perfect a water turbine; Amasa Holcomb of Southwick, Massachusetts, an early American lensmaker whose work compared with that of the best European telescopists; and Samuel F. B. Morse, the New York painter and inventor of the first practical telegraph. Many of the legendary inventors of the late nineteenth century submitted documentary evidence in their search for Institute recognition. The names of Alexander Graham Bell, Thomas A. Edison, and Rudolph Diesel are examples of this practice; at times a name appears like Wilhelm Roentgen, the discoverer of x-rays.

Committee investigators included leading technologists. Matthias W. Baldwin's locomotive works built most of America's locomotives before the Civil War. Prior to that conflict, the workers in Samuel Merrick's engine manufactory constructed some of the first steam engines for American ships. Alexander Dallas Bache helped Merrick create the Institute's seminal program in experimental technology. Later he served twenty years as superintendent of the U.S. Coast Survey and in 1863 was a principal founder of the National Academy of Science. Isaiah Lukens, a machinist, working in his Philadelphia machine shop, developed some of the early metal lathes on which rested the American machine goods industry. Joseph Henry, the physicist, became, with Bache's help, the first secretary of the Smithsonian Institution. Henry wrote the lengthy report of the Committee's investigation into the explosion of the "Peacemaker" cannon in 1846. William Sellers developed and promoted the standard screw adopted by much of American industry in the last century. At Sellers's Midvale

Steel Company, Frederick W. Taylor began the efficiency studies that would finally lead to scientific management. Elihu Thomson and Edwin Houston made important contributions to arc lighting and other aspects of early electrical technology. The Thomson-Houston Electrical Company later merged with Thomas A. Edison's firm to become the General Electric Company. Thus the CSA's records document the technical impulse in America at its richest and most creative levels--the inventor's search for novelty and efficiency and the on-going dialogue within the industrial and scientific communities.

The changes which Samuel Merrick and Alexander Dallas Bache sought in 1833 through a reorganization of the Committee on Inventions aimed primarily at enriching this dialogue. Bache and Merrick wished to extend to the entire membership the opportunity to work vigorously for the promotion of inventions and manufactures. Bache specifically wanted to encourage the younger trained technologists among the membership. So Merrick moved, and Bache seconded, the motions creating the CSA out of the Committee on Inventions.[5]

The new Committee, however, was largely Bache's. Like his illustrious great-grandfather, Benjamin Franklin, Bache was an ambitious young scientist. His reorganization of the CSA came as the first act in a long career as scientific administrator. He had joined the Institute in the spring of 1829 when Merrick, working hard to vitalize the infant journal, invited the twenty-two-year-old University of Pennsylvania professor to contribute to the Journal of The Franklin Institute. Within a month Merrick sponsored Bache as a new Institute member and encouraged him to participate in the exciting experimental work getting under way. Late that spring Merrick and

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[5] Minutes, Board of Managers, 9 January 1834.

Isaac Hayes, a Philadelphia physician, initiated experiments on the relative power of water wheel construction.[6]

Bache had returned to Philadelphia in October 1828 with excellent credentials not only for a professorship at the university, but also for administering the scientific and technological work of the Institute. The young professor studied at West Point--America's finest school for a scientific education at the time--and served in the Army Corps of Engineers. Although Merrick initiated both the experiments on water power and the more significant government-funded experiments of 1830 on steam boiler explosions and the strength of materials, Bache contributed his skills as designer of the steam boiler experiments and chief author of the resulting reports.[7] Thus, in 1833, he was more than ready as Chairman of the Board of Managers to initiate the CSA and begin his long career as a leading figure in America's first generation of organized physical scientists.

Bache's annual report to the membership of The Franklin Institute on 16 January 1834 offered his reasons for the radical organizational changes the Board had made in the Institute's Committee on Inventions. No longer would its membership come solely from the ranks of the managers; now any Institute member who wanted to work actively with the CSA needed only to sign his name in a roll book. Bache asserted that the Committee must be open to all persons fitted for science and removed from the control of the managers. The "scientific work" of the society could only be accomplished through an open, democratic arrangement. "An experience of ten years has

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[6] Minutes, Board of Managers, 12 March 1829.

[7] Minutes, Board of Managers, 13 May 1830.

fully tested the widsom of the organization of the Institute," wrote Bache in his report, "and as far as regards its fiscal concerns and its economy as a body politic; the organization could not, probably, be improved." The Board decided, however, that "the scientific labors of the institution required the cooperation of those whom education, business in life, and habits render peculiarly qualified for the task."[8] As a promoter of organized science in America, Bache understandably moved to fill the CSA with trained technologists and scientists. Bache, like most members of that first generation of organized scientists, believed in specialization.

Bache's goal was not merely a democratic committee, though that resulted from the changes. He wanted, rather, "to unite the efforts of those members who may be able and willing to take charge of the scientific duties of the Institute." The Committee would now initiate, control, and develop these duties. Just as Merrick had brought the energetic young Bache into the life of the Institute, now Bache, Merrick, Keating, Matthias W. Baldwin, Isaiah Lukens, John Agnew, Joseph Harrison, Jr., and the other members of the Philadelphia technological community active in the Committee could bring others into what they believed was the Institute's most promising work.

The duties of the new CSA extended beyond those of the Committee on Inventions. Besides making "detailed, descriptive reports" in response to the applications of inventors, the Committee would "conduct by subcommittee, or otherwise, such scientific investigations as may be deemed worthy of consideration." In short, Bache wanted to continue the experimental investigative work begun by Merrick's special committee on water wheels and

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[8] JFI 13 (March 1834): 230.

steam boilers, although he appreciated the importance of the Committee's continuing work in examining and reporting on inventions. As chairman of the new Committee, Bache arranged for the city to allow the CSA to administer the legacy of John Scott, an Edinburgh chemist. The bequest was controlled by the select and common councils of the city and intended for the promotion of the useful arts.[9] Scott's legacy, left to the city in 1816, had been administered by the local agricultural society since 1822; now the Committee would use the money to offer premiums and medals for the promotion of industrial technology.

Bache spent ten years with the CSA, although he was in Europe from 1836 to 1838. He left the Committee in 1843 after accepting the superintendency of the U.S. Coast Survey, the most significant government source of financial support for scientific and technological research. Clearly Bache's organizational changes had worked well to open to the larger technical community the Institute's work in promoting industrial technology. The CSA had become an important technical body, not only for technologists of Delaware Valley industry, but also for inventors throughout the nation.

Although Bache hoped to increase experimental activities such as the investigation of steam boiler explosions, the Institute engaged in experimentation only sporadically throughout the rest of the century. Giving the responsibility for scientific investigation to the CSA represented primarily a paper change; the organizational transformation achieved in 1833 and 1834 codified the state of the evaluative and experimental work of that time. The Committee seldom initiated research as significant as the early

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[9] Minutes, Board of Managers, 3 April 1834.

investigations. Most of the CSA's work, in fact, compared with that of the Committee on Inventions. Though he hoped to continue the experimental work begun by Merrick, Bache instead spent fifteen years with the Institute learning the skills of a scientific administrator.

Bache's and Merrick's larger design did not materialize, but their changes nevertheless created a vital committee. So invigorating was the Committee's success that ten years later its creators sought to reorganize the entire Franklin Institute along the open lines of the CSA. In 1843 Bache joined Samuel Merrick, then Institute president, and Frederick Fraley, a Philadelphia financier of national reputation, in an attempt to overhaul the governing machinery of the Institute. After winning the Board's consent to investigate "the present state of the Institute," the trio convinced the managers to democratize the constitution by simply striking from the articles of government the name of the Board of Managers. In attempting to dissolve itself, the Board sought to transfer all its powers to the general membership which, like the Board, met monthly. In late 1842 and early 1843 the Institute met at least ten times to consider the change. The result was a series of compromises leaving the Board intact and transferring its responsibility for the election of new members, for institutional correspondence, and for final financial review to the general meetings.[10]

The Institute's organizational structure for evaluating technology did not change again until after the Civil War. Extensive wartime changes in the leadership of the society brought in representatives of the coming age of professionalism. This new leadership would refine and modernize the Committee's work within a few years. This modernization began during

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[10] Minutes, Board of Managers; Minutes, Franklin Institute, 2 November 1842-16 February 1843.

the annual elections of 1864 when, after nine years as president, John C. Cresson announced "that he had for some time past been desirous of retiring." Furthermore, he had recently learned of a gentleman "eminently qualified for the office" and "willing to undertake its duties."[11] Following his brief, gracious statement, Cresson nominated William Sellers, a highly successful manufacturer of machine goods and a gifted technologist.

Cresson's act initiated the election of twenty-five new managers. Five of the six officers were replaced. By the end of the evening John Vaughan Merrick, who trained in the 1830s at the Institute's drawing school, had taken his father's place on the Board. Sellers and several other new managers provided technical leadership during the next decades. Among the new managers were mechanical engineers Washington Jones and Robert Briggs, each of whom superintended important iron works during their careers, and S. Lloyd Wiegand, mechanical engineer and patent consultant. Two other new members were John H. Towne and Barnabas Henry Bartol. Both had been connected with Samuel Merrick's iron foundry before the Civil War and now ran their own businesses.

Briggs, the new corresponding secretary, described the contributions of The Franklin Institute during its first forty years: "The Institute represented not only the relations between the mechanic and scientific men in Philadelphia, but was beyond that, the representative institution of the connexion of mechanics with Science for the country. No similar institution had its reputation here at home and abroad, and that position had been reached by those who contemporaneously with Professor Cresson

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[11] Minutes, Franklin Institute, 17 December 1863.

gave it an original direction, and it has been supported in that position the last nine years under his leadership."[12]

Cresson disclaimed extensive credit for making the Institute "a pioneer in the noble work of raising the labor of the mechanic and artizan to its true position as both handmaid and exempler of Science." Looking to the years ahead, Cresson hoped "that the Institution under the impulse of the younger and more active members who are now to guide its destiny will put forth its strength in a long career of increasing usefulness."[13]

Cresson and Sellers, representatives of past and future, each assumed inherent connections between the mechanic arts and science. Cresson perceived a "handmaid," or servant relationship, implying that the mechanic, or artisan, relied upon science. The Institute's particular interests fell mostly into the practical world of manufacturing and technology. The two presidents illustrate the point. Cresson served seven years as city engineer for Philadelphia; Sellers distinguished himself in building one of the busiest and technically most innovative machine shops in the country. In 1864 he was in the process of defining and establishing a standard screw thread for post-war American industry, an important contribution to American manufacturing. In 1872 Sellers established the Midvale Steel Company, where he encouraged Frederick Taylor to begin efficiency studies.

Under Sellers's leadership, the new managers of the Institute began immediately to revise the by-laws and adjust the Institute's organizational structure. The 1860 by-law allowing members to form sections and hold meetings "for the promotion and encouragement of manufactures and the

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[12] Minutes, Franklin Institute, 21 January 1864.

[13] Ibid.

mechanic arts, as well as of the sciences connected with them"[14] was most important to the work with inventions. Because Sellers, the younger Merrick, Washington Jones, and the others who initiated the innovation were mechanical engineers, the first section of March 1870 was the Mechanical Section, quickly followed by the Microscopical Section (May 1870), the Chemical Section (November 1870), and the Meteorological Section (December 1870). In 1882 an Electrical Section was established by the creators and manufacturers of the most exciting new technology of the era.

Members could call on the sections, or specialized branches, of the CSA for reports. Nothing bound the relationship except the CSA's own pivotal importance to the Institute's technical interest. The sections voluntarily adopted by-laws committing them either to initiate an investigation or to act upon a CSA applicant's model, drawing, or description of an invention or technical process. A section's report would be adopted, recommitted, or rejected (an unusual occurrence) by the CSA. In short, although sections performed important independent functions, they served in part as standing investigative subcommittees for the CSA.

The creation of sections closely reflected trends in nineteenth-century society, as specialization became a dominant characteristic of the sciences in the last decades of the century. Although engineering societies had begun to appear before the Civil War, they proliferated after 1865. Indeed the sections were specialized proto-engineering societies born out of the parent CSA. Key members of the CSA began the Electrical Section two years before the founding of the American Institute of Electrical Engineers.

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[14] Charter and By-laws of The Franklin Institute (Philadelphia, 1869): 1.

The Institute's connections with electrical technology in the latter part of the century went far beyond the 1877 dynamo tests Elihu Thomson helped conduct. Active members of the Committee and the Electrical Section included amateurs like Hector Orr, a Philadelphia printer, and attorney G. Morgan Eldridge. Eldridge's inventive work ranged from improvements in stove dampers to the design of an "electro-magnetic protector for electrical instruments," for which he received an award from the CSA. Equally involved in the Institute's interest in electrical science were David Brooks, a pioneer telegrapher, and Carl Hering, an electrical engineering professor at the University of Pennsylvania. Before the end of the century, Hering had served as president of the American Institute of Electrical Engineers. His active relationship with The Franklin Institute began during the planning of the 1884 International Electrical Exhibition and continued through the century.

The growing complexity of the sciences and the rise of electrical technology ultimately affected the place of the CSA within The Franklin Institute. As a result, conflicts in the organization erupted during 1887. The differences became public shortly after the presidency passed to Colonel Charles H. Banes, a financier and administrator in industry. Colonel Banes came to the presidency after successfully administering the International Electrical Exhibition. This was the first electrical exhibition in the country and accompanying events--a meeting of electrical scientists and a series of product tests by the Institute--increased the importance of the occasion.

Colonel Banes entered the presidency confident of his ability to reconstruct the Institute, especially the structure and role of the CSA. At the annual election in January 1886, John J. Weaver, a close associate

of Banes, moved for a special committee to be chaired by the new president for the purpose of determining "the future work of The Franklin Institute." The Committee was charged as well with the preparation of "plans for a suitable building in which the Institute can carry on that work." Besides Banes and Weaver, a plumbing contractor devoted to the cause of manual training schools, the Special Committee on the New Building included ex-presidents William Tatham and William Sellers, John Merrick, Dr. Isaac Norris, Jr., and Charles Bullock, a pharmacological chemist.[15]

The Committee issued progress reports regularly for the next several months. Not until April, however, did Banes report substantive recommendations which embodied four basic changes. The creation of a Board of Trustees to invest surplus funds in an "endowment fund" and the fireproofing and expansion of the library rooms did not directly affect the CSA. One change aimed directly at CSA status. The Committee's scope would be severely limited to the examination of established, patented inventions. Further, the CSA would be reduced to fifteen members appointed by the president, with special committees, also appointed by the president, to report on "all matters in Science and Art requiring examination" for confirmation by the main Committee. Finally, the Reorganization Committee requested that the Institute enlarge the Drawing School facilities, and add new accommodations for the sections, small demonstration rooms, and a large popular lecture hall. Attached to the Drawing School would be a "School of Handicraft" to teach craft skills without reliance on "power machine tools,"[16] perhaps an idea of Weaver's.

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[15] Minutes, Franklin Institute, 20 January 1886.

[16] Ibid., 21 April 1886.

The Institute membership approved the April report and asked the Committee to prepare the recommendations in by-law form for final consideration. Three of the nineteen articles dealt with the CSA. The first was rejected outright, upon motion by G. Morgan Eldridge. It would have denied to the CSA the right to "report on any art, machine, manufacture, or composition of matter that is the subject of a patent; or for which an application for a patent is pending; or upon any invention which is abandoned to the public, unless in the execution of a trust of the Institute, or when requested to do so by some civil or military authority of the United States."[17] In June the final two articles were thrown out, again at the urging of Eldridge. One would have reduced the CSA to fifteen members responsive to the president; the second sought a "special committee" appointed by the president to do the actual work of the CSA.[18]

Eldridge, an active member of the CSA and a manager, headed the struggle against Banes's attempts to reorganize the Committee. Banes, supported by Washington Jones, John Weaver, and others, achieved a compromise motion. The compromise, which was finally accepted by the Institute, established a committee of forty-five members, fifteen of whom were to be elected each year. Subcommittees were to be appointed as usual by the CSA chairman, fifteen members would constitute a quorum, and Committee meetings would be open to all Institute members. The outcome was accepted when, at the September meeting, Professor Edwin Houston moved acceptance of the compromise amendments.[19]

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[17] Ibid., 16 May 1886.

[18] Ibid., 16 June 1886.

[19] Ibid., 16 June and 15 September 1886.

In February 1887, when the Committee first met under the revised rules, it promised to continue to report "on all new machines." Banes's attempt to remove the Committee from the business of judging current technology had failed. He admitted as much in his annual report in January. As a result of the work of the Special Committee on Reorganization several changes had occurred, he said, "the most radical of these being the creation of a Board of Trustees." The CSA membership revision had been "another important change." The CSA had ceased, Banes asserted, to be a "volunteer body."

The Committee would still report on all "new machines," a responsibility Banes wanted to rescind. He desired an understandable caution in dealing with increasingly complex patents. Before 1886 the regulations governing the Committee had also suggested caution: "Every subject submitted to the committee for investigation, before it can be entertained, shall be accompanied by a written request, addressed to the committee, from the party desiring such investigation; and any article which is the subject of a patent must be accompanied with a written request from the patentee, or patentees, or some person authorized by him or them, before any action can be taken upon it by the committee."[20] The defeated proposition went further; it would have left the CSA with the diminished task of commending established scientific and technological achievements.

Banes had attempted a revolution in the organization and purpose of the CSA. The reality was that the Committee could no longer evaluate technical achievements with the same assurance it had in its first half century, and its activities needed to be brought into line with new technological and economic conditions. The plight of individual inventors

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[20] Constitution and Regulations for the Government of the Committee on Science and the Arts . . . (Philadelphia, 1885).

often working in isolation or simply desiring the organized exchange of ideas, justified the Committee's early work. In the late nineteenth century, however, the technological community simply did not require the kind of support which the CSA had provided for over fifty years. Social and institutional changes in the technical community demanded comparable changes within the CSA. The Committee could no longer serve as a center for a dynamic, expanding technology. New foci emerged for technologists. In 1876 the Johns Hopkins University came into existence as America's first graduate institution and copied with great care the research seminars of Germany's great universities. In the same year Thomas Alva Edison's laboratory not only furnished research space but financial support for the young inventor. Thus, in 1900, a technologist had no fundamental use for the services of a distant committee of experts. Many inventors had either university or industrial laboratories to act as technical commentators on his or her work.

Events in Philadelphia characterized the changing order. Not only did The Franklin Institute experience the effects of increased specialization in science and technology, but demographic shifts in the city suggested that the Institute must redefine its relationship to Philadelphia's technological community. A telling example is the University of Pennsylvania's move from Third Street to around Thirty-fourth Street in West Philadelphia. No longer could a university professor casually stroll to The Franklin Institute building on Seventh Street to hear Edwin Houston attack the unoriginality of Alexander Graham Bell's discoveries.

The CSA's 1893 report to the Institute poignantly reflected some of the new conditions. The Committee reported that during the last year

> Several of the cases . . . have involved an unusual amount of research and study into higher and more intricate laws and phenomena of the rapidly developing physical science, and have severely taxed the time and patience and the powers of the sub-committees having charge of them.
>
> The work of this committee becomes annually more and more difficult in consequence of the great advance which is daily made in all of the practical arts and science, and because of the fact that the members of the committee are themselves busy with the activities of the times, and must in great measure neglect their own affairs while making the investigations here asked of them.[21]

Specialization did not destroy the CSA; rather, the Committee found another role to play within the framework of the Institute's interests. Although the CSA continued into the twentieth century to examine and report on a broad class of inventions, the awarding of medals became the complete work of the Committee in 1924. Two awards were available in 1900, and by 1950 the CSA conferred thirteen medals on inventors and scientists.[22] The Franklin Institute could well play the role of venerable scientific institution; in America, it was as old as organized experimental science itself.

The records of the CSA document superbly the inside story of nineteenth-century technology. There is extensive data on the decades after 1825, during which steam power was applied and made more efficient. The increase of applications and reports on electrical inventions clearly indicates the extent and nature of the rise of electrical technology late in the century. Throughout the reports and correspondence of the seventy-six

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[21] CSA, Annual Report, 4 January 1893, Franklin Institute Archives.

[22] Awards of The Franklin Institute (Franklin Institute: Philadelphia, n.d.); "The Franklin Institute By-Laws 1824 to date," typescript, 4 March 1952, Franklin Institute Archives.

years are details on textile machinery, mining equipment and methods, ship construction, bookbinding and bookkeeping, optics, metallurgy, measuring instruments, and telegraphy.

These papers contain more than technical descriptions. The records of the Committee's activities document the social, political, and economic positions of technologists, engineers, and manufacturers during the formative years of American industrial society. In 1884 the editor of Electrical World called the founders of the American Institute of Electrical Engineers "electricians and capitalists." The categories of technologist and capitalist serve equally well in describing the members of The Franklin Institute during most of its existence. At times a man combined the characteristics of both inventor and capitalist; Elihu Thomson designed the first efficient arc light system and was a cofounder of the General Electric Company.

The participation of women in CSA work, whether as applicants or examiners, was minimal. Perhaps this reflects the extent of women's involvement in inventive activity during the last century. It is more likely that the history of women's relationship to technology is a story to be told chiefly in terms of changing work opportunities, and role and status definition. Too few women inventors applied to the CSA to warrant generalization. Nonetheless, it is interesting that the first women applicants submitted designs for a desk and a darner, and the last woman's application in the century suggested an improvement in street railway construction.[23]

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[23]From 1876 to 1900, six CSA cases (996, 1008, 1023, 1192, 1218, and 1643) involved women. The apparent trend to involvement in industrial technology--suggested by a railway construction application--seems less clear when one considers that in 1921 a contributor to Scientific American (October 1924): 260

Close studies of the reports, correspondence, and accompanying items in the records of the CSA indicate the intricacies of American technological history. Confirmation of dominant technological interests and the delineation of clusters of technical activity in the manufacturing and technological communities can be made. Examination of these materials will document shifts in the character of inventive activity, from the dominance of improvers of technology in the first fifty years to the increase of original inventions in the latter part of the century.

A. MICHAL McMAHON

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could assert that women inventors worked mainly in two fields: "wearing apparel and domestic contrivances." See also Joseph Rossman, "Women Inventors," Journal of the Patent Office Society 10 (September 1927): 18-30.

A NOTE ON METHODOLOGY

The Committee on Science and the Arts appointed 2200 subcommittees in the nineteenth century. Though the administrative bodies varied between 1824 and 1834, because of the continuity of the investigations the name of the CSA, used after 1834, indicates the entire collection. Approximately one-fourth of the subcommittees (600) were discharged without filing detailed reports; reports were issued on the remaining 1600. Abstracts of these reports have been prepared, as well as itemized lists of accompanying documents. A brief discussion of the procedures, terms, and abbreviations used in calendaring this collection will assist the researcher's work in this source material.

The calendar includes abstracts of subcommittee reports and a listing of accompanying documents and correspondence. The language of the original report is generally used in the condensed statement; deviations occur to communicate more clearly the thrust of the report. In CSA 305, for example, John C. Cresson discussed a proposed hot air engine. Finding the idea absurd, he used the opportunity to mount "a devastating, theoretical attack on the suggested use of heated, condensed air to operate piston engines." Here, as in other statements which include comments such as "Report includes . . . ," the language is clearly that of the compilers.

Other branches of The Franklin Institute referred many inventions to the CSA. Most internal referrals resulted from the "exhibitions of American manufactures" conducted by the Institute's Committee on Exhibitions. Twenty-six such fairs were held from 1824-1858, and others in 1874 and 1885. In 1884 the Institute conducted an International Electrical Exhibition. Medals and certificates of merit were awarded to exhibits of special merit,

but if the judges believed longer, more intensive investigation was warranted, they referred the exhibitor to the CSA. An exhibitor who felt the special merits of his item were overlooked was also encouraged to seek redress from the CSA. In the last quarter of the century, special interest discussion groups formed within the Institute. Members of the Chemical and Electrical Sections often brought special inventions to the notice of the CSA. In return the CSA occasionally called upon these specialists to aid investigations.

The inventor-applicant's name appears first in the calendar entries; when these are different people, the applicant (not the inventor) is labeled as such. When known, geographical locations of inventors are noted. Following the inventor-applicant's name, and any notice of referral, is the name of the invention or improvement. Here again the original wording has been retained except in those cases where clarity can be enhanced by a simpler classification. The names of the chairman and other members of the subcommittee are next. Only the names of those who signed the report or participated in the investigation are listed. (A majority of subcommittee members were required to sign the report drawn up by the chairman.) In some cases the materials within the folder did not identify the chairman or other members of the subcommittee. The Minute Book contains a record of each subcommittee appointed and the chairman's name can be found in the minutes of the meeting when the subcommittee was formed. Subcommittees generally accepted the chairman's report unanimously. At times, however, dissenting minority reports were written.

The abstract contains the recommendation of the majority report (the award of a medal or certificate, a favorable recommendation, or dismissal) and at least one of the decisive criteria used by the subcommittee. Committee

rules dictated that the report describe the invention, state whether it was patented, and determine whether the subject was in use or theoretical. The durability, efficiency, and practicality of the item, including at times an estimated cost, were considered. If a device had some special effect or impact, that is frequently cited, for example, in CSA 834, the subcommittee warned that automatic indicators were of "doubtful utility as they are productive of negligence" in those assigned to watch the machinery.

The date on which the general committee took final action either to adopt the report or dismiss the application follows the subcommittee's decision and recommendation. The CSA frequently referred reports to the Committee on Publications for inclusion in the Journal of The Franklin Institute. Such publication information follows the date of adoption. In 1898 abstracts of all approved reports were published, as well as entire reports of special interest. In those instances, both Journal references are indicated. After the publication information is a list of supporting documents ranging from standardized application forms to extensive and sometimes heated correspondence. The inventor had to submit a description and illustration of the item, and, if patented, two copies of the specifications. Advertisements, testimonials, and correspondence between inventor-applicant and Institute officials increasingly appear after the 1830s. Later in the century many inventors also submitted reprinted articles containing test data compiled in exhaustive experiments. In other instances they submitted entire books.

The rising volume of applications toward the end of the century led to a resolution in September 1877 calling for "a plan to prevent the great waste of time of members in the consideration of applications on

subjects not new or useful." The subcommittee's plan (adopted September 1878, CSA 1099) required that each submission be preceded by a letter of application with a "clear and full description" setting forth its distinctive merits, a drawing if practical, and the article itself or a model. A committee on preliminary examination (appointed quarterly) would then pass on the completed application. If approved, a subcommittee was then appointed; if rejected, the application was dismissed (see CSA 1133).

Entries follow the order of original case numbers. Numbering varies from 1824 to 1834. Select Committees on Inventions (SCI) were appointed by the Board of Managers. The Committee on Inventions (CI) was appointed in 1825, yet even then many of the reports did not receive numbers. Those labeled, for example, CI-U 1 indicate Committee on Inventions, Unnumbered Report, 1. Between 1825 and 1833 the CI recorded forty-seven subcommittee reports in a Report Book. These are numbered, but not sequentially, within the book. Seven of these numbered reports had corresponding CI cases (see page 4). Three other numbered reports in the Report Book have corresponding CIUR folders (see page 2). The subcommittee members are not identified in the Report Book; the reports are transcribed by the secretary, William H. Keating (1825-1828) or by the actuary, William Hamilton (1829-1833). The first six cases under the CSA were carried over from the CI after the CSA was organized. From 1834 the numbering is consecutive to the present.

All inventors, applicants other than inventors, subcommittee chairmen, and subjects of investigation have been indexed according to the subcommittee number, for example, CI-U, CSA 12, or SCI 11. The only exception is the Report Book where inventors, applicants, and the subject only are indexed, with reference to the page in the Report Book.

The researcher will encounter case numbers with an additional designation, for instance, 1672-1, 1672-2. These numbers indicate only that the materials would not fit into one folder, thus 1672-2 is a second folder, not a new case. The report abstract generally appears on the first folder's calendar entry, yet the report itself may be stored in a second or subsequent folder. In all cases, the available materials are calendared. A fugitive case file is indicated by the phrase "Folder missing."

The activities of the CSA between 1824 and 1900 seem complicated because of the generations of procedures which evolved. Nonetheless, it is hoped that the researcher will find the calendar a helpful resource, as well as a convenient guide to this rich collection.

STEPHANIE A. MORRIS

A B B R E V I A T I O N S

Adv	=	Advertisement
Appl	=	Application
Appl Rej	=	This indicates that the Preliminary Committee (created in 1878, see CSA 1099) reported adversely.
Atty	=	Attorney
CE	=	Committee on Premiums and Exhibitions
Chm	=	Chairman
CI	=	Committee on Inventions
CI-MD	=	Committee on Inventions - Miscellaneous Documents
CI-R	=	Committee on Inventions - Report Book
CI-UR	=	Committee on Inventions - Unnumbered Reports
Comm	=	Subcommittee responsible for Reports
Comm Appnt	=	Date used in absence of Committee Discharge date and Report.
Comm Disc	=	Subcommittee Discharged
Corres	=	Correspondence
CSA	=	Committee on Science and the Arts
Dup	=	Duplicate
Descr	=	Description
Draft	=	Draft of Report

ES	=	Electrical Section
FI	=	Franklin Institute
Illus	=	Illustration
JFI	=	Journal of The Franklin Institute
Ltr	=	Letter
nd	=	No date
Np	=	Newspaper clipping
Photo	=	Photograph
Pr	=	Printed
Pt	=	Patent
Rep	=	Report
SCI	=	Select Committee on Inventions
Secy	=	Secretary
T	=	Testimonial

BOARD OF MANAGERS, SELECT COMMITTEES ON INVENTIONS

REPORTS, 1824-1829

SCI-1 Rouze, James. Philadelphia. Locks, Spring. Samuel Vaughan Merrick, James Clarke, Samuel R. Wood, William Strickland, John Haviland. Rouze to FI, 28 November 1824.

2 Ronaldson, James, Chm. Philadelphia. Report of the Comm on the Charges Against Peter A. Browne. William H. Keating, Samuel R. Wood. Comm and the Board gives a qualified--judged by available testimony--support to Browne's claims to have invented the metallic piston. 7 June 1825. Dup to Richard Holden, 21 June 1825. Holden to Wood, 6 July 1825.

3 Keating, William. Comm to Investigate Steam Engine Accidents. Robert M. Patterson, Samuel V. Merrick. Philadelphia. Merrick, Secy Board of Managers. Note on establishment of Comm "to investigate the probable causes of the accidents which happen to Steam Engines," 24 June 1825. Poulson's American Daily Adventiser, 25 July 1817--contains "Report of the Joint Comm Appointed by the Select and Common Councils (Philadelphia) on the subject of Steam Boats" with related correspondence.

4 McCauley, Isaac. Report on McCauley's Floor Cloth Manufactory. Samuel V. Merrick, James Ronaldson, Ashbel G. Ralston, Thomas Fletcher. Comm appointed (Minutes, Board of Managers, 10 April 1828) to examine McCauley's rug factory following "unfavorable comparisons between it and foreign fabric." The Comm found McCauley's factory system and product superior in every respect. 12 February 1829. Draft.

COMMITTEE ON INVENTIONS

MISCELLANEOUS DOCUMENTS, 1825-1832

CIMD-1 Keating, William H., Samuel V. Merrick, James Ronaldson -- Progress Report, 5 January 1826. Thomas P. Jones -- Progress Report, 7 January 1827. James Ronaldson -- Progress Report, 3 January 1829.

2 Resolution creating Board of Examiners, Adopted 2 June 1825. (See Minutes, Board of Managers, 14 July 1825, Board of Examiners becomes Comm on Inventions.) Samuel V. Merrick to William Keating, 24 June 1825.

3 Amite, P. W. L. Baldwinville, Ohonego County, New York. Air Purifier (Cholera Saturine). No Comm and No Report. Amite -- Descr and Illus. 27 September 1832. Envelope, dated 29 September 1832, contains initialed comment: "Nonsense - ADB" (Alexander Dallas Bache).

COMMITTEE ON INVENTIONS

UNNUMBERED REPORTS, 1826 - 1832

CIUR-1 Brothers, Thomas. Philadelphia. Brothers to Robert M. Patterson, 23 March 1826.

2 Winans, Ross. Philadelphia. Railroad Carriage. John L. Sullivan to James Ronaldson, 21 April 1829. Sullivan to William Hamilton, 28 January 1830. Note from Sullivan granting FI permission to display model. See CI Report Book, page 30.

3 Scholfield, Nathan. Montville, Connecticut. Parallometer. Scholfield to CSA, 1 April 1833. Illus. Measuring distance. See CI Report Book, page 157.

4 Secors, James. Bristol, Pennsylvania. Threshing Machine. No Report. George Merrick to CI, 27 November 1833.

5 Willis. Steam Engine (spring teeth rack and frame). This attempt to directly apply the engine's force to a wheel through using rotary motion is admirable and deserves further work--as do all such labors--to reduce lateral strain and friction. nd.

6 Harvey, Thomas W. Toggle Joint Press, Rotary. No Report. Descr. nd.

7 Gregg, Smelting Furnace. Although the furnace proposes to use no new fuel, still the design is admirably suited to its purpose: the more rapid burning of bituminous coal. nd. Draft. See CI Report Book, page 165.

8 Hawkins, Joseph. Philadelphia. Steam Engine (without boiler). No Report. Pr Descr and T with hand-drawn Illus. 10 March 1824.

9 Brandt, W. N. New York. Auger for Boring Holes. This instrument is original and useful for boring square or round holes. The steel cutting edge, the casing, and the twisted part are simple in construction and yet accurate to a degree ordinarily unattainable.

10 Bent, William. Philadelphia. Rope Machine (for laying and twisting). This machine is novel and greatly beneficial to rope-makers in twisting the strands and the rope in the same motion. 16 March 1826. Bent to Robert M. Patterson, 28 January 1826.

11 Clarke, Edward. Dry Dock, Floating. This dock, though ingeniously designed and practical to a point, could not handle large vessels because of the necessary maldistribution of weight on the dock when emptied of water. 4 April 1827.

12 Mccauly, Isaac. Carpet Manufacture. Samuel J. Robbins. Comm feels that the materials used will bear an advantageous comparison with imported fabrics. Read 14 June 1832.

13 Merrick, Samuel V. Philadelphia. Railroad Trough Rail. Although of questionable practicality to reduce bars to trough rails with accuracy, this rail would be considerably lighter than English rails presently used. Ca 1832/33.

14 Cooley, E. New York. Water Conveyor (pipes running under East River to New York City). Chm unknown. Running water through underwater pipes creates difficulties insurmountable even with this plan. 15 July 1833. Descr. Illus.

15 Gentry, J. C. Marine Air Engine. Benjamin Reeves. If air is to be used as a propelling force in water, the cylinders and pistons would have to be of an inconvenient and practical size. 17 July 1833. Illus.

16 Conclin, William. Press. Benjamin Say. The common screw press is better for all purposes than this press. 24 October 1833.

17 Noblis, Stephen. Canal Locks (device to save water in passage of boats). Benjamin Say. This plan would work, yet is impractical. 2 January 1834.

COMMITTEE ON INVENTIONS

Report Book, 1825-1833 (Contains 47 Reports)

Some of the inventions examined: washing machine, steam boiler, wool spinner, fireship, plan for chimney construction, water depth sounder, iron smelter, cloth napper, locomotive engine, railway car, canal steam boat, and interest tables.

CI-1 Brown, John. Spinner, Vertical (for spinning wool and cotton by hand). See Report Book, page 1. Pt. Adv.

2 Cahoon, William. New York. Washing and Scouring Machine. See Report Book, page 3. Note -- model deposited at FI.

3 Sylvester, N. and Evans, William M. Philadelphia. Bank Checks (printed with vegetable colors to prevent forgery). See Report Book, page 4.

4 Cunningham, Henry. New York. Water Purification (plan for clearing and cooling). See Report Book, page 7. Illus. Np.

5 Hall, Francis. Springborough, Warren County, Ohio. Cloth-finishing and Napping Machine. See Report Book, page 22. E. A. Vickroy to Dr. Edwin A. Atlee, 6 May 1825. Atlee to Thomas Fletcher, 23 May 1825. Adv with T attached, April 1825.

6 Willcox, Richard. New York. Anthracite Fuel Coal. Although this plan is admirable in seeking to utilize our "exhaustless" stores of anthracite, still, placing the fuel next to the boiler to achieve the greater heat which anthracite demands for combustion is unworkable as the coal does not burn in constant contact with the boiler. nd. Willcox to Peter A. Browne, 17 May 1825, with penciled response to Comm dated 20 May. 3 Illus.

7 Tibbitts, Col. L. F. Ohio. Hemp and Flax Dresser. See Report Book, page 24. Luther Thompson to William H. Keating, 24 August 1825. 2 Illus.

8 Bakewell, L. R. Washington, D. C. Brick Kiln. No Comm and No Report. Bakewell to FI, 20 August 1825. See Minutes, Board of Managers, 8 September 1825.

9 Tenney, L. Hallowell, Pennsylvania. Air Pump Stop Cock. Report Missing. Tenney to Samuel V. Merrick, 5 August 1825.

10 Crochum, Leeuri. Philadelphia. Distillation (perpetual still and boiler). Report Missing. Crochum to William H. Keating, 11 October 1825. Crochum to Robert M. Patterson, CI, 16 August 1825 (Original and photocopy). Ms - 8 pages, illus and descr of perpetual still. Ms - 16 pages, copy of specifications deposited with U.S. Patent Office, 31 May and 7 July 1825.

12 Robinson, Henry G. Philadelphia. Steamboat Paddle Wheel. See Report Book, page 27. 3 Illus Robinson to CI, October 1825 (with descr of invention).

18 Penegar, James. Philadelphia. Canal Steamboat. Report Missing. Penegar to FI, 31 March 1829. Illus.

52 Morgan, Richard P. New York. Railway Car. Report Missing. Morgan to Matthias W. Baldwin, 27 October 1830 (includes descr).

COMMITTEE ON SCIENCE AND THE ARTS

MINUTE BOOKS, 1834-1900

The minute books contain entries on committee business, on policy procedures, and, chiefly, on the disposition of applications from inventors or their agents. Only the Civil War disrupted the main committee's monthly meetings schedule. The business of the monthly gatherings centered on receiving applications and appointing subcommittees of experts, or, in Alexander Dallas Bache's words, the "peculiarly qualified." Case entries usually appear at least twice and often more. In almost all instances, the first case entry will involve the appointment of a subcommittee of investigators; the last will consist of the acceptance of the report and the discharge of the subcommittee. Essentially four volumes covered the nineteenth-century CSA activities, with a small part of a fifth running into 1900.

I. February 1834 - June 1842
II. July 1842 - October 1870
III. November 1870 - January 1882
IV. February 1882 - January 1900
V. February 1900 - April 1900

COMMITTEE ON SCIENCE AND THE ARTS

RECORDS, 1834-1900

CSA-1 Peck, J. Canal Boats. Walter R. Johnson. This plan to use "wrists" to pole boat or throw hooks on land suggests no way to power those wrists. 13 March 1834. JFI, November 1834.

2 Dutton, Joseph L. Arches, Building. John C. Cresson. No Report. Comm Disc 11 February 1836.

3 Lukens, Isaiah and Espy, James P. Philadelphia. Spark Arresters (two designs). Rufus Tyler. Andrew M. Eastwick, Sears C. Walker, John C. Cresson, Alexander D. Bache. Lukens' Fan Wheel device works no better than a piece of sheet iron placed over the stack. Espy's "draft increasing chimney cap" does not achieve its intentions. 11 August 1836. JFI, October 1836.

4 Dugdale, Benjamin. Windmill, Horizontal. John C. Cresson. This windmill is effective in impelling machinery, but lacks novelty. 10 April 1834. JFI, November 1834. Draft.

5 Krupp, Abraham J. Counting Machine. Sears C. Walker. An efficient machine which, if the erasing spring is covered, will be useful in manufactures. 13 March 1834.

6 Smith, Dr. M. Washington, D. C. Compass Needle. Alexander D. Bache, Isaiah Lukens. Although the magnetizing of compass needles by precussion with an electric rod is feasible, experiments conducted with the help of Prof. Joseph Henry did not support the usefulness of "shifting feeders" to remove local attractions. 13 March 1834. JFI, November 1834.

7 Henderson, William. Philadelphia. Commercial Weights, Comparative. Frederick Fraley. With improvements, this chart will be useful in commercial establishments. 10 April 1834. JFI, November 1834.

8 Gilbert, David H. Sanderson, John (Applicant). Milton, Massachusetts. Waterwheel for Mills. John P. Espy, Samuel V. Merrick, Benjamin Reeves, John Agnew, Andrew Young. The undershot wheel is efficient only when use of the common overshot wheel is obstructed by backwater. 12 June 1834.

9 Earle, Thomas. Philadelphia. Steam Boiler (temperature control). Walter R. Johnson, John Agnew, Matthias W. Baldwin. This temperature device attempts unsuccessfully to use mercury and spirits of terpentine to maintain safe pressures. 8 May 1834. Descr and criticism of report by Earle.

10 Holcomb, Amasa. Southwick, Massachusetts. Telescope, Reflecting. Sears C. Walker, Isaiah Lukens, William H. C. Riggs, John Frost. This Telescope is better mounted, more distinct, and less expensive than comparable imported models. 6 May 1834. JFI, September 1834. Descr by Holcomb, 14 April 1834.

11 Jennings, Isaiah. New York. Steam Boiler. Walter R. Johnson, Matthias W. Baldwin, Thomas Earle. The idea of filling a wooden barrel within the boiler with hay or a "spungy" vegetable matter will make the boiler dangerously dirty. 11 December 1834. Descr by Jennings.

12 Moody, Paul. Philadelphia. Cutter, Straw and Vegetable. R. Eglesfeld Griffith. No Report. Comm Disc 13 November 1834.

13 Krupp, Abraham. Norriton, Pennsylvania. Windmill, Aeolian. John C. Cresson, James P. Espy, Andrew Young, Krupp, Abraham. Waterwheel, Aeolian. John C. Cresson, John Agnew, John P. Espy. The Comm found the windmill ingenious, yet referred the inventor to precedents; the waterwheel application was the windmill application resubmitted by Krupp with changes in a desire to get "a report in accordance with his opinion." 12 June 1834; 11 September 1834.

14 Kite, Joseph S. Philadelphia. Axle for Railroad Car. John C. Trautwine. An effective and simple device utilizing wooden beams above the axle with chains to prevent broken axles from falling to the ground. 12 June 1834. JFI, December 1834.

15 Ewbank, Thomas. New York. Lead Pipe (process for coating with tin). John Agnew, Isaiah Lukens, Franklin R. Peale. This greatly improved process merely bathes the pipe in fluid metal and only slightly enhances the cost. 12 March 1835. JFI, March 1835.

16 Campbell, Henry R. Philadelphia. Engineer's Level. John C. Trautwine, Edward H. Gill. Combining the common level with a correct circle for laying off angles, this competent improvement holds adjustments under unstable conditions. 14 August 1834. JFI, December 1834.

17 Dutton, Joseph L. Sawing Mill, Marble. John C. Cresson. Report Missing. 13 November 1834.

18 Lynch, James. Tuscaloosa, Alabama. Road Paving. John C. Trautwine, Edward H. Gill, Samuel Hufty. This plan for conical stones, with points up and gravel firmly packed between, is an excellent but expensive idea practiced for 20 years. 14 August 1834.

19 Straub, Isaac. Northumberland County, Pennsylvania. Grist Mill. John C. Cresson, Joseph W. Roberts, Andrew Young, Rufus Taylor. The basic idea of an arm and latch governor has long existed in superior form; more reading on the subject will bring the inventor "much new light." 9 October 1834.

20 White, Israel. Philadelphia. Plow (pannel plow plane). Rufus Tyler, John Agnew. The reduction of the standard two adjusting screws to one is superior to any plow seen, but the idea is not new. 13 November 1834. White to CSA, July 1834. Descr by White, 9 January 1834. Illus (2).

21 Hughs, William C. Columbia, Pennsylvania. Railroad Car. Walter R. Johnson. Since the Comm discovered nothing novel, Hughs withdrew his application. 14 August 1834.

22 Little, Archibald and Elmer. Bridgeton, New Jersey. Escapement, Chronometer. Sears C. Walker, Isaiah Lukens, William H.C. Riggs. The escapement is original and ingenious, and though it is difficult to make a basic contribution to a science so advanced as horology, the award of Scott premium is recommended. 14 May 1835. Little to Riggs, 15 September 1834. Both in JFI, July 1835. Chart on rates, 1835.

23 Bosworth, Nathaniel. Steam Pump (to drain pit or marsh). John C. Cresson, Thomas McEuen, Rufus Tyler. Though constructed with a loosely seated piston so "inferior" workmen could construct it when Engineers were unavailable, the Comm finds this pump unwieldy and unacceptable. 13 November 1834.

24 Goodspeed, B.F. and Wiswell, D.H. New York. Sawing and Boring Machine, Circular, Vertical, and Angular. Walter R. Johnson. A precise, economical, and easy to use machine for wheel wrights, chair makers, and anybody needing to do circular or angular sawing. 14 August 1834. JFI, December 1834.

25 Custer, Jacob. Norristown, Pennsylvania. Music Time Keeper. R. Eglesfeld Griffith. No Report. Comm Disc 8 January 1835.

26 Hutton, Thomas. Philadelphia. Locomotive. Walter R. Johnson, John C. Trautwine, John Agnew. The Comm finds this proposal for rachets and clicks on front wheels to allow easier turning on curves too complex as well as unoriginal. 13 November 1834.

27 Hinkley, Thomas. Hallowell, Maine. Chimney Cleaner. Thomas McEuen, Thomas Stewart, Isaiah Lukens. This device, which lowers into the flue and is pulled through the flue to scrape soot off, would work for straight chimneys and, "on the score of humanity," save many boys much danger and misery.

28 White, John (applicant). Philadelphia. Grate, Kitchen. Walter R. Johnson, Abraham Miller, Samuel Hufty. This grate, though adjustable for different sized fires, is inconvenient and expensive. 9 October 1834. White to CSA, nd.

29 Pierpont, John. Boston. Fireplace, Doric. Isaac Hays, Rufus Tyler. A brick sleeve inside cast iron walls allows air to heat in space between brick and iron without absorbing dangerous gases of fuel. 13 November 1834. JFI, January 1835.

30 Wooley, William. New York. Bedstead, Invalid. Gouverneur Emerson, Paul B. Goddard, Isaac Hays. A valuable aid for serious injuries with no claim to originality. 12 March 1835. Illus.

31 Woodside, James D. Washington, D. C. Harrow and Seed Cart, Revolving. John C. Cresson, Frederick Fraley, Joseph W. Roberts, Isaiah Lukens. Harrow is more efficient weeder and pulverizer and less liable to be clogged; a valuable improvement. 9 October 1834. Descr by Woodside, 27 September 1834. Both to JFI, January 1835.

32 Woodside, William. Washington, D. C. Ship's Log (first report) John Agnew, Rufus Tyler, Sears C. Walker. A wheeled device to rest in the water and record distance traveled. Not recommended because the wheel, in all "probability", would not last long. Long trials are suggested. 13 November 1834. JFI, March 1835.

_____. Ship's Pump Gauge (second report). John Agnew, Rufus Tyler, Sears C. Walker. A more accurate gauge than in use; utilizes tape and hallow cylinder and graduated line to indicate water depth in ship's hold. 13 November 1834.

33 Luckey, James. New York. Straw Cutter. No Report. Comm Disc 8 January 1835.

34 Sherman, David S. East Walpole, Massachusetts. Saw Set Thomas S. Stewart, John S. Agnew, Rufus Tyler. A useful device for setting saws, though similar to many already patented. 11 December 1834.

35 Norcross, L. Dirfield, Maine. Diving Suits. Alexander D. Bache, Thomas McEuen, John C. Cresson, Edward Poole. An efficacious suit, yet other similar "dresses" are patented. 13 November 1834.

36 Hutchings, Thomas. Reading, Pennsylvania. Waterwheel. Benjamin Reeves, Isaiah Lukens, Joseph W. Roberts, James P. Espy. Wooden balls would turn the wheel, then rise again through water in a tube to fall again on the wheel. Wholly unworkable. 8 January 1835. JFI, March 1835.

37 Nash, Norman. Philadelphia. Gas Engine. Walter R. Johnson. No Report. Comm Disc 8 January 1835.

38 Tilgham, E. Philadelphia. Hair Line for Measuring Distance. William J. Young, Edward G. Gill, Alexander D. Bache, Andrew Young. A novel application of two horizontal hairs to the diaphragm of the telescope of a spirit level, yet objectionable because it would confuse the engineer. A chain is still better. 14 January 1836.

39 McClintock, John. Chambersburg, Pennsylvania. Steam Boilers. Walter R. Johnson. No Report. Comm Disc 13 November 1834.

40 Fairbanks, E. and T. St. Johnsbury, Vermont. Weighing Machine. Alexander D. Bache, Edward H. Gill, Benjamin Reeves. A convenient, compact, and accurate machine to 1200 pounds. 14 January 1835.

41 Ustick, Stephen C. Philadelphia. Cutter, Straw. R. Eglesfeld Griffith. Comm Disc 8 January 1835.

42 Tyler, Philos. Philadelphia. Gauge Cock, Shifting (for steam boilers). John C. Cresson, John Agnew, John C. Trautwine, Isaiah Lukens. Simple, accurate, and practical. Will help "prudent engineer" avoid deficient water in boiler. 13 November 1834. JFI March 1835.

43 McNeil, B. Philadelphia. Hydro-pneumatic Elevator. John Agnew. No report. Comm Disc 11 December 1834.

44 Middleton, John W. Philadelphia. Railroad Turn-out. John C. Trautwine, Edward H. Gill, Isaiah Lukens. A useful switching mechanism, which would remain exposed to possible malicious action. 8 January 1835

45 Breed, Samuel D. Philadelphia. Bookbinding. John C. Cresson, Samuel Hufty, Rufus Tyler, Isaiah Lukens. Method would glue back of book after cutting folds so that each leaf edge would be bared to the glue. Although yet imperfect, should, with improvements, be a valuable improvement. 8 January 1835. JFI, November 1839.

46 O'Conway, P. I. Philadelphia. Sundial. Thomas McEuen. No Report. Comm Disc 12 March 1835.

47 Henwood, D. Steel Welder. John Weigand. No Report. Comm Disc 11 December 1834.

48 Noblett, Stephen. Philadelphia. Canal Lock. John C. Trautwine, Andrew Young, Edward H. Gill. Adds side basin and reservoir to hold water rather than draining into lower locks. 8 January 1835.

49 Baldwin, Matthias W. Philadelphia. Locomotive Engine. John C. Cresson, John Agnew, Samuel Hufty, John C. Trautwine, Henry D. Rogers. Improvements to force pump supplying water to boiler, to method of reversing motion of steam valves, to the axle of driving wheels, to the manner the steampipe enters the boiler, and to the construction of the wheels. Enthusiastic approval. 12 February 1835. JFI, April 1835.

50 Gebhard, Soloman. Camden, New Jersey. Steamboat Paddles. Rufus Tyler, John M. Keagy, Edward H. Gill, Benjamin Reeves, C. M. Eakin. Rejects Gebhard's device as too complicated as compared to "beautiful simplicity" of common paddle wheel. 8 January 1835.

51 Bassett, Nathan. Wilmington, Delaware. Compasses (east and west). Alexander D. Bache, Rufus Tyler. Designed to reduce errors caused by local attractions. Recommended for Scott legacy premium. 12 November 1835.

52 McClintock, John. Chambersburg, Pennsylvania. Steam Boiler. Walter R. Johnson, Rufus Tyler, Isaiah Lukens, John C. Cresson. Several devices to decrease shifting of water in boilers when boat is in rough water, to sound an alarm when water is low in boiler, and to prevent, with a safety valve, overloading with steam. Improvements are not recommended. 12 February 1835.

53 Ridgway, Thomas S. Pottsville, Pennsylvania. Anthracite Iron Smelting Furnace. Benjamin Reeves, Rufus Tyler, John Agnew, Walter R. Johnson, Henry D. Rogers, Samuel V. Merrick. Theoretical implications (chemical veins) of three stacks rather than one are erroneous. Ridgway does not understand chemical reactions in smelting. 14 May 1835. JFI, August 1835. T. S. Ridgway to William Hamilton, 3 March 1835.

54 Graham, Seth. Farmington, Maine. Depilating Machine. John C. Cresson, Rufus Tyler, J. H. Buckley, Emmor J. Kimber. A machine of rollers which, with modifications, will aid hatters and furriers. 12 March 1835. JFI, May 1835.

55 McMullen, John. Sinking Valley, Pennsylvania. Knitting Machine. Samuel V. Merrick, Rufus Tyler, Enoch Roberts, Joseph W. Roberts. Simple and ingenious in the use of "power" and "employment of children". Recommended for Scott legacy premium. 14 May 1835. JFI, July 1835.

56 Harmsted, Samuel. Philadelphia. Railroad Leveller. Edward H. Gill, Edmund Draper. A device insuring the same level of all cross trenches of the road bed by guiding with a structure of wood, slides, and spirit levels the hoe used to dig the trench; will save time and labor. 1 April 1835.

57 Burk, William. Whitemarsh, Montgomery County, Pennsylvania. Canal Boat Propulsion. Benjamin Reeves. Report missing. 9 April 1835.

58 Ustick, Stephen C. Philadelphia. Straw Cutter. John C. Cresson. No report. Comm Disc 11 June 1835.

59 Rulon, Henry. Greenwich Township, Gloucester County, New Jersey. Windmill. Benjamin Reeves. Report missing. Comm Disc 11 June 1835.

60 Hoeven, Authon Ter. Philadelphia. Cutter, Vegetable. John Agnew, Samuel Hufty, Jacob Pierce. With sufficient power, would rapidly cut vegetables, yet same principles long used for patented straw cutter. 14 January 1836.

61 Holcomb, Amasa. Southwick, Massachusetts. Telescopes, Reflecting. Sears C. Walker, Isaiah Lukens, William H. C. Riggs, William J. Young, Rufus Tyler, Edmund Draper. Larger one had power of 900, better than any in country. "View of the moon" is "interesting beyond description". Report is six pages of patriotic praise and dispassionate description of Holcomb's achievement. Mounting is recommended for Scott premium. 14 May 1835. Descr by Holcomb. Both in JFI, July 1835.

62 Cooper, George. Olwego, New York. Steam Engine, Rotary. Benjamin Reeves, Matthias W. Baldwin, Rufus Tyler. Machine is unworkable. 10 March 1836. Illus by Cooper. Ltr with Descr, Cooper to William Hamilton, 2 April 1835.

63 Snyder, Joseph. Philadelphia. Grate, Parlour. John C. Cresson, Abraham Miller, Thomas McEuen. Recommended for its "superior neatness and cheerfulness", but has no claim to originality of principle. 12 November 1835. JFI, February 1836.

64 Thomas, John H. Philadelphia. Spark Arrester. Benjamin Reeves, Matthias Baldwin, Rufus Tyler. A trial would demonstrate to Thomas that his device is unworkable. 11 March 1836. Descr by Thomas.

65 Barnes, Joel. Philadelphia. Standing Press. Walter R. Johnson, Thomas Earle, William Kite, Rufus Tyler. Because of the three rates of speed, press is recommended for manufacturers who complain of slowness of hydrostatic press. 11 June 1836. JFI, August 1835.

66 Dando, Joseph. New York. Bookkeeping. Frederick Fraley, Mordecai D. Lewis, Richard Price. Recommended over single-entry or Italian methods as faster process using four book in double-entry system. 11 June 1835. JFI, August 1835.

67 Smith, J. K. Port Clinton, Schuylkill County, Pennsylvania. Railroad Brakes, Self-acting. John C. Cresson, Charles B. Trego, Edward Poole. Though the brake would have to be disengaged when the train moves in reverse, the brakes are recommended for greater safety. 13 August 1835. JFI, October 1835.

68 Shapard, Carlos. Philadelphia. Spark Arrester. Benjamin Reeves, Rufus Tyler. The use of a wire gauze in the flue might obstruct the draft of the furnace. 10 September 1835.

69 Bradley, Samuel. Philadelphia. Railroad Car (for ascending inclined planes). Rufus Tyler, Andrew M. Eastwick, Matthias W. Baldwin. The proposed cogwheel would be unable to withstand the friction. 12 November 1835.

70 Davenport. Electro-magnetic Apparatus. Dr. Robert Hare. No report. Comm Disc 14 January 1836.

71 Hackman. D. H. Pittsburg. Mathematical Chart. Walter R. Johnson, Charles B. Trego, Thomas Earle. Because of its clear presentation of mathematical definitions, axioms, and rules, the chart is recommended to schools, private students, and practical men. 14 August 1835. JFI, November 1835.

72 Laibacker, Philip. Philadelphia. Door Lock. Rufus Tyler, Andrew M. Eastwick. The cover for the inside of the keyhole would work, but like the bolt, would still not prevent the intruder breaking a hole in the door. 12 November 1835. JFI, February 1836.

73 Clark, George R. New York. Steam Boiler. Walter R. Johnson, Benjamin Reeves, John Agnew, Rufus Tyler, John M. Hamilton. The use of an exterior shell of iron would contain only a small percentage of boiler mishaps and increase the already heavy weight of steam boilers. 10 September 1835.

74 Kenzle, C. Troy, New York. Waterwheel. Rufus Tyler, John Agnew, Samuel V. Merrick, Walter R. Johnson. Unique in receiving water from a number of chutes at once, around the periphery. 13 October 1836. JFI, November 1836.

75 Gerrish, William. Portsmouth, New Hampshire. Cotton Press, Portable. Walter R. Johnson, Rufus Tyler, Andres M. Eastwick, John Agnew. Commendable in distributing weight of force over four racks, yet increased number of parts presents problems of friction. 10 September 1835.

76 Seymour, Bradford and Whepple, Squire. Utica, New York. Fire Alarm Clock. Walter R. Johnson, James P. Espy, Isaiah Lukens, Sears C. Walker, Andrew Young, Rufus Tyler. A thermometical alarm, ringing by a hammer activated at a pre-set temperature. Will perfectly answer its purpose. 12 November 1835. JFI, February 1836.

77 Planton, A. Philadelphia. Steamboat (in form of scow). Rufus Tyler, Robert M. Patterson, Andrew W. Eastwick. A scow creates more resistance in the water and paddles placed in front--Planton would place them front and back--would only throw water on the boat. The invention is not recommended. 14 January 1836.

78 Winslow, S. E. Philadelphia. Steam Engine, Rotary. Walter R. Johnson, Benjamin Reeves, Joseph W. Roberts, Thomas Earle, Rufus Tyler. No Report. Comm Disc 10 December 1835.

79 Burt, William A. Mt. Vernon, Macomb County, Michigan. Compass Apparatus to Determine Magnetic Variation. Alexander D. Bache, Sears C. Walker, Rufus Tyler. New, ingenious, highly accurate surveyor's compass is recommended for Scott's legacy premium. 10 December 1835.

80 Jones, Alfred C. Portsmouth, Virginia. Spark Arrester. Thomas Earle, Andrew M. Eastwick, Rufus Tyler, Joseph Harrison, Jr. Among the best devised. Important because of increasing importance of trains. 14 January 1836. JFI, April 1836.

81 Briggs, Eliakim. Fort Covington, New York. Horse Power. Walter R. Johnson, Andrew M. Eastwick, Rufus Tyler. The frame proposed for transferring horse power to a machine is not new and would work only if well-constructed. 11 February 1836. Descr by Briggs. Illus by Briggs.

82 Gatchell and Rennie. Philadelphia. Railroad Swivel, Self-adjusting. Edward H. Gill. No Report. Comm Disc 14 January 1836.

83 Philbrick, J. Natchez, Mississippi. Cotton Dryer. Report missing. Adopted. Comm Disc 14 January 1836.

84 Norris, Elisha S. Monmouth, Maine. Fulling Mill Stocks, Washing Machine, Saw Mill, Propulsion of. Joseph W. Roberts, Rufus Tyler, Joseph Harrison, Jr. The use of the toggle joint to the gearing would increase the speed of operating fulling mill stocks, possibly washing machines, but not saws. 9 June 1836.

85 Gregg, Abraham. Warsaw, New York. Steam Boiler. Walter R. Johnson, Andrew M. Eastwick, Peter Teal, Matthias W. Baldwin. The inner and outer cylinders proposed would be less adequate than the common boiler, and might be considerably more dangerous. 11 February 1836. JFI, July 1836.

86 Strong, Jedediah. Germantown, Pennsylvania. Pump, Rotary. John C. Cresson, Andrew Young, Thomas Earle. Both in general design and in details, this pump, while adequate, is preceded by patented machines. 11 February 1836.

87 Thorn, Isaac. Pennsylvania. Spark Arrester. John C. Cresson. No report. Comm Disc 12 May 1836.

88 Badger, L. V. Portsmouth, New Hampshire. Hot Air Forge. Henry D. Rogers, Benjamin Reeves, Andrew M. Baldwin, William D. Parrish, Rufus Tyler. In routing the air over heated surfaces, this forge reduces the force of the draft without compensating augmentation of the temperature of the air. 11 February 1836. JFI, April 1836.

89 Prutzman, Augustus. Philadelphia. Door Lock. Andrew M. Eastwick, John M. Hamilton. "A speciman of both ingenuity and workmanship." Because of its intricacy, great accuracy is necessary. Recommended"particularly to bank directors." 12 May 1836. JFI, September 1836.

90 McDonough, A. Philadelphia. Spark Arrester. Walter R. Johnson, Joseph Harrison, Jr., Matthias W. Baldwin, Jacob Pierce. The use of a wet sponge would, when dried by the heat, only add combustible material. 11 March 1836.

91 Mason, Abraham. Pittsburgh. Steam Gun. Robert M. Patterson, John Agnew, Isaiah Lukens, William D. Parrish, Thomas Earle. Could not achieve the necessary velocity. 12 May 1836.

92 Robinson, John. Steamboats and Boilers. No report. Comm Disc 12 May 1836.

93 Shultz, William. Philadelphia. Spark Arrester. Rufus Tyler, Andrew M. Eastwick, William D. Parrish. Uses wire gauze as usual, yet places gauze near bottom of escape chimney. Chimney is removable, thus facilitating replacement. Best arrangement yet because even if heat erodes gauze, it is readily replaceable. 11 March 1836. JFI, July 1836.

94 Potts, Charles. Philadelphia. Steam Engine Pump. Rufus Tyler, William D. Parrish, Alexander D. Bache. The water would not enter the boiler because of temperature problems. Still, the pump is worthy of a trial. 12 May 1836. JFI, August 1836.

95 Chew, Benjamin. Philadelphia. Saltworks of Pennsylvania. Henry D. Rogers. No report. Comm Disc 9 March 1837.

96 Hale, William P. Brooklyn, New York. Steam Engines, Heating the Feeding Water. John C. Cresson, Isaiah Lukens, Rufus Tyler, Andrew M. Eastwick. An excellent idea, but heating the water after it leaves the force pump to prevent steam building up in the pump is already used. 10 March 1836.

97 Wesener, C. Philadelphia. Soda, Manufacture of. R. Eglesfeld Griffith, Alexander D. Bache, Henry Troth. This artificial soda can be produced at about the same price as natural barilla and is also free of the sulphuretted gas so offensive to soap boilers in the city. 12 May 1836. JFI, August 1836.

98 Fassard, Felix. Philadelphia. Prussiates for Dyeing. Henry Troth, Alexander D. Bache, R. Eglesfeld Griffith, William Hodgson, Jr. Recommended for dyeing coarser cloths. 12 May 1836. JFI, July 1836. Addition for published version of report by Alexander D. Bache, 29 April 1836.

99 Majenben, R. New York. Steam Boilers. Walter R. Johnson. No report. Comm Disc 9 March 1837.

100 Holcomb, Amasa. Southwick, Massachusetts. Telescope, Reflecting. Sears C. Walker, Isaiah Lukens, Edmunc Draper, William J. Young, William H. C. Riggs, Alexander D. Bache, Rufus Tyler. The best so far of Holcomb's telescopes. Beyond that, the Comm urges "some of our corporate institutions" to finance the construction of a twenty foot instrument "should the course of Mr. Holcomb be suddenly arrested." 11 March 1836. Desc by Holcomb. Both in JFI, July 1836.

101 Raub, Samuel. Steam Safety Valve/Gauge. Thomas Earle, Rufus Tyler, Joseph Harrison, Jr. Does not use an alarm, but relies on the release of steam when the water is too low. Places too much reliance on floats or weights as indicators of low water, or for obviating its effects. 12 May 1836. JFI, September 1836.

102 Rogers, Samuel and Black, James. Munsing Township, Lycoming County, Pennsylvania. Canal Boat Propeller. Rufus Tyler, Samuel V. Merrick, Andrew M. Eastwick, Joseph Harrison, Jr. Employs a jet or stream of water discharged at the stern with a propeller recessed under the boat. Although less efficient than the paddle wheel, it is recommended for canal boats since having all the propulsion apparatus on board will not injure the sides of the canal. 9 June 1836.

103 Garrett, Philip and Eastwick, Andrew M. Philadelphia. Locomotive Engine. John C. Cresson, Alexander D. Bache, William D. Parrish, Thomas Earle. These improvements to the reversing action of locomotices and to decrease wear to the driving axles and their boxes makes these engines equal to any in the country. 14 July 1836. JFI, September 1836.

104 Andrews, J. A. Philadelphia. Steam Wheel. John C. Cresson. No report. Comm Disc 9 June 1836.

105 Judlin, A. F. Baltimore. Fire Escape. Rufus Tyler. No report. Comm Disc 11 August 1836.

106 Morgan, John. Manayunk, Pennsylvania. Spark Arrester. John C. Cresson, John Agnew, Joseph Harrison, Jr. Attaching another flue coming down from the original upright chimney would stop the sparks, but would seriously impair the draught of the chimney. 9 June 1836.

107 Thomas, R. S. Heated Air Propulsion. James P. Espy. No report. Comm Disc 11 August 1836.

108 Thomas, R. S. Magnetism (as method of propulsion). James P. Espy. Comm Disc 9 June 1836.

109 Wetherill, Charles. Philadelphia. Essays. John C. Cresson. No report. Comm Disc 8 September 1836.

110 Parke, Charles, New York. Serving Mallet. Rufus Tyler, Benjamin Reeves. A spool would carry the yarn rather than an extra hand. Recommended for adoption by riggers. 24 July 1836.

111 Sweet, Joseph. Lycoming County, Pennsylvania. Stave Dresser. Rufus Tyler. No report. Comm Disc 8 September 1836.

112 Patton, John M. Milton, Pennsylvania. Canal Boat Paddle Wheel. Benjamin Reeves, Andrew M. Eastwick, John C. Cresson. This attempt to avoid eroding canal sides with the waves is unworkable. 10 November 1836.

113 Trautwine, John C. Philadelphia. Railroad brake for Inclined Plane. Rufus Tyler, Joseph Harrison, Jr. The device would include strong check posts along the inclined portions of the tracks to which chains attached to the trains would catch. This would probably not be strong enough, but only experience will tell. 9 February 1837. Illus and descr by Trautwine.

114 Hampton, Samuel S. Philadelphia. Spark Arrester. Rufus Tyler. No Report. Comm Disc 13 October 1836.

115 Shugert, John. E'town, Pennsylvania. Iron Tuyere. Rufus Tyler, Benjamin Reeves, Isaiah Lukens, Peter Teal. Uses thick mass of cast iron to prevent its being burned away yet can be placed partially in the fire. Item being worked on can be held off the dirt and slag. Recommended for general use. 11 May 1837.

116 Mott, Jordan L. New York. Cast Iron Columns, John C. Cresson, Joseph S. Walter, Jr., Isaac P. Morris. The use of horizontal sections of cast iron stacked to the desired height and strengthened with a wrought iron bar down the middle may be strong yet would be economical only with large buildings. 12 January 1837. Letter, Mott to William Hamilton, 25 March 1837. Descr by Mott, 16 April 1836.

117 Holcomb. Amasa. Southwick, Massachusetts. Telescope, Reflecting. Sears C. Walker, Isaiah Lukens, Robert M. Patterson, Rufus Tyler. A reflector based on design of Sir William Herschel; 14 feel long, 10 inches in diameter. Has magnifying powers from 70-1000. The mounting is excellent, as is the telescope. Detailed descr of mounting by Holcomb. Illus. 13 October 1836. JFI, November 1836.

118 Brooks, George. Germantown, Pennsylvania. Railroad car. Andrew M. Eastwick, Joseph Harrison, Jr., Benjamin Reeves. The use of diagonal bars to adjust to the road curvature is too common to necessitate comment. 12 January 1837.

119 Vanderhoof, George. Patterson, New Jersey. Railroad Car. Andrew M. Eastwick, Joseph Harrison, Jr., Benjamin Reeves. This device to make the wheels respond to curves would not work with any railroad car larger than the model submitted. 12 January 1837.

120 Thomas, Dr. R. S. and Espy, James P. Philadelphia. Air Engine. Robert M. Patterson, John C. Cresson, Thomas Earle. Theoretically sound, and despite the inevitable difficulties in execution, the Committee encourages the author to attempt the use of heated air as a motive force. 10 November 1836.

121 Thomas, Dr. R. S. Philadelphia. Steam Engine. Isaac Morris, John Agnew, Andrew M. Eastwick. This new safety valve arrangement is too complex to win approval from the public, no matter the ingenuity. The fusible metallic plates to open and close the boiler flue are unworkable. 12 January 1863.

122 Campbell, H. D. Philadelphia. Locomotive. Franklin Peale. No Report. Comm Disc 10 August 1837.

123 Fairlamb, Jonas P. Philadelphia. Spark Arrester. Andrew M. Eastwick. No Report. Comm Disc 11 May 1837.

124 Ward, Allen. Philadelphia. Case Ruler (triangular measure). Thomas Earle, John C. Cresson, John F. Browning, Samuel Robb, Edward J. Axford. An improvement on Ward's widely used "protracter system." The triangular measure would contain in one instrument the scales, squares, and rulers usually contained in four or five instruments. Deserves the "best recommendation". 12 January 1837.

125 Hittell, Philip. Philadelphia. Truss (for hernia). Paul B. Goddard, M.D., Isaac Hays, Gouverneur Emerson, George H. Bergin. Declines to judge because of difficulty of obtaining evidence, the particularity of medical problems, and to discourage others in the medical arts from applying to the Comm. 14 September 1837.

126 Gerber and Swartzengrover. Norristown, Pa. Lime Kiln. Benjamin Reeves. Report Missing. Comm Disc 13 April 1837.

127 Grant, Philadelphia. Railroad Car. Andrew M. Eastwick. No Report. Comm Disc 8 June 1837.

128 Eagle, Robert. Moorestown, New Jersey. Smut Mill. John C. Cresson. No Report. Comm Disc 11 May 1837.

129 Duncan, George W. Philadelphia. Spring Power (to propel locomotives and machinery). Robert M. Patterson, Franklin Peale, Isaiah Lukens, Matthias W. Baldwin, Samuel V. Merrick, John H. Towne. This series of strong, spiral springs fails to obey the mechanical principle that the machinery intervening between the first power and the final effect is wasted. 9 March 1837.

130 Mahan, Francis. Philadelphia. Case Ruler (for tailors). John C. Cresson. Too similar to Allen Ward's measure (case 124) to be separately judged. 11 May 1837.

131 Bingham, J. Philadelphia. Railroad Car. Andrew M. Eastwick, Joel Bates, Peter Teal. A design intended to diminish friction while running on curves. Contains nothing new or useful. 9 February 1837.

132 Benjamin, Decatur. New York. Steam Boiler. Self-acting Water Feeder. Walter R. Johnson, John Agnew, Benjamin Reeves, Andrew M. Baldwin, Thomas Earle. The pipe extending up into the boiler would not prevent steam entering the cylinder when water covers the mouth of the pipe. 13 April 1837.

133 Burk, William. Whitemarsh, Pennsylvania. Spark Arrester. Joseph Harrison, Jr. No Report. Comm Disc 9 March 1837.

134 Lynch, Edward. Wilkes Barre, Pennsylvania. Steam boiler (water gauge). Walter R. Johnson, Matthias W. Baldwin, Aldred C. Jones. A rod operating in the cylinder to open the safety valve when the water is low would not provide enough force to operate. An external glass tube with a black ball to indicate water level offers more promise. 13 April 1837. Lynch to William Hamilton. 13 January 1837. Descr with Illus.

135 Robinson, John. Philadelphia. Ice Boat. Benjamin Reeves, Joel Bates. The use of pounders and rudders in the keel of the boat present insurmountable problems. 11 May 1837. Dup of Report.

136 Little, Archibald and Elmer. Escapement, Chronometer. Sears C. Walker, George Robbins, Isaiah Lukens, William H. C. Riggs. "On a par with the prime chronometers of English, French, and German mechanicians." 9 March 1837. JFI, March 1837. Draft, Little to William Hamilton, 17 July 1837. Little to Hamilton, 17 July and 12 August 1837.

137 Brown, John. Waynesburg, Ohio. Steam Engine, Rotary. John C. Cresson, Matthias W. Baldwin, Joseph Harrison, Jr., Samuel V. Merrick, Rufus Tyler. This device has been invented again and again since Watt's time, yet engineers still prefer the reciprocating engine. 13 April 1837. Descr by Brown with two Illus. 25 February 1837.

138 Davis, Gideon. New Lisbon, Ohio. Steam Boiler. John C. Cresson, Matthias W. Baldwin, Joseph Harrison, Jr., Samuel V. Merrick, Rufus Tyler. The use of horizontal flues through which the fire passes in an undulating current works no better than Woolf's Patent of 1803. 13 April 1837. Descr with Illus.

139 Sitler, David. Philadelphia. Canal Boats (plan for propelling). Robert M. Patterson, William Strickland, Alfred C. Jones, Sears C. Walker, Edward H. Gill. Plan to use a rope lengthwise in the canal (same as when used crossways with a ferry) "is equally deficient in novelty and utility." 13 April 1837.

140 Morrison, Abraham. Johnstown, Cambria County, Pennsylvania. Canal Boat. Benjamin Reeves, Roswell Park, John C. Cresson. A concave bottom and raised bow will not diminish waves striking the banks. 11 May 1837. Morrison to William Hamilton, 14 March 1837. Pr descr by Morrison, 7 October 1836.

141 Everly, George M. Philadelphia. Steam Boiler. Franklin Peale, Robert M. Patterson, John Agnew, Joel Bates. The use of inner and outer semi-circular cylinders is novel but other features make the whole "extremely objectionable." 11 May 1837.

142 Doran, Thomas. Philadelphia. Groove Plane Bit. Thomas S. Stewart. Such tongue bits have been previously patented, and when tried have failed. 8 June 1837.

143 Goulding. Steam Boiler. John C. Cresson, Andrew M. Eastwick, Benjamin Reeves, Rufus Tyler. Composed of three concentric vertical cylinders with connecting tubes. Excellent and compact except there is no easy way to clean the inner boiler or the tubes and thus is liable to explosions. 11 May 1837.

144-1/2 Patterson, Robert M., Chm. of Special Comm. Report on Telegraph Systems to U. S. Secretary of the Treasury. Robert M. Patterson, Roswell Park, Henry J. Rogers, Charles B. Trego, Sears C. Walker. In response to circular by Sec. Levi Woodbury, the Comm suggests a plan and approximate expense for a visual telegraph system. 18 April 1837. JFI, April 1838. Circular, Tres. Dept., 10 March 1837. Levi Woodbury to Robert M. Patterson, 21 April 1837.

144 Stratten, W. W. Philadelphia. Steam Boiler Feeder. Samuel V. Merrick, John H. Towne, Benjamin H. Overhiser, Rufus Tyler. The use of an overhead reservoir and feeder is less commendable than the commonly-used force pump. 11 May 1837.

145 Bester, O. H. Washington, D. C. Ice Boat. Franklin Peale, Joseph Harrison, Jr., Andrew M. Eastwick, Peter Teale. The use of steam power saws and axes to break the ice does not indicate how the power is to be transferred. 11 May 1837

146 Leiper, George C., William J., and S. W. Gneiss Rock, Quality of. Sears C. Walker, James C. Booth, Franklin Peale, John F. Frazer, Robert E. Roberts, Isaiah Lukens. No better material available for building, in spite of Prof. Cleveland's assertion that mica is subject to decomposition. 6 May 1837. JFI, May 1837. Draft with various notes.

147 Emmons, Uri. Freehold, New Jersey. Railroad, Single Elevated Track. William Strickland, Alfred C. Jones, Robert M. Patterson. These improvements on earlier single track railroads do not solve the problems inherent in the idea. 11 May 1837.

148 Walker, Sears C., Chm of Special Comm., Rogers, Henry D. (Sponsor of Final Report). Report to the U. S. War Dept. on the Quality of Rocks Used in the Delaware Breakwater. Sears C. Walker, Isaiah Lukens, James C. Booth, John P. Wetherill, John Frazier, Gouverneur Emerson, Thomas McEuen, William Strickland. Recommends Trappean Rock over Gneiss Rock because it is more resistant to freeze-thaw and chemical disintegration. 12 June 1837. Lt. Col. Joseph G. Tatten, Maj. S. H. Thayer, Capt. John S. Smith to ?, 1 September 1837.

149 Cochran, John. Baltimore. Paddle Wheel. Roswell Park, Robert M. Patterson, John C. Cresson, John H. Towne. This complex replacement for the common paddle wheel will lose more energy through the greater number of parts than is lost by the oblique action of paddle wheels. 13 July 1837.

150 Hackman, D. H. Lancaster, Pennsylvania. Surveying (system for teaching). Robert M. Patterson, Sears C. Walker, John C. Cresson. The Pennsylvania method is still preferable to Hackman's innovations. 13 July 1837.

151 Evans, Cadwaller, Pittsburgh. Steam Boiler Gauge. John C. Cresson, Samuel V. Merrick, Rufus Tyler, Matthias W. Baldwin, Benjamin H. Overhiser. An arrangement using multiple columns of mercury which will not work without modifications. 14 December 1837.

152 Allen, Ward W. Philadelphia. Tailor's Measure. Thomas Earle, Charles C. Jackson, Thomas McGrath, Samuel C. Parris. This structure of bars and slides to calculate the shape of the body is "extremely well calculated" for its purpose. 14 December 1837.

153 Breed, S. D. Philadelphia. Ship's Letter Bag. Franklin Peale. This waterproofed and inflatable bag, though not novel, is commendable for the use of layered caoutchouc gum. 14 December 1837.

154 Nagle, P. G. Philadelphia. Waterproof Leather. James C. Booth, Robert E. Rogers. Leather waterproofed with the oily and resinous substance used is faulty, as all successful waterproofing, in not allowing air to pass through the leather. 8 July 1838. Nagle to Booth, 2 April 1838.

155 Bryant, J. J. Philadelphia. Spark Arrester. John C. Cresson. No Report. Comm Disc 12 July 1838.

156 Rogers, Henry D., Chm of Special Comm. Report on Deposits in Flues of the Steam Packet Charleston. Robert E. Rogers, Samuel V. Merrick, Benjamin Reeves. The deposits are difficult to remove but can be suspended while a portion of the water is blown off. 12 October 1837.

157 Warner, Chapman. Flax and Hemp Dresser. Samuel V. Merrick, Benjamin Reeves, Joseph Johnson, William Kerr, Isaac W. Norris. This automatic machine will not break the hemp as the hand machine tends to do. Will prove an important stimulus to hemp and flax cultivation. 14 December 1837.

158 Garrett and Eastwick. Locomotive. John C. Cresson. No Report. Comm Disc 12 July 1838.

159 Rowand, Thomas. Philadelphia. Spark Arrester. J. Henry Towne. A fan would force sparks, smoke, and gases back into the fire to be fully consumed. This will only diminish the heat of the fire since these substances are mostly incombustible. 14 December 1837.

160 Baldwin, Ethan. Washington, D. C. Rotary Steam Engine. John C. Cresson, Joel Bates, Samuel V. Merrick, Joseph Saxton, William D. Parrish. The improvements on this engine make it better than the usual engine. Still, the wings of the internal cylinder are not tightly fitting enough to equal the power-fuel ratios of the reciprocating engine. 8 July 1838.

161 Kirkpatrick, John. Baltimore. Steam Balance Valve. Samuel V. Merrick, Isaiah Lukens, John H. Towne. A device to balance pressure on the side valve is advantageous, but previously patented. 14 March 1839.

162 Kirk, J. W. Philadelphia. Anthracite Cook Stove. James C. Booth, Robert M. Patterson, Henry D. Rogers. Not sufficiently novel to warrant a premium, yet does provide ingenious ways of economizing on fuel through heat-adjusting devices. 8 February 1838.

163 Brooks, Adam. Scituate, Maine. Silk Spinner and Reeler, Combined. John C. Cresson, E. O. Abbott. Combines functions already in use yet its simple efficiency recommends it for domestic use. 17 January 1838. Pr illus and descr.

164 Drake, Alfred. Philadelphia. Gas Engine. John C. Cresson. No Report. Comm Disc 28 April 1838.

165 Morse, Samuel F. B. New York. Electro-Magnetic Telegraph. Robert M. Patterson, Roswell Park, Sears C. Walker, Isaiah Lukens, Franklin Peale, Joseph Saxton. This device, simpler than the telegraphs of Gauss and Wheatstone, with its use of combinations of dots and lines of different length, is highly recommended with the hope that Prof. Morse may find the means of testing it with an actual experiment--its advantages "make it worthy of the patronage of the government." 8 February 1838. JFI, February 1838. Patterson to William Hamilton, nd. Morse to Patterson, 15 March 1848 - typed copy. Sydney L. Wright to Leila L. Morse, 14 April 1939; Leila L. Morse to Wright, 16 April 1939. Dr. John Frazer to Dr. Henry B. Allen, 23 June 1949 - Memorandum.

166 Meyer, Frederick A. Baltimore. Stove Improvements. James C. Booth. No Report. Comm Disc 28 April 1838. Dresc by Meyer. Illus-

167 Holbrook, Josiah. Philadelphia. Drawing Cards for Teaching. William Kneass. These cards are highly recommended for teaching drawing, that is, "describing lines regulated by the forms and objects in nature and art." 9 August 1838.

168 Riley, Patrick. Pottsville, Pennsylvania. Water Grate and Steam Joint. John H. Towne, John C. Cresson. The use of hollow bars filled with water to increase to amount of water heated in engines would cause many problems and solve none. 14 March 1839.

169 Masson, Abraham. Philadelphia. Locomotive (method for preventing friction on curves). Andres M. Eastwick, Franklin Peale, Samuel V. Merrick. The use of "rolers" to press against a fence and force the car laterally toward the inner rail on curves "is a roundabout way to overcome difficulties and not at all practicable." 10 May 1838.

170 McIlvain, G. Philadelphia. Railroad Car (plan to prevent accidents when axle breaks). William M. Hartshorne, Franklin Peale. The use of extra, small wheels will leave the car as much crippled with or without. 10 May 1838.

171 Merrick, Samuel V. Philadelphia. Steam Boiler. Robert M. Patterson, Benjamin Reeves, Isaac P. Morris, Andres M. Eastwick, John C. Cresson. This tubular boiler is novel in the even exposure of the tubes to the fire and in enclosing the smoke box so as to conserve heat, yet its complexity will be expensive and its tubes difficult to repair or renew. 12 April 1838.

172 Bacon, Beckford, Eales and Company. East Granley, Connecticut. Safety Fuse. Franklin Peale, John Struthers, Robert E. Rogers. This fuse is steady-burning and imperious to dampness. The Comm unqualifiedly recommends its introduction into this country. 10 May 1838.

173 Herman, James. Lancaster, Ohio. Converter (for changing alternate into rotary motion). Robert M. Patterson, Joseph Saxton, Isaiah Lukens. This use of gears and ratchets repeats the common and false assumption that the standard crank is inadequate. 9 May 1839. Descr by Herman, 2 July 1838.

174 Covill, E. G. Philadelphia. Spark Arrester. John H. Towne, Andrew M. Eastwick. Pointing a hood forward so that the rushing air will force the sparks through a special pipe will only impede the necessary draft of the smoke stack. 12 July 1838.

175 Unknown. Navigating Vessels at Sea. Samuel V. Merrick. No Report. Comm Disc 11 October 1838.

176 Bennett, Joseph. Railroad Car. William H. Hartshorne. Neither disk shaped wheels, short axles, nor replacing springs with joints are improvements. 9 August 1838.

177 Cresson, John C., Chm of Special Comm. Experiments on Railroad Traction. No Report. Comm Disc 13 December 1838.

178 King, Roswell A. Ores, Lead and Silver. William H. Keating. No Report. Comm Disc 10 January 1839.

179 Justice, George H. Philadelphia. Dome for Observatory of Central High School. Robert M. Patterson. After verbal advice from the Comm, Justice said he had no need of a written report. Comm Disc 11 October 1838.

180 Chappel, James H. Philadelphia. Tailor's Coat Measurer. Thomas Earle, James Sheriden, Joel S. Harris, Richard Watkinson. This well-conceived device will accurately and quickly measure for coats. 13 June 1839.

181 Patterson, Robert M., Chm of Special Comm. Experiments on Light. No Report. Comm Disc 12 August 1841.

182 Oliver, Thomas. Philadelphia. Tailor's "Shoulder Measure" System. Richard Watkinson, Edward A. Watson, Samuel Wright, Edward J. Axford, Thomas Earle. Simplest and most accurate system ever seen by a member of the Comm, and as original as possible within the tailor business. 11 October 1838. Statement by Comm. 14 March 1839, publicly condemns Oliver for altering the report to make it more positive for advertising purposes. Both in JFI, February 1839.

183 Beans, Elijah W. Philadelphia. Latitude, Method of Determining. Sears C. Walker, Robert M. Patterson, Roswell Park. Simple, cheap, and serviceable if great accuracy is not required. 13 September 1838. Beans to Hamilton, 16 July 1838. Walker to Patterson, nd. Observation Chart, 8 August 1838. Beans to Hamilton, 6 September 1838.

184 Mitchell, I. K. Solid Carbonic Gas. I. K. Mitchell, John C. Cresson, Joseph Saxton, Isaiah Lukens, Roswell Park, John H. Towne. Comm Disc 14 November 1839.

185 Olcott, Sands. Flax Dresser. John C. Cresson. No Report. Comm Disc 14 November 1839.

186 Seydle and Ward. Metallic Pipes (process for making). Franklin Peale. No Report Comm Disc 19 January 1839.

187 Becquerel, Antoine Cesar. Extracting Previous Metals by Chemical Electricity. Alexander D. Bache, Franklin Peale, Henry D. Rogers, Joseph Saxton, Sears C. Walker. Knowing that only galvanic electricity is used and not having seen experiments, the Comm can make no well-founded judgments. Given known electrical principles, however, the process is possible. 13 December 1838. J. H. Bissell to William Hamilton, 25 October 1838.

188 Jenks, William. Springfield, Massachusetts. Firearm Plunger. Franklin Peale, Alexander Ferguson. This hidden plunger is a simple, safe, and efficient improvement to the standard breech-loading piece. 13 December 1838.

189 Robbins, Edward Jr., Ashley, William. Waterwheel, Valve Bucket. Benjamin Reeves. No Report. See CSA 278. Pr Illus and Descr.

190 Ash, C. C. Drill, Planting. Comm Chm unknown. No Report. Comm Disc 14 March 1839.

191 Richard, Joseph. Philadelphia. White Lead Manufacture. James C. Booth, Franklin Peale. A more critical than usual examination of the process is made, and a lengthy report written, because of the "extensive employment of white leads in the arts" and the lack of adequate processes. This is a steam method rather than the common dung or manure process. Amount produced is the same, yet it is less expensive and cleaner. Only its practice on a large scale, however, can truly test this new process. 14 March 1839. JFI, July 1839.

192 Ridgway, Thomas S., Jr. Pottsville, Pennsylvania. Theodolite, Transit. Charles B. Trego. No Report. Comm Disc 11 April 1839. Illus and Descr, 9 January 1839. Ridgway to Comm on Publ, 29 January 1839. Descr nd.

193 Evans, Cadwallader. Pittsburgh. Steam Boiler, Safety Valve. John C. Cresson, Samuel V. Merrick. Proposes use of an alloy valve working on fusion principle. Inventor referred to FI Report on Steam Boiler Explosions for defects of this idea. 14 March 1839.

194 Baily, Knight. Safety Boiler. Alexander D. Bache. No Report. Comm Disc 8 August 1839.

195 Tilghman, Edward. Philadelphia. Railroad Bar, Trapezoidal. Edward H. Gill, Henry R. Campbell, John M. Hamilton, John C. Cresson. This trapezoidal rail is considerably stronger and cheaper than the standard "I" rail. 14 March 1839. JFI, June 1839.

196 Wood, Thomas. Smithfield, Ohio. Fountain Pen. Sears C. Walker, Joseph Saxton. A valuable and novel arrangement which provides a supply of ink in the handle of the quill and a simple squeeze method for feeding the ink to the point. 11 April 1839.

197 Wood, Thomas. Smithfield, Ohio. Measuring Instrument for Irregular Plots. Sears C. Walker, Edward H. Gill, William J. Young, Edmund Draper. This novel instrument is rapid and accurate. 14 March 1839. JFI, November 1839.

198 Merkel, S. B. Philadelphia. Bridges. Edward H. Gill. No Report. Comm Disc 14 March 1839.

199 Brightly, Charles H. Philadelphia. Percussion Cap For Cannon. Roswell Park, Alexander Ferguson, John H. Towne, Joseph Saxton. This novel arrangement includes a percussion cap inserted in back of the cartridge and recessed so that only the firing pin can successfully explode it. 13 June 1839.

200 Eastwick, Andrew M., Harrison, Joseph Jr. Philadelphia. Locomotive. John C. Cresson, Roswell Park, John Agnew. The changes on the number and manner in which the wheels are connected to the locomotive's chasis, and the adjustments of the draught system of the boiler, are highly satisfactory. 9 May 1839. JFI, June 1839.

201 Booth, James C. Philadelphia. Pigment, Yellow. John F. Frazer, Rembrandt Peale. The yellow produced by a mixture of sulphuret of cadmium and hydrate of almina is an excellent and durable artists' pigment. 14 November 1839.

202 Peale, Franklin. Philadelphia. Metallic Packing (for piston pods). John H. Towne. No Report. Comm Disc 14 November 1839.

202-1/2 Gobrecht, Christian, Chm of Special Comm. Report on Procurement of a Medal for the Scott's Legacy Premium. Christian Gobrecht, Samuel Hufty. Read 13 October 1836. Dup.

203 Brown, William. Indiana. Generator, Inexplosive. John C. Cresson. No Report. Comm Disc 13 June 1839.

204 Brown, Dr. William. Indiana. Steam Power. Robert M. Patterson, Edward H. Gill, John M. Hamilton, Roswell Park. These proposals to run locomotives on common roads, canal boats on wooden tracks on the water's surface, and steamships by means of paddle wheels connected to large floating drums ignore important scientific principles. 13 June 1839. Patterson to Alexander D. Bache, 6 May 1839.

205 Ridgway, Thomas S. Jr. Pottsville, Pennsylvania. Theodolite, Transit. Edward H. Gill, Constant M. Eakin, Henry R. Campbell, John M. Hamilton, William J. Young. The addition of two graduated plates, one fixed and one movable, and a screw to fix the plates in position makes this a decided improvement over the common instrument. 13 June 1839. Ridgway to William Hamilton, 4 April 1839. Ridgway to Hamilton, 8 July 1839.

206 Thomas. Electro-magnetic Apparatus. Robert M. Patterson. No Report. Comm Disc 8 August 1839.

207 Colton, Sabin W. Locks. John C. Cresson. No Report. Comm Disc 11 July 1839.

208 McCord, Isaac M. Harrisburg. Wire Rope. John C. Cresson, John Agnew, Samuel V. Merrick. This rope, made by weaving three to four strands (each consisting of 50 to 60 fine wires) together, is novel so far as the Comm knows. 13 June 1839.

209 Loomis, W. W. Wilkes Barre, Pennsylvania. Propeller, Screw. John C. Cresson. No Report. Comm Disc 14 November 1839.

210 Taylor, Washington. Philadelphia. Propeller, Screw. Robert M. Patterson, Franklin Peale. This proposed substitute for the paddle wheel, indescribable in its complexity, is unworkable. 8 August 1839. Descr by Taylor, nd.

211 Taylor. Washington. Hydrostatic Power. Robert M. Patterson, Franklin Peale. This proposal to harness water is at variance with all sound principles of mechanics. 8 August 1839. Taylor to William Hamilton, nd. Illus and Descr.

212 Atkinson, Charles. Philadelphia. Sash Weights Substitute. Thomas S. Stewart, John C. Cresson, Joseph Saxton. The use of a spiral spring would be a useful substitute for the weight and pulley system when there is no room for weights. 14 May 1840.

213 Rogers, P. Philadelphia. Propelling Boats. John C. Cresson. No Report. Comm Disc 14 November 1839.

214 Hinman, Thatcher and Palmer. Peru, Cataragic County, New York. Shingle Machine. Thomas Earle, Joseph Saxton. These machine-cut shingles are inferior to hand-split ones, but less expensive. 12 September 1839.

215 Schneider, Matthias. Philadelphia. Lever Power. John C. Cresson, John H. Towne, Samuel V. Merrick, John Agnew. A form of the universal lever machine of La Garousse with no discernible novelty. 14 November 1839.

216 McConnell, John. Philadelphia. Tooth Puller. Robley Dunglison, Gouverneur Emerson. Combines key and forceps principles with no advantages over common instrument. 13 February 1840.

217 Denison, Lester E. Sayville, Connecticut. Corn Sheller. John C. Cresson, Joseph Saxton, John H. Towne. The addition of a feeding mechanism--a case surrounding the shelling cylinder--makes this novel, highly satisfactory, and worthy of a Scott medal. 10 October 1839. JFI, November 1839.

218 Schaffer, Christian. Cider Press. John C. Cresson, John H. Towne, Samuel V. Merrick. This mill is not new in principle but it is compact, convenient, and inexpensive. 14 November 1839.

219 Buzzell, John D. Cape Elizabeth, Maine. Marble Planeing Machine. John C. Cresson. No Report. Comm Disc 14 November 1839.

220 Bancroft, Edward. Wilmington, Delaware. Iron Shafts Straightener. John H. Towne, John C. Cresson, John Agnew, Isaac P. Morris. This use of a screw press straightens shafts more rapidly and more accurately than commonly done. 12 December 1839.

221 Moyer, Jacob. Conyngham, Luzerne County, Pennsylvania. Rifle Lock. Roswell Park, Franklin Peale. This lock consists of the hammer and trigger and is placed under the barrel. Though ingenious and simple, it may disrupt aim. 14 November 1839.

222 Ketler, Adam. Furnace, Locomotive. No Report. Comm Disc 9 April 1840.

223 Earle, Esward. Philadelphia. Timber Preservation. James C. Booth, Franklin Peale, John F. Frazer. Detailed description of experiments and literature on preserving wood supports the value of Earle's soaking solution of sulphates or iron and copper. (2) Adv. 1839.

224 Ridgway, Thomas S., Jr. Pottsville, Pennsylvania. Locomotive. John C. Cresson. No Report. Comm Disc 12 December 1839.

225 Dixon, Joseph. Taunton, Massachusetts. Ink, Indelible. James C. Booth, John F. Frazer, Franklin Peale. Though uncommonly resistant to reagents, the pale color makes it inferior to the best inks. 19 January 1840.

226 Winsor, Emor. Pawtucket, Rhode Island. Ice Boat. John C. Cresson, John H. Towne, Franklin Peale. The use of saws and stampers repeats the mistakes of similar designs previously rejected. 9 April 1840.

227 Kite, Joseph S. Philadelphia. Railroad Car Safety Beam. Thomas Earle, Alfred C. Jones, Charles Ellet, Jr. See CSA 14. Recommended for Scott Medal. 13 February 1840.

228 Kerrison, John. Manayunk, Pennsylvania. Steam Engine, Rotary. Robert M. Patterson, Isaiah Lukens, Joseph Saxton. Proposes the use of mercury plugs in place of fusible alloys. Has all the problems of the rotary engine. 14 May 1840.

229 Poole, WIlliam C. Lancaster, Pennsylvania. Theodolite. Robert M. Patterson, Roswell Park. These two instruments for solving certain astronomical problems are retrogressive in view of the invention of logarithms. 9 January 1840. Poole to Brother Stockton, 21 November 1839 (Descr).

230 Lombard, Charles. Philadelphia. Snow Excavator (for railroad use). Samuel V. Merrick, William H. Wilson. Unlike the common wedge-shaped snow remover, this device uses an inclined plane to throw the snow out on each side of the track. 14 May 1840. Illus and Descr by Lombard.

231 McConnell, William P. Washington, D. C. Spark Arrester. Robert M. Patterson, William H. Wilson, Andrew M. Eastwick, John F. Frazer. A fan would draw air through the fire and through the tubes into water. Comm finds it ingenious, yet sees objections without stating them. 12 March 1840.

232 Bancroft, Edward. Providence, Rhode Island. Governor, Steam Engine. Robert M. Patterson, John Patterson, John Agnew, Franklin Peale. Utilizes clutches geared into a screw which set the throttle valve open to govern speed of machinery. Ingenious but not novel; trials are recommended. 12 March 1840. Bancroft to William Hamilton, 6 February 1840.

233 Clark, Edward. New York. Lead, White. James C. Booth, J. K. Mitchell, John F. Frazer, Franklin Peale. (Two reports, 13 August 1840 superseded 9 April 1840.) Although carbonic acid had for many years been substituted for manure in making white lead, Clark's method is novel in using atmospheric air with the acid and in his apparatus. 13 August 1840. JFI, April 1840. Descr by Clark, 20 February 1840. Clark to William Hamilton, 3 June 1840. Descr (penciled), nd. No author.

234 Bakewell, John P. Pittsburgh. Safety Valve. John C. Cresson, Samuel V. Merrick, Andrew M. Eastwick, Franklin Peale. A simple and novel use of a fulcrum entirely efficacious in opening a valve of fusible alloy when the alloy fuses. 9 April 1840. JFI, April 1840. Illus (a). Descr by Bakewell, 2 February 1840.

235 Winslow, S. E. Philadelphia. Scale Beam Pivot. John C. Cresson, Joseph Saxton, James C. Booth. The novel use of one piece of metal maintains permanent accuracy and is deserving of a Scott medal. 11 June 1840.

236 Colton, Sabin W. Philadelphia. Locks. P. B. Goddard. No Report. Comm Disc 12 November 1840.

237 Olds, Calvin. Marleboro, Vermont. Seeder. John C. Cresson, Peter Hulme, Joseph Saxton. Improves on common seed drill by using cups to throw seed into furrow and not relying on gravity, thus is useful for small light seeds as well as heavier round ones. 9 April 1840.

238 Peale, Franklin. Philadelphia. Coin Press. John C. Cresson, Alexander D. Bache, Isaiah Luken. Peale's machine, having already made several hundred thousand pieces at the U. S. Mint in Philadelphia, was deemed sound. Most appealing was its beauty of finish and excellence of workmanship, features which recommend it for the education of mechanics in matters of taste. 14 May 1840. (Report includes lengthy descr by Peale.) JFI, May 1840.

239 Rhodes, Dr. J. Philadelphia. Map for the Blind. Robert M. Patterson, Roswell Park, William H. Wilson. This map is made with different textures for lakes (sand glued to surface), rivers (string) etc. Inexpensive and novel, deserving of a Scott medal. JFI, May 1840. Descr (Pr).

240 O'Conway, P. Philadelphia. Railroad Car Brake. William H. Wilson, Isaac P. Morris. This proposal to place wooden blocks before and behind the wheels does not deserve detailed criticism. 11 June 1840.

241 Watkins, A. Dredging Machine. Robert M. Patterson, William Strickland. This device, utilizing buckets on a steam-driven wheel, ignores existing successful dredges and is heavily flawed. 12 May 1840.

242 Skirving, John. Philadelphia. Ship Ventilation. Robert M. Patterson, Samuel V. Merrick, Charles Gauntt, Matthias W. Baldwin, George W. Smith. An ingenious idea using the galley stove, connected to tubes to the hold, to draw stale air into its fire compartment, thus ventilating the hold. The conception, however, dates back to 1801. 11 June 1840.

243 Strickland, William. Ship Preservation. James C. Booth, William Strickland, Samuel V. Merrick, Charles Gauntt. The substitution of lime for salt is unobjectionable, though no firm opinion is possible. 11 June 1840. JFI, June 1840.

244 Tatham and Brothers. Philadelphia. Lead Pipes. Thomas Earle, James C. Booth, George W. Smith, John F. Frazer. J. Henry Towne. These pipes present many improvements over the standard product. 11 November 1840. JFI, January 1842.

245 Stewart, John A. Philadelphia. Radiating Flues for Warming Buildings. Robert M. Patterson, Franklin Peale, John Agnew, George W. Smith. Proposed to pass heated smoke or air through horizontal flues in walls. Time needed to heat walls makes it use impracticable; also, there is no provision to clean flues. 11 March 1841. Stewart to CSA, 8 August 1840.

246 Scott, John. Philadelphia. Refrigerator. John F. Frazer, George W. Smith, Isaac P. Morris. Pure water and ice would mix in a box, the water would flow through tubes, cooling the refrigerator and providing drinking water also. Uneconomical and water made dangerous by contact with metal. 1 July 1841.

247 Sailor and Greble. Philadelphia. Marble Manufactory. John C. Cresson. No Report. Comm Disc 14 January 1841.

248 Merrick, Samuel V. and Towne, John H. Philadelphia. Boring Machine. John C. Cresson, John Agnew, Franklin Peale. The entire Southwark Foundry of Merrick and Towne is generally described and the boring machine, in particular detail, all with great approval. 19 July 1840. JFI, July 1840.

249 Saxton, Joseph. Philadelphia. Pyrometer, Reflecting. Roswell Park, Joseph Henry, John F. Frazer, Alexander D. Bache. An excellent device for measuring the linear expansion of a heated rod. 11 November 1841. JFI, February 1842.

250 Herron, J. Railroad Beds. Robert M. Patterson, Edward Miller, Alfred C. Jones. This proposal to improve the roadbed contains many valuable and original details. 9 July 1840. JFI, July 1840.

251 Carr, Charles. Philadelphia. Oil Lamp, Camphine. James C. Booth, John C. Cresson. An ingenious design for raising the wick without a method for lowering it. 13 August 1840. Draft.

252 Jenks, William. Springfield, Massachusetts. Firearms Improvement. Joseph M. Sanderson, Franklin Peale, Roswell Park. See Case 188 for a previous favorable report. Recommended for a Scott Premium. 9 September 1840.

253 Kutz, John. Philadelphia. Railway (plan for ascending inclines). Robert M. Patterson, Samuel V. Merrick. This proposal to use cogs suffers the same defects of other plans reported on. 9 September 1840.

254 Yerkes, Titus. Mule Spinner. Franklin Peale. This device to couple together two mules with one hand would work on small mules. Otherwise, factory operators already use better methods. 11 March 1840.

255 Phleger, L. Philadelphia. Spark Arrester. John C. Cresson Robert M. Patterson, Franklin Peale, John M. Hamilton, Andrew M. Eastwick. This device uses several boxes placed over the flue and many tubes to drive the sparks through such a long and circuitous route that they are extinguished. After reporting on many spark arresters, the Comm believes this may be the long-sought-after efficient machine. 13 August 1840. JFI, August 1840.

256 Babbitt, Isaac. Railroad Car Axle Box. John H. Towne, Joseph Saxton, Andrew M. Eastwick, John Agnew, Isaac P. Morris, Joseph Harrison, Jr. This use of soft metal overcomes previous problems. It wears better than the usual boxes, though whether it will work with heavy machinery is still to be shown. 9 September 1840.

257 Stewart, John A. Springfield, Robenson County, Tennessee. Bellows. Robert M. Patterson. The use of two pans and two chambers provides a stronger blast than one. 9 September 1840.

258 Smith, H. M. Richmond, Virginia. Axles, Self Oiling. John C. Cresson, William M. Hartshorne, Matthias W. Baldwin, William D. Parrish. The addition of a spring to press the oiling wheel against the journal works well, if only the oil did not thicken with grit as it always does in those arrangements. 14 January 1841. Smith to William Hamilton, 28 July 1840.

259 Lemmond, William J. Tailor's Measure. Charles C. Jackson, J. Smith Harris, Samuel Wright. This complex device adequately measures but its practicality is questionable. 12 August 1841.

260 Germain. Railroad Cars. John H. Towne. No Report. Comm Disc 10 December 1840.

261 Ball. Lock, Mortise. Roswell Park, Joseph Saxton. The use of weights instead of springs is unusual, but not original. 9 September 1840.

262 Benner, S., Dainty. Philadelphia. Checks, Unalterable. James C. Booth, Robert E. Rogers, Frederick Fraley. The basis for this ink is more easily effacable than on ordinary checks. 10 December 1840.

263 Naglee, Henry M. Philadelphia. Railroad Car (edge rail for curves). Robert M. Patterson, William Strickland, Franklin Peale, John Struthers. In using the flange of the wheel to obtain a larger circumference of the outer wheel on curves, Naglee has made a decided improvement. See CSA 296. 9 September 1840.

264 Bennett, Phineas. New York. Steam Boiler. Robert M. Patterson, Alexander D. Bache, Franklin Peale, Samuel V. Merrick, John Fason, John C. Cresson. Although not original, Bennett's air-tight furnace greatly conserves fuel and is the first successful application of principles involved. (The report is called a "Report in part" since the Comm planned to observe the boiler in operation, given the importance of the inventor's apparent achievement.) 1 October 1840. JFI, January 1841. W. D. Lewis to William Hamilton, nd. Frederick Fraley to Hamilton, 20 October 1840.

265 Haupt, Harman. Philadelphia. Lattice Bridge. Charles Ellet, Jr., William H. Wilson, Solomon Roberts, Robert M. Patterson, Thomas U. Walter, Thomas S. Stewart, John C. Cresson. No Report. Haupt to William Hamilton, 2 October 1840. Haupt to Hamilton, 31 October 1840.

266 Keys, Israel. Putney, Windham County, Vermont. Governor for Windmill. John C. Cresson. This horizontal windmill with venetial blinds operable as a unit to control air flow and govern speed is ingenious but unoriginal. 14 January 1841. Keys to CSA, 20 September 1840.

267 Committee on Science and the Arts. Patent Law Amendment. Thomas Earle. Frederick Fraley. Draft of an act to be submitted to Congress further protecting the claims and rights of inventors. Read and tabled 14 January 1841.

268 Tracey, Andrew. Poughkeepsie, New York. Tin Cutter. John Agnew. No Report. Comm Disc 14 January 1841.

269 Bates, Joel. Philadelphia. Fire Engine. John H. Towne, George W. Smith, Joseph Saxton. This engine is, when manually operated, inferior to common suction or forcing pumps, yet were its two-cylindered design operated by steam, it would be superior. 8 April 1841. Bates to Towne, 15 December 1840.

270 Hyatt, B. M. Wilmington, Delaware. Steam Boiler Water Feeder. Robert M. Patterson. No Report. Comm Disc 8 July 1841.

271 Gregg, Mahlon. Camden, New Jersey. Spoke Finisher. Isaac P. Morris, John F. Frazer, G. W. Hollingsworth, Thomas Earle. Although the machine has a new, useful arrangement of the cutters, the standing head is less adequate than others in use. 14 January 1841.

272 Miller, H. S. Philadelphia. Hats. Robert M. Patterson. No Report. Comm Disc 9 September 1841.

273 Parkerson, Francis. Philadelphia. Telescope. Sears C. Walker. No Report. Comm Disc 11 February 1841.

274 Young, James. Philadelphia. Printing Press. No Report. Young to Comm on Exhibitions, 28 October 1852

275 Kempton, J. C. Manayunk, Pennsylvania. Power Loom. John C. Cresson. No Report. Comm Disc 8 July 1841.

276 Richardson. Philadelphia. Door Spring, Eccentric. Thomas U. Walter, Frederick Fraley, Thomas S. Stewart, John M. Mitchell. This spring, not too powerful, not too weak, merits the Scott premium. 14 January 1841.

277 Leland, Leather Cutter. Roswell Park. This device for cutting shoe soles will save labor and expense in large establishments. 14 January 1841.

278 Robbins and Ashley. Bordentown, New Jersey. Waterwheel. John C. Cresson. Although not new, the positioning of the air-escape valves on the buckets is a valuable improvement. 10 February 1842.

279 Hartshorne, William M. Philadelphia. Gearwheel Teeth Cutter. Franklin Peale. No Report. Comm Disc 12 August 1841.

280 CSA, Special Comm on Ventilating and Warming. Alexander D. Bache, Thomas U. Walter, George W. Smith. No Report. Comm Disc 14 April 1842.

281 Penfield, S. Hartford, Connecticut. Fireman's Elevator. Robert M. Patterson, John Agnew. Without having seen it operate, the Comm still recommends this device with a shaft carrying a sliding, shielded scaffold to firemen. 8 April 1841.

282 Anderson, Homer. Philadelphia. Ink, Imperishable. James C. Booth, John F. Frazer, Frederick Fraley. This imperishable ink perished quite rapidly. 11 March 1841. Anderson to William Hamilton, 1 May 1841.

283 CSA. Special Comm on Explosion of Steam Boiler at Moore's Factory. John C. Cresson. No Report. Comm Disc 9 February 1841.

284 Burt, William A. Mt. Vernon, Michigan. Compass, Solar. Sears C. Walker, William H. C. Rogers, Isaiah Lukens. Modifications of an earlier device which received the Scott Medal in 1835--a valuable improvement for surveyors in fixing the variation of the compass. 14 December 1840. JFI, February 1841.

285 Skirving, John. Philadelphia. Heating and Ventilating (Plan for Post Office). Robert M. Patterson. Report Missing. 11 February 1841.

286 Capell, James. Philadelphia. Gas Fitting, Glass. James C. Booth, Samuel V. Merrick. Ingeniously constructed, yet much too brittle for so subtle a fluid. 11 March 1841.

287 Cameron, James. Philadelphia. Dental Regulator. Roswell Park, Robley Dunglison, Paul B. Goddard. An apt instrument for measuring and making false teeth, yet to what value only experience would answer. 8 April 1841. Cameron to William Hamilton, 22 September 1840. Descr pr (attached to letter).

288 Kimber, Emmon J. Philadelphia. Paper Hangings. James C. Booth. No Report. Comm Disc 13 May 1841.

289 Woodward. Jonathan C. Philadelphia. Paddle Wheel. Robert M. Patterson, John C. Cresson, Isaac P, Morris, John H. Towne. This contrivance of cranks to keep the paddles of the wheel vertical has long been familiar. 11 February 1841.

290 Clark, John L. Nashua, New Hampshire. Railroad Car Brakes. Charles Ellet, Jr., George W. Smith, Samuel V. Merrick. This device would place long rods under the cars so that the engineer could apply the brakes for the entire train, since the rods would act on each other as well as on the wheels. An efficient device which needs testing. 11 November 1841. JFI, February 1841.

291 Herron, James. Rails, Cast Iron. Charles Ellet, Jr., George W. Smith, Franklin Peale, John C. Cresson, Samuel V. Merrick. Because wrought-iron rails, improved at great expense, have given much trouble, the Comm recommends anything that promises to wear well. A wrought-iron chair, also submitted, is judged superior to any yet devised. Rejected 21 February 1842.

292 Walsh, John. Paddle Wheel. Robert M. Patterson, John H. Towne. Walsh's design, since it has been patented by another, needs no more consideration. 8 July 1841.

293 Leibrecht, Conrad. Philadelphia. Lock, Spring (for chest). John H. Towne, Joseph Saxton. This lock, which adds catches to the jaw of the common spring lock, is too finely constructed to be of practical use. 8 April 1841.

294 Dennis, Jonathan. Portsmouth, Rhode Island. Circular Trough Tree Protector. Charles B. Trego, John C. Cresson. Proposal to substitute a lead tree collar to be filled with fish oil for the tarred leather collar used by orchard owners to keep bugs off the fruit. The latter is still preferable. 8 April 1841.

295 Baldwin, G. D. New York. Wrench Screw. John Agnew, Isaiah Lukens. The adding of a screw through the handle to tighten the jaw is neither as convenient nor as strong as the wrenches now in use. 8 April 1841.

296 Naglee, Henry M. Philadelphia. Railroad Car Edge Rail for Curves. Robert M. Patterson, Franklin Peale, Henry Campbell, George W. Smith. This second report follows a protest from James Stimpson claiming prior credit for the invention. The Comm, however, reaffirmed the earlier report of CSA 263. 11 August 1842. JFI, November 1842. Descr. Naglee to Alexander D. Bache, 11 March 1841. Stimpson to Bache, 12 November 1840. Adv, 26 September 1835, by Stimpson. Adv, 26 September 1835, by Stimpson. Note reaffirming earlier report, nd. Pamphlet by Stimpson (Baltimore, 1838).

297 Baldwin, Matthias W. Philadelphia. Shears and Piercing Press. John H. Towne. Report Missing. 8 July 1841.

298 Matthew, David. Schenectady, New York. Spark Arrester. John C. Cresson, Henry J. Biddle, Robert M. Patterson. A device utilizing the standard wire gauze. Because of a possible court battle over competing claims, the Comm declined to recommend. 8 April 1841.

299 CSA. Special Comm on Revolving Power Loom Temples. Franklin Peale. No Report. Comm Disc 8 July 1841.

300 Calderhead, Alexander. Philadelphia. Carpet Loom. Roswell Park, George Dudley, Alfred M. Collins, William W. Young, Robert M. Patterson, Franklin Peale. This simple, ingenious, effective, and original design avoids many of the problems of the common loom and is warmly recommended to all manufacturers of carpets and figured fabrics. See CSA 359. 9 June 1842. JFI, August 1842. JFI, February 1844.

301 Martin, Prosper. Philadelphia. Battery, Floating (for protecting steamboats in war). Roswell Park, William H. Emory. The construction of bulwarks of timber to protect boats from horizontal shot might be serviceable, but the Comm recommends well placed and well armed batteries on shore. 8 April 1841.

302 Ford, Richard D. Philadelphia. Bellows for Laboratory. James C. Booth, Charles B. Trego. This portable bellows conveniently operates for long periods. 13 May 1841.

303 Von Smith, Peter. Washington, D. C. Railroad, Hydraulic. Charles Ellet, Jr., George W. Smith, John M. Hamilton, Henry J. Biddle. However ingenious this single track railroad, the use of water locks to lift the train every mile presents insurmountable problems. 11 May 1841. JFI, January 1842.

304 Stevens, Enos. Philadelphia. Cephalometer. Roswell Park, Joseph Saxton. A well-contrived instrument to measure the head for Sculptors and Phrenologists. 13 May 1841.

305 Baxter, Morris. Marshall County, Illinois. Engine, Hot Air. John C. Cresson. A devastating, theoretical attack on the suggested use of heated, condensed air to operate piston engines. 10 February 1842. JFI, March 1842.

306 Jones, Frances B. Philadelphia. Silk Reel. Roswell Park, E. O. Abbot, George W. Smith, Joseph Saxton, Joseph M. Truman. This reel with wire guides makes a loose thread, too easily chafed. 8 July 1841.

307 Parker, Zebulon. Ohio. Waterwheel. Robert M. Patterson, John C. Cresson, Samuel V. Merrick, Alexander D. Bache, Andrew Young. No Report. Decision of a suit brought by Parker in U. S. Circuit Court, District of Ohio, December Term 1843. Poster. Hamilton to Patterson, 1 June 1841, on Comm. 2 Parker to Hamilton: 20 November - 7 December 1841. Parker to Hamilton, 24 May 1841, Descr. Ray to Hamilton, 30 June 1841, T. Western Transportation Company (2): freight receipt, 27 October 1841; freight invoice, 6 November 1841.

308 Kimber E. J. Philadelphia. Floating Battery. John F. Frazer. No Report. Comm Disc 9 September 1841.

309 Baldwin, Matthias W. Philadelphia. Engine, Marine. Robert M. Patterson. No Report. Comm Disc 9 September 1841.

310 Cochrane, John. Baltimore. Slide Valve, Self-Balancing. John H. Towne, William D. Parrish. No lengthy report is made because this contrivance is much inferior to Kirkpatrick's self-balancing valve. 9 September 1841. Cochrane to William Hamilton, 15 July 1841.

311 Hover, Joseph E. Philadelphia. Ink, Indestructible. John F. Frazer, Dr. Henry Scholl, James Rogers. No Report. Specimen sheet, partly erased. Small card, partly erased.

312 Hunter, Lt. U. S. Navy. Paddle Wheels. Robert M. Patterson. No Report. Comm Disc 9 December 1841.

313 Forten, Robert B. Philadelphia. Telescope. Sears C. Walker, William H. C. Riggs, E. Otis Kendall. An eight foot reflector with a power of 150 is comparable to the best Herschelian telescopes submitted to the Comm. 11 November 1841. Forten to Walker, 9 July 1841.

314 Booth, James C., Chm of Special Comm. Report on Corrosion of Iron when Anthracite is Fuel (in steam boilers and stove pipes). James C. Booth, John F. Frazer, Thomas D. Lee. The corrosion seems to be caused by saline matter present in anthracite deposits and corrodes only when moist. 10 February 1842. JFI, March 1842.

315 Jones, Alfred C. Philadelphia. Couplings, Shaft and Friction. John Henry Towne. Set screws are proposed for joined shafts to compensate for wear. A simple, inexpensive, and useful device. The friction coupling likewise is ingenious and inexpensive. It admits of many applications in replacing the usual, more rigid couplings. Recommended for Scott Medal. 11 November 1841. Additional remarks, nd. Jones to Chm, CSA, 11 August 1842. Jones to Board of Managers, FI, 14 June 1865. Jones to Board of Managers, FI, 11 October 1865. Illus.

316 Echols, Josephus. Columbus, Georgia. Air Pump and Condenser (for steam engines). Samuel V. Merrick, John Fason, Lewis Jans, John C. Cresson, Alfred C. Jones. An arrangement of air pump and condenser to relieve the engine from the loads incident upon discharges of condensed water. Ingenious, but more trouble than the contrivance is worth. 9 September 1841. Dup. Pr descr (with written descr on reverse side).

317 Wier, John. New York. Window Blind. Charles B. Trego, Thomas S. Stewart, Charles H. White. Uses ratchet wheel and click (catch) to hold blind at desired level, an obvious improvement over winding the cord around pins in the window frame. 14 October 1841.

318 Eichols, John. Columbus, Georgia. Water Supply for Steam Boilers. Samuel V. Merrick. No Report. Comm Disc 11 November 1841.

319 Grimes, William C. York, Pennsylvania. Smut Mill. John C. Cresson. This device of revolving beaters to break the "smut balls" away from the wheat produces good white flour. Recommended for Scott premium. 10 March 1842. JFI, July 1842.

320 Greenough, B. F. Boston. Oil Lamp, Chemical. John F. Frazer, James C. Booth, George W. Smith. A gracefully made lamp utilizing a chemical oil safer and more inflammable than common oils. 11 November 1841. JFI, January 1842. Adv on Greenough's chemical oil.

321 William, J. T. Philadelphia. Brake for Fire Engines. John H. Towne. No Report. Comm Disc 13 January 1842.

322 Herman, James T. Lancaster, Ohio. Ruler, Perspective. Roswell Park, William Mason, Joseph Saxton, Thomas S. Stewart. Two rollers, one larger, are made to slide on the axis, thus increasing or diminishing at pleasure the convergence of the lines. Less accurate than Farey's centro-lineal, no more convenient than Nicholson's or Lethbridge's. 9 December 1841.

323 Trautwine, John C. Knoxville, Tennessee. Rail, Cast Iron. Ellwood Morris, Robert M. Patterson, John H. Towne, George W. Smith, Charles Ellet, Jr. Proposes a cast iron bridge, or trough rail, which though unoriginal, novelty employs lateral openings. Rejected 18 January 1842.

324 Hall, Solon W. Philadelphia. Barometers. Roswell Park. No Report. Comm Disc 10 February 1842.

325 Shepherd, Thomas. Carr, William H. (Manufacturer). Philadelphia. Butt Hinges. Frederick Fraley, George W. Henry, James C. Hand. Uses cast iron instead of wrought iron of imported versions and by an ingenious and completely new three-stage manufacturing process equals its English counterpart in cheapness and strength. 19 February 1842. JFI, March 1842.

326 Evans, David. Philadelphia. Lock, Safety Chest. John F. Frazer, George W. Smith. Two tumblers make this lock difficult to pick, but the use of a secured sliding plate is unoriginal. 14 April 1842.

327 Martin, Prosper. Philadelphia. Waterwheel. Robert M. Patterson. No Report. Comm Disc 8 September 1842.

328 Leach, Harvey. Philadelphia. Suspension Railroad Ferry and Drawbridge. Ellwood Morris, Henry R. Campbell, George W. Smith. The Comm believes that neither project is novel, and while perhaps useful, both would be too expensive to consider. 10 March 1842. JFI, July 1842.

329 Kimball, A. Philadelphia. Pump. John C. Cresson. No Report. Comm Disc 8 September 1842.

330 Swartz, A. G. Philadelphia. Stove. R. Parke. No Report. Comm Disc 10 March 1842.

331 Bissell, Levi. Newark, New Jersey. Springs, Pneumatic Car. Henry R. Campbell, Elwood Morris, Solomon W. Roberts. While not original, this contrivance of an enclosed cylinder with a piston of leather sealed with oil is quite effective and Bissell is to be commended for introducing it into this country. 13 October 1842. JFI, September 1843. Campbell to William Hamilton, 10 February 1842. Bissell to CSA, 25 February 1842. Bissell to CSA, nd. Bissell to Hamilton, 19 November 1842.

332 Baldwin, Matthias W., Vail. Philadelphia. Locomotive Engine. Solomon W. Roberts, John C. Cresson, Robert M. Patterson, Henry R. Campbell. This six-wheeled, geared engine is highly recommended to railway companies for heavy, freight trains. 21 February 1842. JFI, March 1842.

333 Greenough, B. F. Oil Lamp, Chemical. John F. Frazer. No Report. Comm Disc 13 October 1842. (See CSA 320).

334 Herron, James. Rail, Cast Iron. Solomon W. Roberts, Charles Ellet, Jr., J. Henry Towne, Matthias W. Baldwin, John C. Cresson, Henry R. Campbell. Following a discussion of the problem of laying rail beds, the Comm comments that this plan would provide a continuous series of longitudinal timbers supported by diagonal planks and sand or gravel fill in the empty spaces. 9 July 1840. JFI, July 1840.

335 Babbit, Isaac. Boston. Axle Boxes, Soft Metal. John H. Towne, John Agnew, Joseph Harrison, Jr., Isaac P. Morris, Joseph Saxton. Reconfirms earlier favorable report (CSA 256) after long use. 14 April 1842. JFI, December 1842. Draft. T signed by nine "practical mechanics".

336 Durkee, Z., Allison, P. & W. C. Philadelphia. Axle Boxes, Safety. Solomon W. Roberts, George W. Smith, John Agnew, Henry R. Campbell, Andrew M. Eastwick. This twelve-inch cast iron tube of two parts covers the inner wheel. Though it is highly recommended to cars already constructed, heavier, wrought iron asles are recommended for new cars. 9 June 1842. Illus (attached). Np Adv (attached).

337 Spaulding and Isherwood. Rail, Cast Iron. Ellwood Morris, John Henry Towne, Joseph Saxton, Henry R. Campbell. Following a lengthy discussion of the necessity of cast-iron rails to effect needed savings, although not generally recommended for railways, the Comm suggests experimental trials. 14 April 1842. JFI, August 1842.

338 Gerhard, Solomon. Camden, New Jersey. Water Purification Plan. John F. Frazer, George W. Smith. An airpump and tube by which a stream of air would be forced through water to purify it. This method is not new and would work only when the contamination substances are noxious gases. 14 April 1842.

339 Pratt, Henry. New York. Steam Engine. John Henry Towne, Andrew M. Eastwick, John C. Cresson. These improvements of the celebrated early engine of Hero of Egypt are not improvements. 11 August 1842. Pratt to CSA, Illus and Descr, February 1842.

340 Ramage, Adam. Philadelphia. Printing Presses. George W. Smith, John H. Towne, Joseph Saxton. These presses do not differ from other commonly used presses except in the use of wrought iron, which, because of its lightness, is ideally suited to transporting through South America on the back of mules. 9 March 1843. Ramage to CSA, 28 March 1842. 3 Illus.

341 French, Richard. Philadelphia. Spark Arrester. Solomon W. Roberts, John Agnew, Matthias W. Baldwin. By covering the top of the common stack, perforating it with holes and enclosing the whole with iron hoops with conical sections at the opening, a spark arrester adequate even with pine has been constructed. 8 September 1842. JFI, December 1842.

342 Anderson, Levi. Philadelphia. File Cutting Machine. Roswell Park, John Agnew. An original and efficient machine capable of cutting files at one time. Recommended for Scott Medal. 11 August 1842.

343 Kirby, T. S. Carlisle, Pennsylvania. Firebricks. John C. Cresson. No Report. Comm Disc 9 February 1843.

344 Teal, Andrew and Peter. Geneva, New York. Saw Mill, Steam. Robert M. Patterson, Ellwood Morris, George W. Smith. A favorable report was made, then withdrawn. 9 June 1842. Illus.

345 Caldwell and Cameron. Door Locks. William H. Carr. This device has no claims to novelty or superiority. 9 March 1843.

346 Meschutt, James M. Ship Propelling Plan. Robert M. Patterson, Samuel V. Merrick, Ellwood Morris. This device intends to harness the power of the waves with a bobbing buoy and transmit that power through cogs and gears. Probably unworkable, however ingenious. 9 March 1843. Meschutt to CSA, December 1842. Meschutt to Patterson, 7 October 1842.

347 Echols, Josephus. Air Pump. Samuel V. Merrick. Echols requested a review of his previous application (CSA 316). The same Comm reported "verbally" that they found no improvement. CSA, Minutes, II, p. 33 11 May 1843. Echols to Merrick, nd. Illus and Descr.

348 Kelley, William. Pittsburgh. Steam Engine. John H. Towne, John C. Cresson, Matthias W. Baldwin, Joseph Harrison, Jr. This ingenious revolving reciprocating engine is novel, but the arrangement puts undue pressure on the shaft. 8 December 1842.

349 Goodfellow, Simeon. Philadelphia. Wedge Reverser, Shifting. Joseph Harrison, Jr., John C. Cresson, Matthias W. Baldwin. This ingenious device to reverse locomotive engines is probably no less expensive and no more advantageous than the common reversing devices.

350 Hill, Thomas. Occultator (measurer of eclipses). Robert M. Patterson, E. Otis Kendall, Sears C. Walker, Alexander D. Bache. For those who wish to observe eclipses and yet are not familiar with logarithms and trigometric formulae, this will prove a useful instrument. Hill to William Hamilton, 27 August 1842.

351 Shriver, Thomas. Cumberland, Maryland. Bow Springs for Carriages. Henry Campbell, Ellwood Morris. A simple, light, cheap, and durable contrivance in which the whole carriage frame operates as a bow spring. 14 December 1843. JFI, February 1844 (with Illus). Campbell to William Hamilton, 11 September 1843. Healey to Shriver, 15 October 1843. Hamilton to Shriver, nd - Draft ltr. Campbell to Hamilton, 17 October 1843. Pr. Illus. Shriver to Hamilton, 26 January 1843. 3 T.

352 Ollis, Samuel. Philadelphia. Pump, Hydraulic. John C. Cresson, John H. Towne, John Agnew, George W. Smith. The changes in the manner of securing the joints of the pump tree and in the construction of the valves are not such as to recommend it over simpler, common lifting pumps. 8 December 1842.

353 Hall, Solomon W. Philadelphia. Barometer. Robert M. Patterson, John F. Frazer, Joseph Saxton, Isaiah Lukens. In a lengthy report the Comm found much originality in Hall's device yet believed tests of it and other kinds would decide the merits of the barometer. 12 February 1843. Illus.

354 Earle, Thomas. Philadelphia. Teaching Reading and Spelling. Charles B. Trego, George W. Taylor, William Roberts, George H. Burgin. Because of indecisiveness of report submitted, Earle asked that it be tabled and later that the Comm be discharged. Done 19 June 1843.

355 Baldwin, Matthias W. Philadelphia. Marine Engines. Ellwood Morris, John Henry Thomas, George W. Smith, Robert M. Patterson, Franklin Peale. Another of Morris' enthusiastically approving and lengthy reports (CSA 337) on this "direct action" machine, that is not, however, without criticisms. 12 January 1843. Readopted 25 April 1843 (CSA 358). 2 Illus (attached).

356 Bennett, Alfred. Philadelphia. Oil Lamp, Mechanical and Carcel. John F. Frazer, George W. Smith. No final judgment is made since the inventor does not claim originality. With the use of a phonometer, tests were made which found the Carcel lamp with sperm oil and the solar lamp very efficient. 12 January 1843. JFI, February 1843. Bennett to CSA, 10 November 1842.

357 Brown, C. F. Baltimore, Maryland. Gas Meter. James C. Booth, Samuel V. Merrick, Alexander D. Bache, John C. Cresson, John Wiegand. No Report. Comm Disc 10 April 1845. Descr. T (2).

358 Jones, Alfred C. Shaft Couplings. John H. Towne, John F. Frazer, Fairman Rogers. A reconsideration of CSA 315 with no change in opinion. 9 February 1843. Draft.

359 Calderhead, Alexander. Carpet Loom. Ellwood Morris, George W. Smith, Franklin Peale, William W. Young. Calderhead has commendably worked hard to build this fine loom, but his device was earlier patented in England. 13 April 1843.

360 Towne, John H., Chm of Special Comm. Wire Gauges. No record. Comm Disc 11 January 1844.

361 Miles, William. Boonesbury, Missouri. Waterwheel and Paddle-wheel. John C. Cresson, Solomon W. Roberts, Ellwood Morris, Andrew Young. The impracticability of those particular designs is best attested by the fact that although invented many times neither have ever won general acceptance. 10 August 1843.

362 Fitch, John. Manuscript. George W. Smith. No Report. Comm Disc 11 January 1849.

363 Morris, Ellwood, Chm of Special Comm. Philadelphia. Report on the Best Modes of Paving Highways. Ellwood Morris, John C. Trautwine, Henry R. Campbell, George W. Roberts, George W. Smith, Joseph Saxton, Marine F. W. Chandler, Samuel V. Merrick. A report made by Request of the Philadelphia City Councils. 26 June 1843. JFI, September and October 1843. Map of Philadelphia showing Soils and Drainage, drawn by M.F.W. Chandler, June 1843. Enoch Shorn to FI, 27 August 1844.

364 Cresson, John C., Chm of Special Comm. Philadelphia. Report on the Best Form of Gas Lamps. John C. Cresson, John F. Frazer, George W. Smith, Joseph Saxton, Samuel V. Merrick, John Wiegand. Report on gas lamps for Philadelphia City Councils. Copy of PCC resolution, 5 January 1843. Descr of experiments. 3 tables of experimental results.

365 Peirce, Erasmus. Philadelphia. Railroad Car Brakes. Henry R. Campbell, William E. Morris, William Strickland. Proposed safety features of little practical value. 13 April 1843. Illus.

366 Clark, Gaius. Ogedensburg, St. Lawrence County, New York. Steam Engine for Vessels. John F. Frazer, John Agnew, Robert M. Patterson. This plan offers nothing better than previous plans to propel boats by forced streams of water. 13 April 1843. Clark to William Hamilton, 29 December 1842.

367 Campbell, Henry R. Philadelphia. Air Springs. Edward Miller, Solomon W. Roberts, William J. Lewis, John Agnew. A device to connect air springs by tubes was preceded by a patent taken out by Joseph Harrison , Jr. This ingenious improvement is nevertheless recommended for heavy locomotive engines. 13 July 1843. Campbell to CSA, 29 February 1843.

368 Baldwin, Matthias W. Philadelphia. Marine Engines. Thomas Earle. (This Comm was appointed 9 March 1843, after the CSA had, on 9 February 1843, thrown out report on CSA 355 and disc comm. However, when the CSA, at a special meeting, on 25 April, accepted the report of CSA 355, the new Comm on Case 368, never came up again.)

369 and 370 Bache, Alexander D., Chm of Special Comm. Philadelphia. Report on Index of Inventions, Franklin Institute Library. George W. Smith, John F. Frazer, Ellwood Morris. A key word, invention, and inventor index is recommended. 9 March 1843. Index of Mechanical and Scientific Books. An index is recommended. 9 March 1843.

371 Ketler, Adam. Philadelphia. Furnace, Locomotive. John C. Trautwine, John Farr. This proposal would place springs under the firebox to prevent jolting and the compacting of anthracite so it will not burn rapidly. Since no evidence on this plan exists, the Comm recommends experiments to Ketler. 9 November 1843.

372 Schnebly, W. Philadelphia. Steam Engine, Rotary. Solomon W. Roberts. No Report. Comm Disc 8 June 1843. Schnebly to William Hamilton, 17 April 1843.

373 Rogers and Black. Telegraph. Robert M. Patterson, George W. Smith, Matthias W. Baldwin. This device, though by increasing its parts makes each letter different, at the same time increases the chances for error. 8 August 1844.

374 Cresson, John C., Chm of Special Comm. Philadelphia. Report on Friction on the Ways in Launching Frigates "Raritan" and "Princeton". John C. Cresson, Samuel V. Merrick, Ellwood Morris, George W. Smith, Joseph Saxton. At the request of John Lenthall, U. S. Navy Constructor, the CSA reported on the friction on the ways--heavy timbers sills, waxed, laid in a masonry foundation--at the launches of the steam frigates "Raritan" and "Princeton." 11 January 1844, JFI, February 1844.

375 Rediffer, J. Philadelphia. Veneering Machine (for tortoise shell combs). Andrew M. Eastwick. A device similar to the lathe which is efficient and faster than the common mode of working the shell. 11 January 1844.

376 Fairbanks, Thaddeus. St. Johnsbury Plain, Vermont. Flues of Chimneys and Furnaces, Increasing Drafting. George W. Smith, Matthias W. Baldwin, Richard A. Tilgham. This device would increase the draft, but not as efficiently as the standard method of forced air. 10 July 1845.

377 Amsden, Amory. Rochester, New York. Canal Boat Loads, Plan for Weighing. Robert M. Patterson, Richard A. Tilghman, Joseph Saxton, George W. Smith. This proposal to use one graduate tube in place of several on the side of boats to weigh the load defies experience and theory. 8 August 1844. Illus.

378 Laubach, Joseph. Middletown, Dauphin County, Pennsylvania. Tuyere Iron for Blacksmith's Forges. John Agnew, William H. Coggins, Henry Campbell. This new forge design with a revolving hearth, and a cylinder with a basined rim with a tube to receive the bellows nozzle is superior to tuyeres known. 12 October 1843. JFI, February 1844.

379 Harris, Sandy. Philadelphia. Pessary. Dr. Paul B. Goddard. No Report. Descr and Illus. nd. 14 March 1844. Comm Disc. Appl Withdrawn.

380 Ridgway, Thomas S., Jr. Pottsville, Pennsylvania. Snag Detector. Ellwood Morris. No Record. Comm Disc. 11 January 1844.

381 Ridgway, Thomas S., Jr. Pottsville, Pennsylvania. Carriage Springs. Henry R. Campbell, Joseph Saxton, John Clayton. These springs to be attached to the eaves of carriages as a safety device should the carriage fall over the manifestly unworkable. 9 November 1843. Descr. Illus.

382 Pratt, Henry. New York. Power Machine. John F. Frazer, Marine F. W. Chandler, Alfred L. Kennedy, Thomas D. Lee. This proposal to bake bread by using the expansive power of heated air is not a happy one. 12 October 1843. Pr circular. 2 Illus and Descr.

383 Battin, Joseph. Philadelphia. Coat Breaker. Charles B. Trego, John C. Cresson, Franklin Peale. A useful device of case iron, tooth cylinders, which through a hand-crank would save time and labor in breaking coal to a size proper for burning. 9 November 1843. Battin to CSA, 4 September 1843.

384 Brown, B. H. Slide Valve and Piston. Marine F. W. Chandler, Matthias W. Baldwin, Henry J. Biddle, John H. Towne, William E. Morris. No Report. Comm Disc 10 December 1844.

385 Frontin, Jules A. Philadelphia. Teaching French. John F. Frazer, Alexander D. Bache, Charles B. Trego. Since the deviser of this method did not request a report, the Comm could not, under their own rules, make one. 11 January 1844. Frontin to CSA, 20 September 1843.

386 Street, John. Philadelphia. Steam Boiler Feeder. Henry R. Campbell, Matthias M. Baldwin. This plan of a revolving cock with cavities to hold and feed water to the boiler has been invented many times, never successfully. 11 January 1844. Street to CSA, nd. Illus.

387 Bentley, C. W. Philadelphia. Steam Heating. John C. Trautwine. No Report. Bentley to William Hamilton, 26 October 1843.

388 Schrader, John H. Philadelphia. Graining Boards Machine. Franklin Peale, James C. Booth. An extremely ingenious and accurate cutting machine. 10 October 1844. Schrader to CSA, nd.

389 Duff, William. Baltimore, Maryland. Railroad Car Spring. Ellwood Morris. No Report. Andrew M. Eastwick to CSA, nd.

390 Duff, William. Baltimore, Maryland. Safety Valve, Hydrostatic. John C. Cresson, Andrew M. Eastwick, George W. Smith. The use of a water chest and tube arrangement to respond to the boiler's water level is new, yet without a whistle warning arrangement accidents are still likely. 11 April 1844. Duff to William Hamilton, 18 October 1843. Descr and Illus.

391 Evans, Oliver. Philadelphia. Counter Spring, Self-Adjusting. John Wiegand, Algernon S. Roberts. This device to open and shut horizontal door is new, but practically useless. 14 March 1844. Note to Evans, 27 October 1843.

392 Cottrell, A. Providence, Rhode Island. Lattice Bridge. John C. Trautwine. No Report. Comm Disc 8 August 1844.

393 Winslow, L. E. Philadelphia. Canal Boat Gauge. John C. Trautwine, George W. Smith. This plan, which would measure bilge water and the displacement of canal water, would not cause leaks as the usual methods do. 14 November 1844. Winslow to CSA, 3 December 1843.

394 Hoefflinger, V. Philadelphia. Oil Cup, Automatic. Henry R. Campbell, Andrew M. Eastwick, Charles Ellet, Jr. This cup utilizes a complex method of dispensing oil and yet is inferior to the simple wick and siphon commonly used. 8 February 1844. Hoefflinger to CSA, 28 November 1843. Illus.

395 Barr, Robert H. New Castle, Delaware. Edge Rails, Method of Fastening Ends. Marine F. W. Chandler, Henry R. Campbell, William J. Lewis. This method of bolting plates to the ends of rails would not work when the rails settled, thus placing the weight of trains entirely on the plates. 14 March 1844. Barr to CSA, 17 November 1843.

396 Clark, Anson. Brooks, James E. (Applicant). Deer Isle, Maine. Serpentine. Thomas Earle, John C. Trautwine, Franklin Peale. This is a fine mineral, better suited than marble for tables and apothecaries' counters. 11 July 1844. Brooks to Hamilton, 23 September 1843.

397 Byllesby, L. Philadelphia. Propulsion, Hydraulic. John F. Frazer, Joseph Saxton, George W. Smith. This proposal to use expelled water to power boats is not worthy of a serious discussion. 8 February 1844. Illus attached to report. Byllesby to CSA, 8 December 1843.

398 Brown, James M. Charleston, Jefferson County, Virginia. Balance for Weighing. John F. Frazer, Joseph Saxton, George W. Smith, John C. Cresson. The variations in this design to the ordinary bent rod balance offers neither advantages nor novelty. 8 July 1844. Brown to CSA, 15 December 1843. Illus.

399 Voorhies, W. T. New York. Steamboats Propulsion. Ellwood Morris. No Report. Voorhies to CSA, 23 December 1843.

400 Cornelius and Company. Philadelphia. Oil Lamp Fuels, Comparison of Lard and Sperm Oil. John F. Frazer, George W. Smith, Joseph Saxton. Experiments on the relative economy of these fuels are useless given the variance of costs in the country; yet, in local prices, the lard, though much cheaper, performed generally as well as the sperm oil. 8 July 1844. Table of data from experiments. Cornelius and Company to CSA, 11 January 1844 (with note attached).

401 Smith, George W. Philadelphia. Prisons, Heating and Ventilating. George W. Smith, John F. Frazer, Joseph Saxton. No Report. Smith to CSA, 11 January 1844.

402 Gilbert, John L. New York. Dry Docks, Building of. Ellwood Morris. No Report. Comm Disc, 13 March 1845.

403 Converse, Gilman, Columbia, Pennsylvania. Canal Boats, Construction and Propulsion. Solomon W. Roberts, George W. Smith, William F. Coggins. This proposal to build a canal boat hull in three parts, to operate the paddle wheel backward, and to make the cabin serve also as a railroad passenger car for the Penna. Line is inferior in each respect to that which it hopes to replace. 11 July 1844. Converse to CSA, 27 January 1844.

404 Henry, Joseph, Chm of Special Committee. United States Navy. Report on Explosion of Gun, the "Peacemaker", aboard Steam Frigate "Princeton". Joseph Henry, John C. Cresson, John H. Towne, George Washington Robert, John Agnew, John F. Frazer, Robert M. Patterson, Samuel V. Merrick. A lengthy report which concludes both that the workmanship in "working" the wrought iron was deficient, not the metal itself and that the technology to adequately weld such a large gun did not yet exist. 8 August 1844. 3 Drafts of alternate conclusions to report (See CSA Minutebook #2 for dispute over conclusion). Capt. B. F. Stockton to Samuel V. Merrick and J. Henry Towne, nd. Towne to CSA, 28 March 1844. Stockton to Joseph Henry (with extract of Navy Dept. Letter to Stockton), nd. Stockton to CSA, 14 June 1844. L. B. Ward (of Hamerly Forge, NYC) to William Hamilton, 16 April 1844. Ward to Hamilton, 2 May 1844. Draft ltr to Ward, 27 April 1844. M. Wade to Henry, 8 June 1844. Copy ltr, Hamilton to Ward, 8 April 1844. ? to Merrick, nd. M. Wade, Report to CSA, 8 June 1844. Three sheets of experimental data. 4 Illus. Plan of E. Cooley for iron cannon, with Illus, 22 March 1844.

405 Patterson, Robert M., Chm of Special Comm. Philadelphia. Report on Fairmont Dam Vibrations. No Report. 1844. Sam W. Rush to George W. Smith, 22 May 1844. Frederick Graff to Smith, 27 May 1844.

406 Jenner, N. Bronson. Philadelphia. Canal Boat. Robert Frazer, Robert M. Patterson, John M. Hamilton. An ingeniously devised plan to have a wheel run on the bottom and a fold-away paddle wheel to use when the water is too deep for the primary wheel. This plan, the main part conceived in 1702, erroneously assumes the paddle wheel erodes canal banks rather than the boat's waves. 12 September 1844. Jenner to CSA, 10 April 1844.

407 Smith, George W., Chm. Report on Explosion of Steam Boiler on Steamboat "Portsmouth". John Agnew, John C. Cresson. This plate and too few stays caused the explosion. 14 November 1844. JFI, January 1845. (Dup) Steamboat Inspection Certificate, Portsmouth, 17 June 1844.

408 Frazer, John F., Chm of Special Comm. Report on Explosion of Locomotive "Richmond". George W. Smith, Edward Miller, John C. Cresson, John Agnew, Isaiah Lukens, Samuel V. Merrick. A detailed study of the accident with two drawings, coroner's depositions from railroad employees and statements by witnesses before Comm, and a series of questions regarding the accident with answers. 14 November 1844. JFI, January 1845. Notes of Sub-Comm Meeting - list of questions. Questions and answers (copies) (2). Norris and Bros to Frazer, 4 October 1844. Norris to Bros to Cresson, 12 September 1844. Illus (4). Septimus Norris to Frazer, 10 October 1944. Henry R. Campbell to Frazer, 25 October 1844. Depositions taken by Coroner. Statements of witnesses--taken by Robert Frazer--(52). Notes on water in boiler (2 sheets).

409 Vale, G. New York. Globe and Transparent Celestial Shpere. Robert M. Patterson, John F. Frazer. This sphere, because of its price is recommended to teach students the circles of the heavens. Its conversion to a globe with painted gum-taffeta is less satisfactory. 13 March 1845. Vale to CSA, 20 November 1844. Vale to William Hamilton, 27 May 1845. Illus adv. Pamphlet.

410 Ricketts, Levering. Baltimore, Maryland. Piano. Robert M. Patterson, John F. Frazer. The attachment of springs to the strings does not maintain the tuning as claimed, as previous inventors have discovered. 12 December 1844. JFI, April 1845. Ricketts to CSA, 30 October 1844. Descr by Ricketts.

411 Lovering, Joseph S. and Company. Philadelphia. Sugar, Double Refined. James B. Rogers, Martin H. Boye, John F. Frazer. A clearly superior sugar, stable and capable of large-scale manufacturing. 12 June 1845. JFI, December 1845. Lovering to William Hamilton, 19 November 1844.

412 Potts, Linn and Harris. Philadelphia. Indelible Ink. Richard A. Tilghmann. No Report. Potts to CSA, 13 November 1844 (with note by Ellwood Morris attached).

413 Bartels, Henry G. Philadelphia. Stove Cap. John Wiegand, John Agnew, Franklin Peale. This plan is to prevent corrosion from anthracite coal by closing off damper when stove is not used. The casual assumption is incorrect since an active salt present in the coal causes the evil. 9 January 1845. Bartel to CSA, 6 November 1844. Illus and descr, 2 December 1844.

414 Galbraith and Frost. Philadelphia. Paper, Marbeled. James C. Booth, Robert Sindsay, Edward Gaskill. This paper is superior to any of American manufacture and compares to and is cheaper than the English product. 9 January 1845. Galbraith to CSA, 30 October 1844.

415 Costill, Stacy. Philadelphia. Bed Screws. Charles H. White. This ingenious arrangement, wherein improvements are made in both the male screw and the female screw, is recommended to all cabinet makers, who, however, should furnish with their beds, a wrench with a square end, adapted to the management of this contrivance. 9 January 1845. JFI, July 1845. Costill to CSA, 1 August 1844.

416 Lear, Peter. Boston, Massachusetts. Propeller for Steam Boats. Solomon W. Roberts, George W. Smith. This report criticizing this plan of placing paddle wheels under the boat was not adopted. Comm disc 8 July 1847. Lear to William Hamilton, 31 March 1845. Lear to William Hamilton, 27 April and 8 May 1846. Lear to William Hamilton, 4 December 1844. Notes on Comm meeting, 10 December 1844.

417 Savery and Company. Philadelphia. Holloware, Enameled. James C. Booth, John Wiegand, Owen Evans. Of several items, the griddle was of superior quality, its enamel composed of silex, clay, flintglass, and borax. But for the flintglass, which has poisonous lead and should be replaced with a leadless glass, this enamel deserves the highest recommendation. 10 April 1845. JFI, July 1845. Savery and Co. to William Hamilton, 23 November 1844.

418 Freeman, George. Philadelphia. Propellers, Boat. John H. Towne. No Report. Comm Disc 13 March 1845. Freeman to John C. Cresson, Chm CSA, 7 January 1845.

419 Richardson, Jacob. Boston, Massachusetts. Steam Boiler. Samuel V. Merrick, George W. Smith. This two-cylindered boiler has often been invented; the report in CSA 264 details earlier experiments with this machine. 13 March 1845. Illus and descr by Richardson.

420 Russell and Waterman. New York. Ship's Block. John H. Towne. In not wrapping a single band of iron outside the blocks as is usually done, and securing with center pins within the shell, the risk of accident is greatly increased. 11 June 1846. Russell and Waterman to William Hamilton, 18 January 1845.

421 Haskell, Merrick and Company. Philadelphia. Seidlitz Powder Tasteless. John F. Frazer, Richard A. Tilghmann, Alfred L. Kennedy. This effervesing draught is more convenient, stable and pleasant to the taste than the standard two-powdered medicine. The Comm, however, cannot comment as to their medicinal qualities. 13 March 1845. Haskell, Merrick and Company to CSA, 23 November 1844.

422 Penegar, James. Philadelphia. Paddle Wheels, Improved Arrangement. Asa Whitney, Isaiah Lukens, William J. Lewis. Not only is the use of two pairs of paddles an old idea, but all such contrivances have been replaced by a single pair. 9 September 1845. Penegar to CSA, 23 January 1845. Illus (2).

423 Penniman, H. H. (Applicant). Philadelphia. Furnace, Condensed Air for. John Agnew, George W. Smith, Samuel V. Merrick. Although there are problems with the tubes which would deliver the air to the fire, the Comm believes this contrivance to be worth a trial. 13 November 1845. Draft, read 9 October 1845. Penniman to CSA, 8 February 1845. Illus.

424 Downey, Robert. New Albany, Indiana. Tanning Leather. James C. Booth, George Hamilton, John Riehle. Without samples to judge, the Comm rejects this method because of its erroneous views of the chemistry of tanning. 10 April 1845. JFI, July 1845. D. B. Seight to John C. Cresson, 6 February 1845. Np.

425 Smedley, Jeffery. Columbia, Pennsylvania. Brick Press. John Agnew. No Report. Smedley to William Hamilton, February 1845.

426 Hull, Lewis. Blairsville, Pennsylvania. Stone, Artificial (marble or limestone). John F. Frazer. No Report. William Eichbaum to CSA, 12 March 1845. Eichbaum to William Hamilton, 25 February 1846. Eichbaum to Hamilton, 1 September 1845. T - "John A. Roebling, C. Engineer," 1 March 1845.

427 Stevens, Enos. Philadelphia. Voting Machine (for legislative bodies). George W. Smith, A. W. Thompson, J. Harding, Michael Kates. The Comm has no competence to judge this device, although it appears inferior to other plans. 9 April 1846 (Subject to Comm signatures). Descr and Illus attached to Report. Illus.

428 French and Baird. Philadelphia. Spark Arrester. Edward Miller. No Report. French and Baird to William Hamilton, 18 February 1845.

429 McCarty, Henry. Pittsburgh, Pennsylvania. Canal Lock Gates. Solomon W. Roberts, George W. Smith. This suspended lock gate system rejects the usual top balance beam and bottom roller arrangement to diminish the strain on the gate for a set of four radiating rods on the grain post bolted to the caping. 11 December 1845. McCarty to William Hamilton, 23 April 1845 with Pr Adv attached.

430 Loper, Capt. R. L. Philadelphia. Report on the Propellers of the U. S. Revenue Cutter "Spencer". Charles B. Trego, Franklin Peale. The Comm timed the steamer's six trips between Chester and Marcus Hook, Pa., and could make no judgements respecting the newly installed Loper propellers since no experimental data was available for the steamer when outfitted with Hunter's submerged wheels (see CSA 436). 11 December 1845. Loper and Samuel V. Merrick to CSA, 20 May 1845. Memorandum of observations, 21 May 1845. Memorandum of observations 22 May 1845. Alexander V. Frazer, 30 May 1845. Pr endorsement of Loper propeller. Joseph Saxton to William Hamilton, 16 June 1845.

431 Whelan, E. Philadelphia. Oil Lamp. John F. Frazer. No Report. Whelan to FI, 15 May 1845.

432 Patton, John M. Philadelphia. Fan, Foundry. Franklin Peale, John H. Towne, Matthias W. Baldwin. The Comm cannot judge the inventor's claims to his fans greater drawing power on calculations, but on comparative experience alone. 12 March 1846. Patton to William Hamilton, 10 May 1845. Patton to Towne, 23 June 1845.

433 Honeyman, S. D. Hannibal, Missouri. Watch. Robert M. Patterson, George W. Smith, Isaiah Lukens. This watch, whose hour hand revolves fully around the dial each hour and gives the time of day at twenty-four places, mostly unimportant, is useless. 14 August 1845. T. L. Fontaine to William Hamilton, 12 May 1845. S. D. Honeyman, Descr.

434 Hubbell, William W. Philadelphia. Fire Arms. Franklin Peale, John F. Frazer, Isaiah Lukens. This movable breech firearm is inconvenient to use as is usual with these types. Only extensive tests could erase doubts as to safety. 11 July 1845. Hubbell to Frazer, 29 May 1845. Hubbell to William Hamilton, 29 May 1845.

435 Patterson, Robert M. Chm of Special Comm. Report on Standard Weights and Measures. Robert M. Patterson, Charles B. Trego, Franklin Peale, John F. Frazer. In response to a request of the Secretary of the Commonwealth of Pennsylvania, the Comm recommended that brass be used and

435 (continued) that the Federal Government make the final adjustments. (The report includes Patterson to Jesse Miller, Secretary of the Commonwealth, 27 August 1854.) 11 December 1845. Miller to John K. Kane, 22 May 1845. Miller to Patterson, 14 August 1845. Kane to Frazer, 17 June 1845. Alexander D. Bache to Patterson, 22 August 1845. Notes on costs for duplicates of weights and measures, nd. Note - Statement of Standards for Penna., N. S. Pr copy of act of legislature - signed by Miller, 15 April 1845. Abstract of Act.

436 Loper, Capt. R. F. and Lieut. Hunter. Robert J. Walker, Sec. of Treasury (Applicant). Philadelphia. Paddle Wheel, Vertical and Loper's Propeller. Robert M. Patterson, Asa Whitney, Charles B. Trego, John Henry Towne, John F. Frazer, Franklin Peale, Isaiah Lukens, Solomon W. Roberts, John C. Cresson. The Comm found, by reasoning, Hunter's vertical, fully submerged and encased paddle wheels (encased so as to move only in dead water) inferior to standard, horizontal wheels. After experiments, Hunter's wheels proved inferior to Loper's propellers. 15 December 1845. JIF, January 1846. Report of Trials of Speed . . .with Hunter's submerged wheels and . . . Loper's propellers (Washington 1845). U. S. House of Representatives, 28th Congress, 2nd Sess., Doc. No. 22. Pr ltr - Alexander V. Frazer to Robert J. Walker, Sec. of Treas., 30 May 1845, with data on speed trials with Loper's propellers. Sec. Walker to Samuel V. Merrick, 21 June 1845. Merrick to Frazer, 23 June 1845. Patterson to Walker, 11 July 1845. Patterson to George Bancroft, Sec. of Navy, 11 July 1845. Walker to Patterson, 12 July 1845. W. Brandford Shubish to Patterson, 30 July 1845. Charles H. Haswell to (Patterson), 30 July 1845, with Dimensions of "Water Witch". George W. Smith, Notes of "Water Witch" trial, 18 October 1845. Towne Memorandum, nd. Notes on calculations of Hunter's and Loper's propellers, 11 December 1845. Merrick Memorandum, nd. Memorandum on "Water Witch" trials, 18 October 1845.

437 Sickels, Frederick E. and Cook, Thomas. Stevens, James A. Walker, Robert J., Sec. of Treas. (Applicant). New York. Valves, Cut-Off. Franklin Peale, Matthias W. Baldwin, Richard (?) Norris, Samuel V. Merrick, John F. Frazer, John Agnew. The Comm cannot decide between the two versions since both valve designs have advantages and disadvantages. Experiments on sea voyages by competent and impartial engineers, however, would aid in determining. 15 December 1845. JFI, July 1846. Draft. Walker to Merrick, 23 June 1845. Merrick to Frazer, 25 June 1845. John Faron, Jr. to Walker, 11 July 1845. C. C. Ruder to George Bancroft, 22 May 1845 (copy). Pr T-H. R. Dunham & Co. to Stevens, 11 June 1844. T-J. W. Ayers to Stevens, 16 January 1846. Stevens to Merrick and John Henry Towne, 17 January 1846. Stevens to Merrick and Towne, 9 November 1845. T-Francis B. Stevens, 10 November 1845. T-Humphrey Craney, 12 November 1845. T-Robert Allen, 12 November 1845. Francis B. Stevens to Merrick and Towne, 19 November 1845. Pamphlet - Statement of Facts in relation to...Sickle's Cut-Off. (New York 1844). 8 Illus. Stevens to Merrick to Towne, 15 December 1845. Stevens to Peale, 16 February 1846.

438 Earle, Thomas. Philadelphia. Teaching Reading and Spelling. Charles B. Trego. No Report. Comm Disc 8 January 1846. Earle to CSA, 26 June 1845.

439 Smith, George W., Chm of Special Comm. Philadelphia. Air Vessels of Fairmont Water Works. No Report. Comm Disc 10 October 1850.

440 Townsend, Jacob. New York. Ice Breaker. Marine F. W. Chandler, George W. Smith, Alfred L. Kennedy. Without experiments, the Comm can only suggest that this plan for a toothed, cylindrical ice breaker promoses success with ice of moderate thickness. 11 December 1845. Townsend to Samuel V. Merrick, 8 July 1845. Illus. T - New York, 19 February 1838 (copy). Clipping, Merchant's Magazine November 1841.

441 Wharton, George W. Philadelphia. Time Book and Check Roll (for mechanics). Robert Lindsay. No Report. Comm Disc 13 April 1848. Wharton to CSA, 3 September 1845.

442 Grimes, William C. Philadelphia. Rotary Engine. Asa Whitney. No Report. Comm Appnt, 11 September 1845. Comm Disc, nd. Grimes to CSA, 31 July 1845.

443 Hawkins, J. Grid Iron. F. Fraley. No Report. Comm appnt, 11 September 1845. Comm Disc 14 October 1852. Folder missing.

444 Parker, Zebulon. Newark. Licking County, Ohio. Water Wheel. John F. Frazer, Charles B. Trego, John C. Cresson, Joseph Cresson, George W. Smith. This submerged waterwheel utilizes an airtight box into which water enters only by the wheel; it is a true wheel or "turbine". This simple, durable wheel is comparable to both the overshop wheel and the turbine. 11 June 1846. JFI, July 1846. Pr copy of report from JFI, July 1846. Parker to William Hamilton, 4 October 1845. Parker to John Cresson, 22 December 1845. List of users of Parker's waterwheel, 28 October 1845. 4 Illus. Parker to Hamilton, 4 December 1847.

445 Scholfield, Nathan. Norwich, Connecticut. Geometry, Method. Robert M. Patterson. No Report. Scholfield to William Hamilton, 22 September 1845.

446 Lowber and Leroy. New York. Tinned Lead Pipes. George W. Smith, Isaiah Lukens, Martin H. Boye. After several experiments, it is clear that, if properly and completely tinned, this process will protect lead pipes in water absent of protective substances. 11 August 1847. Gabele & Hughes, Plumbers to CSA, 20 September 1845.

447 Meyer, Conrad. Philadelphia. Pianos. N. LeBrun. No Report Comm Disc 13 December 1849. Folder Missing.

448 Nock, Joseph. Philadelphia. Locks (for trunks). James C. Hand, Isaiah Lukens. These patented trunk and pad locks would, if well made, be safe and excellent locks. 8 October 1845. Nock to CSA, 3 November 1845. Draft - Hand, 14 May 1846.

449 Echols, Josephus. Columbus, Georgia. Propellers, Siphonic. John F. Frazer, George W. Smith, John C. Cresson. This unworkable plan would utilize a syphon to draw water from a raised ditch parallel to the canal or railroad and propel the boat or car by emitting water from the rear. 12 July 1846. Echols to CSA, 28 October 1845.

450 Newton, Daniel. Philadelphia. Tin and Copperware, Machine for Double-seaming. Isaac F. Baker, Isaac L. Williams, John Agnew. This machine, which is similar to others in using small circular dies running vertically near each other, is completely unsatisfactory. 12 November 1846. Newton to CSA, October 1845.

451 Jennison, William H. New York. Filters, Diaphragm. John H. Towne, John F. Frazer, George W. Smith. Experiments over twenty months indicate that these filters although useful in separating large particles--animalcules, minute eels, etc.--from the water, they will not filter out fine mud. The use of several metals lessens the durability. 11 November 1857. JFI, December 1847. Draft. Request for patent revision by Jennison, 4 October 1845. Jennison to CSA, 23 October 1845. Specifications, nd.

452 Romans, William. Wilmington, Delaware. Pump, Double-acting Force. John Agnew, George Wiegand, Matthias W. Baldwin. Though some ingenuity is displayed, this pump is not superior to other double-acting pumps. 11 May 1848. Romans to CSA, 29 October 1845. Illus.

453 Hassard, Thomas. New York. Bridge, Suspension. Solomon W. Roberts. No Report. Comm Disc 11 February 1847. Illus, February 1846.

454 Walley, Samuel S. Charlestown, Chester County, Pennsylvania. Canals and Railroads, Method of Combining. Asa Whitney, George W. Smith, Solomon W. Roberts. This plan for running water-tight cars and engines over rails laid on the canal bottom has all the disadvantages of both canal and rail transportation and none of the advantages. 14 May 1846. Walley to CSA, nd. 2 - Illus. Walley to CSA, nd. (answer to report).

455 Dutton, John. Philadelphia. Ice Making. Solomon W. Roberts, John F. Frazer, John C. Cresson. This plan for making ice in small increments would not be profitable in commercial competition. 14 May 1846. Dutton to CSA, 27 January 1846. Dutton to Roberts, 26 February 1846.

456 Bartel, H. F. Philadelphia. Grate, Stove. Solomon W. Roberts. No Report. Comm Disc 11 June 1846. Bartel to CSA, nd.

457 Krauser, John and Cyrup. Reading, Pennsylvania. Governors, Centrifugal and Hydraulic. Samuel V. Merrick, Matthias W. Baldwin, John F. Frazer, John C. Cresson. Ltr to advise, approved 9 April 1846 in lieu of report--Cresson to Krauser, 7 April 1846, Cresson encouraged Krauser to develop the centrifugal governor (See CSA 461 and 475) but disparaged the hydraulic governor as too complex for a "nice adjustment".

458 Palmer, B. Franklin. Meredith, New Hampshire. Artificial Leg. Robert Bridges. No Report. 5 Palmer to Hamilton: 23 August 1846 - 6 September 1847. See CSA 521.

459 Moore, George R. Philadelphia. Double-Seaming Tin Machine. Isaac F. Baker, John Agnew, Isaac L. Williams. This machine differs from other double-seaming machines in its use of dies with a small roller to keep the tin in place while being seamed. Recommended to the favorable notice of tinware manufacturers. 11 March 1847. JFI, April 1847. Moore to CSA, 16 May 1844. Moore to CSA, 27 May 1846. Illus.

460 Yulee, Senator D. L. Washington, D. C. Iron Boats. Solomon W. Roberts, John F. Frazer, George W. Smith, John H. Towne, John C. Cresson, John Agnew. The Comm examined two ships, one of which, Capt. R. F. Loper's "Anthracite", was badly rusted. Unable to examine others or to conduct the necessarily costly experiments, Comm recommended to Senator Yulee the experiments of Robert Mallet conducted for the British Assoc. for the Advancement of Science and reprinted in the JFI, February and March 1847. Roberts to Cresson, 10 December 1846 with sketch of Report. Samuel V. Merrick to Cresson, 29 June 1846. Yulee to Merrick, 26 June 1846. Yulee to Merrick, 1 July 1846. Envelope with pencilled note regarding Loper.

461 Krauser, John and Cyrus. Reading, Pennsylvania. Governors. John H. Towne, Matthias W. Baldwin, John F. Frazer, John C. Cresson. See CSA 475. Krauser to Cresson, 16 June 1846.

462 Echols, Josephus. Columbus, Georgia. Steam Engine Air Pump. Asa Whitney. No Report. Comm Disc 13 May 1847. Echols to CSA, 14 July 1846. Pr. Descr with Illus attached.

463 Echols, Josephus. Columbus, Georgia. Steam Boiler Water Indicator. Asa Whitney. No Report. Comm Disc 13 May 1847. Echols to CSA, 14 July 1846, with Descr and Illus.

464 Echols, Josephus. Columbus, Georgia. Steam Condenser for Stationary Engine. Asa Whitney. No Report. Comm Disc 13 May 1847. Echols to CSA, 13 July 1846. Descr with Illus.

465 Robins, P. K. Jones, Dr. Thomas P. (Sponsor). St. Genevieve, Missouri. Steam Boiler Drop Flue. Samuel V. Merrick, John H. Towne, John Agnew. Getting the steam to pass downward through flues while water passes upward presents complications which render the idea of drop flues--original with Merrick and Towne in 1840--impractical. 9 March 1848. Robbins - descr. 4 Illus.

466 Frazer, John F. Chm of Special Comm. Report on "Germantown" Launching (war sloop). John F. Frazer, George W. Smith, John Henry Towne, Richard A. Tilghman. An apparatus designed by Isaiah Lukens--described in detail--was carefully placed to measure the ship's velocity and resulting friction when launched. A piece of rope from the vessel broke the apparatus during the launching and no calculations resulted. 10 September 1846.

467 Munger, Hiram. Springfield, Massachusetts. Water Wheel, Turbine. John F. Frazer, John C. Cresson, Solomon W. Roberts. The curved design of the buckets would indicate an inability to produce as much water as possible, yet without a nearby waterwheel of the type to test, no conclusive opinion is possible. 10 June 1847. Munger to Frazer, 21 January 1846. Munger to CSA, 25 October 1846. Munger to William Hamilton, 11 November 1846. Munger to Hamilton, 27 February 1847. Descr - Munger. Pr descr and illus. Illus T - 2 December 1846.

468 Thomas, E. W. Philadelphia. Spiral Press. Richard A. Tilghmann. No Report. Comm Disc 8 June 1848. Report Missing.

469 Lowthorp, F. C. Lambertville, New Jersey. Wicket Gate(for lock chamber, mill race, or other reservoirs. Edward Miller, Solomon W. Roberts, William E. Morris. This ingenious device, which, though in part derived from Josiah White's "bear trap sluice", is original in the particulars of its use of two leaves to drain reservoirs. 11 March 1847. JFI, April 1847. Lowthorp - descr (included with report). Lowthorp to CSA, 12 October 1846. Lowthorp - Illus.

470 Fisher, M. and Martin, William, Jr. Newport, Maine. Welding Steel Facing to Cast Iron Vises. John Agnew, Alan Wood. Although no specifications were received, the Comm finds after examining several examples of this process that it appears superior to other known methods. 12 January 1848. Curtis and Hand to CSA, 5 November 1846. Pr Adv with Illus.

471 Ludlow, B. A. Quadrature of the Circle. R. M. Patterson. No Report. Comm Disc 10 June 1847. Folder Missing.

472 Stellwagen, H. S., U. S. Navy. Sounding Lead. John C. Cresson, John F. Frazer. Both for scientific or ordinary maritime purposes, this device is superior to the ordinary lead, in determining the nature of the ocean's bottom soil. 9 March 1848. Stellwagen to FI, 29 October 1846. T (copies). 2 - Pr Illus.

473 Schomaker, J. H. and Co. Philadelphia. Piano Sounding Board, Detachable. N. LeBrun, T. E. Gubert, Franklin Peale. An excellent improvement in tone and durability is achieved with this detachable sounding board. 11 November 1847. JFI, December 1847. Schomaker to CSA, 12 October 1847. Schomaker to CSA, 12 November 1846.

474 Birkinbine, Henry P. M. Philadelphia. Hydraulic Ram. John F. Frazer, George W. Smith. The Comm, though it had neither the time nor the funds for the experiments called for by the importance of this apparatus, still finds Birkinbine's valuable for water delivery systems of all sizes. 9 May 1850. JFI, November 1850. 2 - Illus. 1 Pr Illus. Birkinbine to John C. Cresson, 10 December 1846. Joseph C. Strode to P. Frazer Smith, 29 February 1848. Strode to Frazer, 7 October 1848. Strode to Frazer, 20 November 1848.

475 Krauser, John and Cyrus. Reading, Pennsylvania. Governors. John H. Towne, Matthias W. Baldwin, John F. Frazer, John C. Cresson. Ltr of advice in lieu of report; William Hamilton (ltrs prepared by Towne) to Krausers, 17 May 1848. The plans are ingenious but unoriginal. The Krausers are advised to inspect governors at the larger factories in Gloucester, below Philadelphia, and the beautiful patent model of Mr. Bancroft's of Providence, in the Institute's collection. Comm Disc 13 May 1847. Krausers to Cresson, 18 December 1846. Krausers to Hamilton, 30 December 1846 with Illus of centrifugal governors.

476 Frazer, John F. Chm of Special Comm. Explosion of Steam Boiler on Locomotive "Neversink". John F. Frazer, Edward Miller, William E. Morris, George W. Smith, James Herron, Robert Frazer, John Agnew, John C. Cresson. The boiler of the "Neversink" (built by Matthias W. Baldwin in 1836 and enlarged by Reading Railroad in 1846) was without apparent weakness at the time of the explosion. The Comm, upon examination of the wrecked engine and with the aid of a Daguerreotype taken soon after the explosion, believes the remedy to such an occurence to be a

476 (continued) second safety valve, a more efficient gauge-cock, preferably of glass as earlier recommended by the FI Comm on Explosions (reported in JFI in 1836), and, in any case, a reconstruction of locomotive engines to better protect human life. 11 March 1847. John Tucker, Pres. Reading Railroad Co. to Conductor, 18 January 1847--free pass for Miller, Morris, Smith, Herron, Robert Frazer, Cresson. Tucker to Miller, 18 January 1847. Tucker to G. A. Nicalls, Engineer, Reading Railroad Co., 18 January 1847. Nicalls to John C. Frazer, 22 January 1847. Sub-Comm notes, 23 January 1847. Henry R. Campbell to William Hamilton, 23 January 1847. Nicalls to John G. Meyers, 25 January 1847. Nicalls to J. F. Frazer, 3 February 1847. Nicalls to J. F. Frazer, 5 February 1847. Nicalls to J. F. Frazer, 18 February 1847. 2 Illus.

477 Paine, Henry M. Lens, Glass, Optical. John F. Frazer. No Report. Comm Disc 14 October 1847. Paine to CSA, 12 January 1846. Paine to Charles G. Rorhek, 14 January 1850--with Rorhek's endorsement, 29 January 1850.

478 Culbertson, Thomas. Cincinnati, Ohio. Brick Press, Automatic. William J. Lewis, John Agnew, John H. Towne. This machine has few wearing surfaces, is self-feeding and self-delivering. It requires no preparation of the clay and no yard for drying as the bricks are carried directly from the press to the kiln. This machine is destined to introduce an entire revolution in the process of manufacturing bricks. 10 June 1847. JFI, July 1847. Culbertson to CSA, 26 January 1847. Adv, Culbertson, McMillen & Co. (2nd Adv attached to Report).

479 Moore, John. Strasbough, Lancaster County, Pennsylvania. Drill Plow. Gouverneur Emerson, Algernon S. Roberts. The object of Mr. Moore being chiefly to ascertain his title to originality, Comm has made considerable investigation and believes the plan of distributing seed (see his drawing #1) is new. Comm cannot pronounce upon the drill plow's particular merits from actual observation. 13 April 1848. Moore to CSA, 24 December 1846. Hamilton to Emerson, 9 February 1847, on Comm. 2 Drawings, one with notation on reverse, 3 Moore to CSA: 1 March - 18 May 1847. Moore to Hamilton, 25 January 1847.

480 Hussey, Penrose (Author). Ohio. Pettit, William (Applicant). Philadelphia. First Book for Children. Charles B. Trego, William Roberts, George W. Taylor, F. Fraley. Comm regards the arrangement of lessons as judicious and the gradations as easy. Comm commends this little work to parents and teachers as a means of facilitating early instruction. 8 July 1847. Pettit, note, 30 April 1847.

481 Durand and Pecquer. Rabeau, R. E. (Applicant). Philadelphia. Leather and Manufacturing Process. J. B. Reynolds. Comm Disc for lack of sufficient information. September 1847. Rabeau to CSA, 27 May 1847. Rabeau to Hamilton, 9 June 1847, asking Comm to adjourn Report until additional explanations are available.

482 Frazer, David. New York. Engine, Centrifugal. J. B. Reynolds, J. Cresson, Jr., George W. Smith, John Agnew. This appears to be one of many fruitless endeavors to contrive perpetual motion. The inventor either forgets or does not know that a machine is not a source of power. 14 October 1847. Frazer to Hamilton, 12 July 1847. Frazer, A Description of an Inexhaustible Centrifugal Engine.

483 Rowand, Thomas. Philadelphia. Tide Water Wheel. G. W. Smith, J. B. Reynolds. Mr. Rowand claims as the peculiarity of the arrangement of this horizontal wheel the folding of the float-boards when resisted by water. The expenditure of force required to move the float-boards will more than counterbalance the advantage derived from the diminution of the resistance. 9 March 1848. Rowand to CSA, 12 February 1847. Copy of Ltr. Pt.

484 Stewart. Zane Street Public School (Applicant). Heating and Ventilating School. John C. Cresson, John F. Frazer, George W. Smith. Comm has examined Stewart's plan and would recommend that all flues in the plan be used for ventilation. Fresh air would be admitted near the ceiling and foul air would be extracted near the floor. 8 December 1847. J. Engle Negus and E. C. Biddle, Comm of Zane Street School to FI, 24 July 1847. Report is ltr to Controller of Public School.

485 Loper, R. F., Capt., (Applicant). Steamer "Virginia", Trial of. Charles B. Trego, George W. Smith, R. M. Patterson. In place of 2 paddle wheels of Aldrich's patent, the "Virginia" has recently been furnished with 2 "Loper propellers". During the downward passage, the engines worked very uniformly, against tide but with favorable moderate breeze. The experiment was tried of putting the vessel about by stopping one of the propellers, and by reversing its action. Her head was brought upon an exactly opposite course in 4m 30s. 11 November 1847. JFI, December 1847. Comm Appnt on Capt. Loper's Appl, 9 September 1847 (Appl not in folder--see Minute Book.) Dimentions of U..S. Steam Ship "Virginia". Memorandum of Observations on board the U. S. Steamer "Virginia", 11 September 1847.

486 Echols, Josephus. Washington City. Steam Gauge. J. H. Towne. This device for ascertaining the height of water in steam boilers is already in use. In every respect except the method of ascertaining the level of the water, the comparison is in favor of the older instruments. 9 March 1848. Echols to Hamilton, 22 September 1847. Echols, 2 Descr, with 1 sketch. Echols, Ltr, nd. Echols, note, 24 November 18-5.

487 DeVilleroi, M. Philadelphia. Railway System. John F. Frazer, Charles B. Trego, J. C. Cresson. This system presents no advantages in economy and no greater safety for the passengers. 8 December 1847. DeVilleroi to Hamilton, 29 September 1847. Pr. Descr.

488 Armitage, Thomas. Philadelphia. Lightning Rod. John F. Frazer, John C. Cresson, George W. Smith, Charles B. Trego. The design of this rod depends on the greater attraction for electricity exerted by a magnetic rod. The Comm refutes Armitage's experimental results. Adopted 13 July 1848 but referred back to Comm after Armitage's Ltr, Comm Disc 12 May 1882. JFI, July 1853. Armitage to CSA, 6 July 1847. Armitage to Comm, 10 August 1848. 6 Np. Draft of Cresson to Freas, 2 September 1853, which appeared in Germantown Telegraph. 7 September 1853.

489 Montgomery, James. New York. Ward S. (Applicant). Philadelphia. Bache, A. D. (Applicant). Washington. Steam Boiler. John F. Frazer, John C. Cresson. It will be easily seen that this form of boiler is theoretically adapted to produce a very high duty since the heating power of the fuel may be economically applied. Experimental records show this boiler to be advantageous to an eminent degree. Recommended for Scott Medal. Report referred back to Comm, 14 February 1850. Comm was authorized by CSA to table until legal proceedings ended (12 September 1850) and excused from reporting until further instructed (12 February 1852). Comm Disc 13 May 1852. Bache to Hamilton, 16 January 1845. Ward to CSA, 30 October 1847. Telegram, Montgomery to Frazer, 29 May 1850. Frazer, Draft. Copy of Pt. claims. 2 Illus, 1 drawing, test data. 2 Pamphlets. Ewbank to Hamilton, declining to serve on Comm, 26 November 1847. Montgomery's card.

490 Parker, Zebulon. Newark, Ohio. Water Wheel. John F. Frazer, J. B. Reynolds. In reply to one of Parker's queries, Comm defines "reaction water wheel" as a wheel propelled by the pressure in the direction of the circular motion of the wheel developed by the discharge of the water. 11 November 1847. Parker to Hamilton, 20 October 1847. Parker to Frazer, Descr with drawing, 27 April 1848. Frazer to Cresson, T. Cresson to FI Board of Managers, recommended Parker's wheel for Scott Medal, 8 December 1847. Reference to JFI to Reaction Water Wheels. Definitions of Reaction Water Wheel. Proc. of Circuit Court of U. S. for District of Ohio, Parker vs Hatfield, December 1843. Axioms related to Motion and Forces. Parker, note (11 November 1847). Data on Wheels (pr). Parker to Hamilton, 5 November 1847, 4 queries for Comm's consideration. Pamphlet, Ohio Circuit Court Proc. and Pa. Circuit Court Proc. (1849), and CSA 490 Report.

491 Johnston, Joseph. Wilmington, Delaware. Smut Machine. A. L. Elwyn, G. Emerson, A. S. Roberts, J. C. Cresson, W. D. Thomas, Heston, D. V. Hagner. Comm tried to examine a machine in use in this city but found the establishment inaccessible. Comm Disc without Report 14 December 1848. Johnston to CSA, 28 October 1847. 2 Johnston to Hamilton: 17 November 1847 - 21 May 1848. Note on meeting of Johnston's Comm, 15 November 1847. Business card, U. S. Patent Agency. For Comm's Report see Minute Book, 14 December 1848.

492 Catchpole, George. Geneva, New York. Straw Cutter. Algernon Roberts, Aaron Clement. The several parts are skillfully combined and in Comm's opinion are not likely to require frequent repair, a consideration for farmers without the means to replace or renew their implements. 10 February 1848. Catchpole to CSA, 27 November 1847. Pt.

493 Thompson, Nathan. New York. Ward, S. (Applicant). Philadelphia. Life Boat. J. B. Reynolds, Charles Gauntt, John Lenthall. The invention consists in adapting to an ordinary ship's boat certain appendages or "buoys" intended to increase its buoyancy. The buoys are of such a shape that they could not be stowed away conveniently and will be of too great weight to be rapidly fitted to their proper places in case of emergency. 13 April 1848. Thompson to President, FI, 18 October 1847. Ward to CSA, 30 October 1847.

494 Ellicott & Abbott. Philadelphia. Lock Scale. Asa Whitney, Thomas Earle. This is designed for weighing canal boats in a lock and for ascertaining the weight of large, heavy bodies. Comm also examined the 1834 drawings of a similar apparatus for weighing, belonging to Mr. Solomon W. Roberts. Comm is of the opinion that both parties may have invented the apparatus, but that Mr. Roberts was the first. 10 August 1848. Ellicott & Abbott to FI, 8 November 1847. Ellicott & Abbott to CSA, 11 November 1847. Ellicott & Abbott to Whitney 28 June 1848. Descr of Roberts; Bell Crank Weight Lock.

495 Turner, Joseph. Philadelphia. Spinning Frame. F. Peale, G. W. Smith, J. C. Cresson, J. C. Kempton. Comm was not able to report without obtaining further information. Comm Disc 14 December 1848. Turner to CSA, October 1847. Turner to Trego, Descr, nd. For Comm's Report see Minute Book, 14 December 1848.

496 Geib, William. Philadelphia. Washing Machine. George W. Smith, Franklin Peale, P. B. Goddard, T. McEuen. Dr. Geib, still improving his machine, was not prepared to submit it for examination. Report, see Minute Book, 10 August 1848.

497 Lennig, C. & F. Philadelphia. Adams, T. B. (Applicant). Philadelphia. Gun Cotton. J. R. Frazer, H. Boye, J. B. Reynolds, J. C. Cresson. Adams requested that no report be made until a further improvement would be completed. Comm Disc 10 February 1848. Adams to CSA, 20 October 1847. For Comm's Report see Minute Book, 10 February 1848.

498 Haynes, C. Y. Philadelphia. Diamond Powder. John Wiegand, John Agnew, Charles Evans, J. C. Booth. Comm Disc 13 February 1851. Haynes to CSA, 28 October 1847, with pencil report on back, nd, no names. Wiegand, 10 January 1850.

499 Thatcher, John M. Danville, Pa. Henry, John W. (Applicant). Philadelphia. Cooking Stove. George W. Smith, F. Augustus Trego. Air is introduced into the interior of the apparatus to prevent the accumulation of vapors giving an unpleasant taste to articles cooked in ordinary stoves. Comm recommends this stove to the attention of the public, 11 May 1848. Henry to CSA, 2 November 1847. Illus. Adv. Thatcher and Hall. Descr. partially attached to Report.

500 Hobbs, Isaac H. Philadelphia. Supplying Boilers with Water. John Agnew. No Report. Comm Disc 10 January 1850. Hobbs to CSA, 4 January 1848.

501 Durand and Pedquere. Paris. Rabeau, R. E. (Applicant). New York. Leather Manufacturer. J. B. Reynolds, John Agnew, J. Vaughan Merrick. This improvement over the old method of manufacture avoids all seams. The inner surface is clean and smooth. Their fire hose saves the labor of rivetting to a great extent. Whether this will be found sufficiently strong to meet the exigencies of the fire service in our city, only experience can pronounce. 11 May 1848.

502 Cooley, E. Philadelphia. Ship's Cabin, Detachable. John Lenthall, George W. Smith, Richard Powell, B. Howard Rand. There is no question that a detachable watertight trunk and cabin could ne made, but it would be very heavy. This cannot be usefully adopted. 11 May 1848. Cooley, Descr, 17 December 1847.

503 West and Thompson, New York. Faran, John Jr. (Applicant). Philadelphia. Clasp Coupling Joint for Pipes. John Agnew, Barnabas H. Bartol. Comm is of the opinion that this coupling is not destined to supersede the common flange joint. 10 August 1848. Faran to CSA, 2 February 1848. Draft on Report. Note on Illus. 2 Adv. West and Thompson, per Olson, to CSA, 4 April 1848. Illus - section of clasp. Copy, Ellis' data on tests done in Washington Navy Yard, 28 March 1848. G. K. Gluyas to Hamilton, 26 June 1848, about the coupling in use on Steamboat Frederick Graff, on the Schuylkill. Copy, Haswell and Jewell, U. S. N. engineers, to Commandor Skinner, 28 March 1848.

504 Taurinus. Cologne, Germany. Booth, James C. (Applicant). Philadelphia. Canal Locks. William E. Morris, Asa Whitney, Robert Frazer. Two lock chambers are constructed - one at the end of the other and in each chamber is placed a tank to receive the boat. The cost would be much greater than common locks since the tanks and air vessels muct be made and maintained perfectly tight. Comm believes these and other objections so weighty as to prevent the adoption of these plans. 8 May 1851. Booth to CSA, 17 January 1848. Descr in German, with 2 translations.

505 McDonald, General A. W. Romney, Virginia. Canal Lifts. William E. Morris, A. Whitney. The expense of constructing all the cylinders, pipes, valves, and fixtures in this design sufficiently strong does not commend the plan to general adoption. There is great liability to derangement in so complicated a machine. 14 February 1850.

506 Heckrotte, A. G. Washington, D. C. Railroad Car Coupling. T. W. Chandler, John F. Frazer, John C. Cresson. The cars are coupled instantly by running them together. The cars can be uncoupled at will. Comm is convinced of the great utility of this invention in the handling of cars with much less danger of life and limb. 8 June 1848. JFI July 1848. Cresson to FI Board, recommending this for Scott Award, 8 June 1848. Illus. Heckrotte to CSA, 15 March 1848.

507 Dixon, Joseph. Jersey City, New Jersey. Cast Steel. John Agnew. Having tested the specimens submitted, Comm is of the opinion it is about equal to the average quality of imported steel. Cast steel being of such great importance in the arts, any successful attempt to make it deserves encouragement. Elliot Cresson Medal. 8 February 1849.

508 John F. Frazer. Chm of Special Comm. Explosion of Stationary Engine. John F. Frazer, John Agnew, John C. Cresson. The explosion of this steam boiler owed to an excessive pressure of steam, probably generated by the admission of water to preheated metal. The line of fracture was determined by the weakening of the iron at the junction of two of the plates by the careless use of the caulking tool. 11 May 1848. JFI June 1848. Draft. An explosion of a stationary engine in Dilwyn Street caused the loss of life; Comm was appointed to enquire into the circumstances Minutes, II, 13 April 1848.

509 Special Comm was appointed at the request of William Sewell, Jr., U. S. Steam Engineer, to enquire what further action ought to be taken by the U. S. Government for the protection of lives from Explosions of Steam Engines. Comm: R. M. Patterson, John F. Frazer, John Agnew, F. Peale, S. V. Merrick, J. C. Cresson, William Sewell, Jr., M. W. Baldwin, Richard Norris Minutes, II, 13 April 1848. Folder Missing.

510 Colton, Sabin W. Philadelphia. Locks. J. B. Reynolds, John Agnew. The sliding of the bolt is independent of the arrangement for locking it, thus diminishing the size and friction of the parts the key has to turn. The keys of Mr. Colton's fireproof locks are very little larger than the ordinary dead-latch keys; from the form of the keyhole it is not an easy matter to blow the lock to pieces by gunpowder as the charge would be blown out of the keyhole before breaking the lock. 8 June 1848. JFI, July 1848. S. Colton & Son to CSA, 27 March 1848.

511 Wright, William M. Dunlap, James (Applicant). Pittsburgh, Pennsylvania. Steam Boiler Safety Guard. B. Howard Rand, John F. Frazer. A copper tube is placed in the flue. One end of an iron rod is bolted to the inner or closed end of the tube, while the other, passing out at the open extremity of the tube, is connected with a system of wheel works so that its motion is indicated on a conspicuous dial. This simple apparatus, with proper care from the engineer might avoid all danger from deficiency of water. 11 October 1849. Dunlap to CSA, April 1848. Morris to Hamilton, 30 January 1849, Descr.

512 Frazer, John F. Chm of Special Comm. Explosion of Stationary Engine on Maiden Street. John F. Frazer, G. W. Smith, J. B. Reynolds, John C. Cresson. The boiler yielded to a stronger pressure exerted between the two cylinders, forcing the inner one to give way. It appears hardly possible to devise a more dangerous construction for a boiler; narrow water spaces present the least advantages for formation of currents to supply water internally. This construction would render a boiler utterly inadmissable in practice. 8 June 1848. JFI, August 1848. Appendix, a note on tests of iron, adopted 13 July 1848. JFI, August 1848.

513 Stewart, S. Philadelphia. Safety Valve. John Agnew. No Report. Comm Disc 13 May 1852.

514 Hill, Porter. Cheminy Co., New York. Lane, Edward & Co. (Applicant). Philadelphia. Carriage Spring. John Agnew, Henry Huber, Jr. As the load increases, the ends of the plates touch and the spring is shortened in proportion. The plan might be applied to light carriages, yet is not applicable for the usual eleptic springs for carriages. 13 June 1850. Lane & Co. to CSA, 25 May 1848.

515 Bechtel, William E. Philadelphia. Pulp Strainer. C. Magarge. No Report. Comm Disc 10 January 1850. Bechtel to CSA, 12 July 1848.

516 Flagg, J. F. B. Railroad Curves. John A. Wright, Maurice T. W. Chandler, G. W. Smith, Robert Frazer. The improvement increases the width of tread of the wheel, expecting thereby to gain an advantage from the conical form of tread in passing around curves. This principle has been much discussed in former years and rejected. Draft, referred back to Comm, 14 December 1848, with note, Wright to Hamilton. Flagg to Hamilton, 26 July 1848. 3 Flagg to CSA: 18 July - 14 December 1848.

517 Dick, David. Philadelphia. Press, Anti-Friction. John Agnew. No Report. Comm Disc. 10 January 1850. Dick to CSA, 11 September 1848.

518 Von Herringen, E. Pickersville, Alabama. Piano Apparatus. F. Peale. No Report. Comm Disc. 14 June 1849. 2 Von Herringen to CSA: 18 September 1848 - 21 January 1849. Descr, 19 September 1849.

519 Thompson, John. Philadelphia. Earthboring Apparatus. John F. Frazer, Advisory Report. Comm Disc 14 December 1848. Minutes, II 14 December 1848.

520 Sands, Hiram. Philadelphia. Brick Press. John Agnew. No Report. Comm Disc, 14 December 1848. Sands to Hamilton, 19 October 1848. For Comm's inability to examine press and report, see Minutes, II, 14 December 1848.

521 Palmer, Benjamin Franklin. Meredith, New Hampshire. Artificial Leg. Thomas McEuen, B. Howard Rand. All the natural movements of the limb, except lateral motion, are beautifully executed. The artificial leg is light and apparently very durable, self-acting in a greater degree than any the Comm has met with. Scott Medal. Comm recommends to CE for a first premium for his model exhibited at the last exhibition. 11 January 1849. JFI, January 1850. 3 Illus. Adv (small). Palmer to Rand, 2 January 1849, Descr. Large Adv. McEuen to Hamilton, 10 February 1849, endorsing favorable report, but not Scott Medal. 2 Palmer to Hamilton: 5 January - 6 March 1850.

522 Bache, Alexander Dallas (Applicant). Washington, D. C. U. S. Coast Survey. S. V. Merrick, John C. Cresson, F. Fraley. John F. Frazer, J. Hasborne. The work is national in its character, and ought to be continued by the Federal Government. The scientific methods used embrace all that is now known, either in this country, or in Europe. The survey is, in part, a great national scientific school in which young scientists may actively participate in the field. Comm can scarcely conceive of the perils of property and life in approaching our extensive coast. These hazards can only become generally known through accurate soundings and charts. The benefits already obtained by the nation have fully justified its cost and ought to be continued to the whole of the States of the Union. 8 February 1849. JFI, March 1849. Bache, Superintendent, U. S. Coast Survey, to Merrick, 2 January 1849.

523 Stillman, Paul. New York. Engine Counter and Steam Gauge. J. Vaughan Merrick, B. H. Bartol, J. B. Reynolds, Alex. Birkbeck, Jr. The face of a circular cast iron box has up to 10 slots through which numbers representing the revolutions of the engine may be seen. A vibratory motion is communicated to an arm attached to a central horizontal shaft parallel to the dial and within the iron box. This arrangement can be adjusted with facility. Comm recommends to CE for a first premium for the last Exhibition. 8 February 1849. JFI, March 1849. Referred to CSA by Comm on Exhibitions. Descr, Cresson to CE, 8 February 1849. Adv.

524 Villeroi, D. Telescope for Surveyors. John F. Frazer, J. B. Reynolds, S. W. Roberts. An appendage containing a system of semi-lenses, is attached to the eye tube of an ordinary telescope. The accuracy of the work depends in part on the precision with which the reading of the scale is effected, thus throwing greater responsibility on the rodman than at present. The greater rapidity with which work can be done is a very great advantage. 12 April 1849. JFI, September 1849. Villeroi to Hamilton, 23 February 1849. Draft. Merrick, CSA Chm pro tem, to Board of Managers, FI, 21 April 1849, recommending Scott Medal. 4 Illus.

525 Monaghan, R. E. West Chester, Pennsylvania. Voting Machine. John F. Frazer, Franklin Peale, R. M. Patterson, J. B. Reynolds. A legislator votes by pulling one of the lines, labeled aye and nay, attached to his desk; by so doing, he immediately records his vote. It is not the Comm's purview to dwell upon the advantages of rapidly totaling the votes; the Comm simply reports that the apparatus fulfills its purpose. 13 June 1849. JFI, August 1849. Monaghan to Hamilton, 19 January 1849. 2 Monaghan to Frazer: 23 February - 8 May 1849. 6 Sheets show the vote tallied by this legislative telegraph.

526 Cooley, E. Philadelphia. Cabin, Detachable Ship. John Lenthall. No Report. Comm Disc 9 May 1850. Lenthall to Hamilton, 24 April 1849, declining chairmanship as he has been Chm of CSA 502. Cooley to CSA, 6 November 1848.

527 Ray, Fowler M. New York. Railroad Car Springs and Buffers. Robert M. Patterson. The Comm asked the officers of many railroad companies about the comparative merits of this prepared India rubber or steel springs. The prepared India rubber springs was favored for cost and durability. Comm also asked those using springs made by Fuller & Co. and the New England Car Co. of the merits of the two. Comm does not think there can be any appreciable difference in their efficiency or durability, provided they are prepared in the same way. 13 September 1849. Ray to CSA, 28 November 1848. Large Adv.

528 Murphy, William C. Philadelphia. Hoisting Apparatus. T. S. Stewart. No Report. Comm Disc, 12 June 1851. Murphy to Comm, 12 July 1848. Murphy, 12 July 1848, note on originality.

529 Cornell, Charles. Philadelphia. Brick Press. William D. Parrish, John Agnew. The principal merit consists in the operator being able to do the work with one lever instead of the usual two. Those who have worked the press testify that the bricks are easier made and better pressed than those made in other presses. Scott Medal. 11 April 1850. Cornell to CSA, 31 October 1848. Newspaper Adv announcing the recommendation of Scott Medal to Cornell. Large Illus (torn). CSA to Board of Manager, FI, 13 June 1850, recommending Scott Medal. Sawyer to Hamilton, 12 August 1850, on reading newspaper Adv and on his right to claim it. 2 Adv for Steam Brick Press.

530 Fulton, G. W. Baltimore, Maryland. Steam Pump. John Agnew, William D. Parrish. A cross head communicates the motion of the steam piston to the pump rods. This is a useful application of the two double acting pumps combined with the steam cylinder. 14 March 1850. Fulton to Hamilton, 4 December 1848. Large Illus (torn).

531 Chennock & Co. Boyerton, Benj. J. (Applicant). New York. Ball and Socket Joints. A. W. Thompson. No Report. Comm Disc 10 January 1850. Boyerton to CSA, nd. Boyerton to Hamilton, October 1848.

532 Seitz, Henry. Marilla, Lancaster County, Pennsylvania. Bridle Bit. John H. Towne. No Report. Comm Disc, 9 December 1852. Seitz to Hamilton, 6 January 1849.

533 Smith, George W. Chm of Special Comm. Fresnel's (Augustin Jean) Dioptric Lights for Lighthouses. George W. Smith, John C. Cresson, J. H. Towne, John F. Frazer. The catoptric system of this country is far inferior to that of Europe. Comm therefore limits the comparison to the reflecting apparatus of Europe and Fresnel's refracting apparatus. A paraboloidal reflector diminishes the light available to less than a third of the light emitted from the lamp. With the refracting apparatus of Fresnel, nine-tenths of the light emitted from the lamp is rendered available. It is economical in the consumption of oil. The Comm earnestly hopes that our whole coast may speedily be provided with this admirably devised gift of the science and arts of the nineteenth century. 10 May 1849. JFI. Draft, with resolution of FI requesting examination. Extracts from Report on Dioptric Light addressed to the Secretary of the Treasury by J. W. P. Lewis, 23 April 1845. Appendix to CSA Report, containing notes referred to in Report. Report to Boston Marine Society on sea lights exhibited by J. W. P. Lewis, by Benjamin Peirce, Joseph Lovering, 3 February 1846.

534 Bartel, H. G. Philadelphia. Cooking Stove. George W. Smith. Heating is accomplished not by the flame so much as by the current of heated air accompanying the jet. A great waste of alcohol is inevitable as much of it passes off in vapors unconsumed. 14 February 1850.

535 Start, William H. Smyrna, Delaware. Dumping Wagon. Gouverneur Emerson, A. L. Elwyn, Robert B. Scott, Peter Hulme. The body of a wagon is so arranged that it may be run back on friction wheels until it can be titled to discharge its load. This contrivance will serve many useful purposes. 14 February 1850. Adv.

536 Elgar, John E. Baltimore, Maryland. Railroad Rail. William E. Morris, S. V. Merrick. The narrow bars would prevent secure fastening to the cross tie. Experiments are being made upon several railroads to test by actual use a similar rail made in two vertical sections, yet with a wider base. The Comm believes that a full experiment only can determine the practicability of rolling sections. 13 March 1851. Elgar to CSA, 24 May 1849.

537 Gray, John E. New York. Harned, William (Applicant). Grist Mill, Portable. A. Whitney, A. L. Elwyn. This uses iron instead of wood for some of the parts. Probably more expensive to construct, it may be more durable. Using different grades of bolt cloth, three grades of flour may be procured. The only advantage is economy of room. 13 June 1850. Gray to Baldwin, 20 May 1849, Descr, with Harned to Baldwin. Specifications, Separator and Hand Mill.

538 Andrews, J. E. Boston. Pierpont, W. A. (Applicant). Philadelphia. Steering Mechanism. J. Vaughan Merrick. A rigidity caused by metallic connections would be prejudicial, straining all parts of the apparatus. 10 January 1850. Pierpont to CSA, 8 August 1849.

539 Cloes, J. B. Brussels. Steam Engine. John F. Frazer. No Report. Comm Disc 14 March 1850. Cloes to Cresson, CSA, 23 November 1849.

540 Landry, Henry A. Camden, New Jersey. Railway Frog. S. W. Roberts, William E. Morris. The sides are movable and made of wrought iron. When the frog is not in use, the weights suspended below it keep the movable sides in contact with the angular point. The flange of a car wheel moves the side, opening the frog. The principle is undoubtedly good; a similar design was published in Paris in 1845. 11 April 1850. Landry to CSA, 17 December 1847. Descr with Illus. Nicholls to Cresson, 8 March 1850, on earlier frogs with movable sides.

541 Cooley, Dr. Ebeneezer. Philadelphia. Writing Pen. B. Howard Rand, Charles M. Cresson. This enables persons with a tremulous hand to write legibly, allowing them to use the nib for support. It will be useful for those individuals, yet its almost inflexible point and tendency to clog prevent its coming into use for ordinary business purposes. 11 April 1850. Cooley to Hamilton, 4 August 1849. Copy: Cooley to Commissioner of Patents, 4 August 1849.

542 Winslow, Seth E. Philadelphia. Lamps. George Harding, John F. Frazer, George W. Smith, William D. Parrish. These use a double lamp-wick system with the top of the lamp screwed in place, the fluid passes readily from one section of wick to the other by capillary attraction. When filling the lamp when lighted, the top of the lamp is removed, greatly diminishing the danger of explosion. 11 April 1850. JFI October 1850. Winslow to CSA, 1 January 1850.

543 Sharpe, Charles. Rifle. J. M. Cardeza. No Report. Comm Disc. 12 September 1850. Cardeza to CSA, 16 November 1849.

544 Yerger, George W. Philadelphia. Artificial Leg. B. Howard Rand, Edward Peace. Metallic strips are united by similar bands, having the advantages of affording ventilation of the stump and ease of access for repair. Its relative merits can only be decided by the long experience of a number of cases. 14 November 1850. Yerger to CSA, 16 November 1849.

545 Culbertson and Scott. Philadelphia. Brick Machine. John Agnew. No Report. Comm Disc 12 June 1851. Culbertson and Scott to CSA, 23 November 1849.

546 Wheeler, William. Grindstone Turning Tool. Referred to CSA by the CE. E. Greble, John Agnew, H. P. M. Birkinbine. Comm Disc 10 October 1850. Folder Missing.

547 Littlefield and Shannon. Philadelphia. Bank Lock. Referred to CSA by the CE. Franklin Peale, W. D. Parrish, Charles Evans. Comm Disc 10 October 1850. Folder Missing.

548 Livingston, Raggen & Co. Pittsburgh. Locks. Referred to CSA by the CE. Owen Evans, William D. Parrish. It is of equal efficiency with other locks at the same price and is adapted to doors opening right or left. The dealer is saved from keeping on hand a stock of both right and left locsk. Comm recommends that the CE award a first premium. 12 February 1852.

549 Wilder, S. Shearing Machine. Referred to CSA by the CE. J. C. Kempton, William S. Young, Asa Whitney. Comm Disc 12 February 1852. Folder Missing.

550 Barbour, C. P. Mapping Machine. Referred to CSA by the CE. James C. Kempton, W. S. Young, Asa Whitney. Comm Disc 12 February 1852. Folder Missing.

551 Lowthorpe, F. C. Bridge and Railway Chair. Referred to CSA by the CE. William E. Morris, Samuel H. Kneass, John H. Towne. The plan gives a facility to take up the rail without loosening the chair. The complication of the parts will prevent its general adoption. The constant passage of trains on the rail would loosen it. 8 December 1853.

552 Steele, J. Dutton. Pottstown, Pennsylvania. Compound Bridge Rail and a Bridge Rail and Splice Piece. Referred to CSA by the CE. William E. Morris, Samuel H. Kneass, M. T. N. Chandler. Comm Disc 10 April 1851. Folder Missing.

553 Alberger, C. M. Hydraulic Purifier. Referred to CSA by the CE. J. H. Towne, F. Graff, A. S. Roberts, G. W. Smith, J. F. Frazer. Comm Disc 10 October 1850. Folder Missing.

554 Sweet, William H. Filter Cock Reversible. Referred to CSA by the CE. J. H. Towne, F. Graff, A. S. Roberts, G. W. Smith, John F. Frazer. Comm Disc 10 October 1850. Folder Missing.

555 Coffin, F. C. Anti-Gunpowder Lock. Referred to CSA by the CE. Franklin Peale, W. D. Parrish, Charles Evans. Comm Disc 13 June 1850. Folder Missing.

556 Mayers, A. Philadelphia. Gas Retorts. Referred to CSA by the CE. John F. Frazer, George W. Smith. Comm has seen this make gas from water and oil. The form of retort is economical since the detrimental action of the fire is confined to the lower part. 13 June 1850.

557 Maull, James. Philadelphia. Sails. Referred to CSA by the CE. John E. Addicks, Lloyd B. Hoppin. The canvas is joined in horizontal seams instead of vertical. Documents from over sixty pilots, shipowners, and captains of both our naval and commercial marine report that a vessel rigged with Maull's sails can sail closer to the wind and that the sails are equally well adapted to the use of square rigged or fore and aft sailing vessels. Comm regrets that the plan was adopted by Captain Cowan, Royal Navy in 1805. 9 January 1851. 4 Maull to CSA: 18 January - 19 September 1850. Addicks to Delaware Pilots, 18 July 1850, with reply on the reverse, 26 July 1850, from 10 pilots. Copy of Addick's circular to Pilots, 18 July 1850. Cape May Pilots to Addicks, 3 August 1850. Table showing the number of responses.

558 Fletcher. Oscillating Engine. Referred to CSA by the CE. Barnabas H. Bartol, I. P. Morris, A. Birkbeck, Jr., W. W. W. Wood. Comm Disc 9 May 1850. Folder Missing.

559 Jennison, W. H. New York. Filters. Frederick Graff. No Report. Comm Disc 13 June 1850. Jennison to CSA, 27 October 1849.

560 Smith, George W. Chm of Special Comm. An investigation concerning the qualities of gas-coke for polishing, sharpening and cutting. George W. Smith, Thomas Fletcher, John Wiegand. Comm Appnt 14 February 1850. Folder Missing.

561 Parrish, William D. Chm of Special Comm. Explosions of Steam Boilers. William D. Parrish, B. H. Bartol, J. F. Frazer, A. M. Eastwick, S. V. Merrick, M. W. Baldwin, John Agnew, John C. Cresson, George Harding, G. W. Smith. Comm recommends that the bill presented to the legislature last year be forwarded with a preamble calling attention to the explosions which have occurred and that might have been prevented if the Bill proposed had been in force. Comm Disc 12 February 1852. Merrick, Chm Pro Tem, Comm on Explosions, report on Strength of Materials, 1 January 1836. Np Daily Courier, Louisville, 7 June 1852. Halderman to Editor, JFI, 28 November 1853, on Steam Boat Boilers. Copy of Bill 910, House of Representatives, 27 March 1850. Merrick, Garrigues, Roberts to Senate and House of Representatives, nd.

562 Faber, George. Canton, Ohio. Robb, A. (Applicant). Philadelphia. Water Gauge, Magnetic. Barnabas H. Bartol, George Harding, John F. Frazer. A needle indicates when a boiler is not working properly. Comm has tested it for nine months and recommends it to general use as conducive to the safety of steam boilers in general. 13 February 1851. JFI, March 1851. Robb to CSA, 21 February 1850. Faber, pamphlet, A Description of the Magnetic Water-Gauge, 1849. Cresson to Board of

562 (continued) Managers, FI, 12 April 1853, recommending Faber's water gauge, Goddard's Axle and Dilks' alarm and water gauge for Scott Medal.

563 Smith, George W. Chm of Special Comm. Comm to ascertain the Friction of the ways of Launching the Government Steamer Susquehanna. George W. Smith, John F. Frazer, S. W. Thompson, S. V. Merrick, J. B. Reynolds, J. C. Cresson, J. P. Whipple, S. W. Roberts. Comm Disc 9 May 1850. Folder Missing.

564 Pomeroy, John H. Philadelphia. Chimney Ventilating Cap. R. A. Tilghman, George W. Smith. The only novelty is the combination of two familiar devices. The Comm cannot discover the advantage of short tubes to an already efficient contrivance. 13 March 1851. Pomeroy to CSA, 6 February 1850. Descr. Illus. Copy of Specifications.

565 Speakman, Thomas S. Railway Chair. Solomon W. Roberts. No Report. Comm Disc 13 May 1852. Speakman to CSA, nd.

566 Hunt, Caleb. Salem, Columbiana County, Ohio. Steam Engine. Barnabas H. Bartol, M. W. Baldwin, William D. Parrish, George Harding, W. W. W. Wood. There is no merit in the arrangement since the exhaust valve would cause much trouble. 13 February 1851. Hunt to Comm (on Mechanic Arts). 24 April 1850.

567 Anderson, F. Germany. Roberts, S. W. (Applicant). Pittsburgh, Pennsylvania. Trucks, Railway. John F. Frazer. Advisory Report. Comm Disc 9 May 1850. Roberts to Hamilton, 16 April 1850. Anderson requested an advisory report.

568 Standing Committee on Launching Vessels. George W. Smith, John F. Frazer, John C. Cresson, B. H. Bartol, J. V. Merrick, J. B. Reynolds, John Agnew, George Harding, John P. Whipple, B. H. Rand, C. M. Wetherill. Comm Appnt, 9 May 1850.

569 Whitall, Henry. Philadelphia. Astronomical Maps. E. Otis Kendall, John F. Frazer, John C. Cresson. The figures of the Constellations are too conspicuous, rendering the stars in many places very indistinct. The positions of the stars of the first magnitude are sufficiently accurate for the intended purpose. 11 July 1850. Whitall to CSA, 4 large maps, (8 May 1850).

570 Frazer, John F. Chm of Special Comm. Report on Cause of Explosion of Steam Boiler at I. P. Morris Works. John F. Frazer, John Agnew, M. W. Baldwin, Henry M. Birkinbine, Charles M. Wetherill, R. A. Tilghman, George Hardin. There appears no reason to suspect a low water level, or carelessness on the part of the experiments. The iron was of good quality. The steam dome, constructed with a large opening, materially diminished the strength of the cylinder. Comm strongly calls the attention of boiler engineers to the importance of avoiding this defect. 13 November 1851. JFI, December 1851. I. P. Morris & Co. to Comm of FI, 22 May 1851. 3 drawings.

571 Thomas, R. S. Philadelphia. Tubing, Cast Metal. John Agnew. No Report. Comm Disc 8 August 1850. Thomas to CSA, 18 June 1850.

572 Parker, Zebulon. Newark, Licking County, Ohio. Water Meter. John F. Frazer. This apparatus will make an excellent water meter, interfering but slightly with the velocity of the issuing liquid. The Comm does not doubt that the idea was original to Parker yet he himself has pointed out Thomas Earle's earlier description of the same idea. 14 November 1850. 2 Parker to CSA: 13 May - 25 June 1850. Copy of Parker's patent specifications and claims. Copy: Patent Office to Parker, 2 February 1850. 2 pages drawings. Copy of London Journal and Repertory of Arts, Sciences and Manufacturers, December 1848, patent for measuring water. Note on Earle's 1838 patent.

573 Merrick, Samuel V. Chm of Special Comm. Comm to consider certain amendments necessary to be made in the Patent Laws of the United States. Samuel V. Merrick, F. Fraley, George Harding. Comm Appnt 11 July 1850. Folder Missing.

574 Wetherill, Charles M. Chm of Special Comm. Comm on Saltpetre Explosions. Charles M. Wetherill. Experiments tried on a small scale would throw but little light on the subject. A resolution was adopted requesting an appropriation from the Institute to experiment upon a scale commensurate with the nature of the question. Comm Disc 9 October 1851. Wetherill to Hamilton, nd.

575 Risdon, George W. Philadelphia. Steam Engine. Barnabas H. Bartol. A second engine helps the first over its dead points, an imaginary evil for which no remedy is required. The introduction of a second engine causes great losses due to increased friction. 13 March 1851. Risdon to CSA, 11 July 1850.

576 Short, John. Canton, Ohio. Safety Valve. William D. Parrish, B. H. Bartol. The valve is prevented from sticking by having two valves connected by a series of weights, levers, and triggers. Comm does not see any advantage in this complicated and expensive arrangement. 13 March 1851. Short to FI, 9 September 1850. Short to Web, 20 August 1850.

577 Champion, Thomas. Bridge, Tubular. S. W. Roberts. No Report. Comm Disc 9 October 1851. Champion to CSA, 16 September 1850. Descr.

578 Fairbanks, E. & T. & Co. St. Johnsbury, Vermont. Scale, Weight Lock. John F. Frazer, John C. Cresson. There is no liability to irregular strains upon the boats, by which in the common arrangement they are some times injured. The apparatus weighs with rapidity and great accuracy. The Comm recommends its general adoption. 9 January 1851. JFI, June 1851. E. Fairbanks to Norris, 19 September 1850. Reprint of Report, with Illus, from JFI.

579 Montgomery, Richard. Williamson, William P. (Applicant). Philadelphia. Steam Boilers, Corrugated. B. H. Bartol. Comm thinks some advantage might be derived from the use of corrugated iron in the crowns of furnaces to increase the fire surface. 13 March 1851. Williamson to Hamilton, 22 November 1850.

580 Shock, William H. Philadelphia. Packing Metallic. William D. Parrish, Henry M. Birkinbine. The Comm thinks that this will be found in practice not to be steam tight. Franklin Peale tried something similar at the U. S. Mint some years since but abandoned it on account of this difficulty. 13 March 1851. Shock, U.S.N. to FI, 15 July 1850.

581 Black, James. Water Elevator, Steam and Air. Edward Miller. No Report. Comm Disc 11 December 1851. Black, Beecher & Co. to Cresson, CSA, 17 January 1851.

582 Lewis, Samuel H. Brooks, George, and Slater, Walter S. (Applicants). Filter. R. A. Tilghman, John F. Frazer, George W. Smith. A. S. Roberts, J. H. Towne. The reversal of the current through the filtering medium is effected without removing the apparatus from the hydrant. Another form of filter made by the same patentee is in every way preferable as to simplicity and mechanical detail. 13 March 1851. Brooks and Slater to CSA, 19 December 1850, on recommendation of Judges of the late exhibition, Descr. 2 Illus.

583 Billings and Ambrose. Claremont, New Hampshire. Walker, J. (Applicant). Philadelphia. Carriage Axle. B. Howard Rand, F. P. Dimpfel, John C. Cresson. The complexity of arrangement is a serious objection. Any slight derangement of its parts or carelessness in adjustment would render it useless and even dangerous. 12 May 1853. Walker to CSA, 7 February 1851.

584 Hartley, Lewis M. Philadelphia. Lock, Door. Owen Evans. A latch and four bolts are divided into two sets of twin bolts, offering better security than any other door lock known to the Comm. Comm recommends to the Comm on Exhibitions for award of a first premium for ingenuity and efficiency. 9 September 1852. Hartley to CSA, 3 February 1851. Copy of report by Hamilton.

585 Merrick, Samuel V. Chm of Special Comm. Memorial to Congress in relation to amending the Patent Law. Any attempt at this moment to unsettle the whole body of laws relating to Patents, without the fullest examination of facts, must be highly injurious to the cause of Science and the Useful Arts. A Commission should be appointed to take evidence, examine existing laws, and make a full report. 13 February 1851. Petition to U. S. Senate and House of Representatives urging improvements in the Patent Laws of 1836, with a suggested bill.

586 Grimes, William C. Water Gauge for Steam Boilers. John F. Frazer, John Agnew, William D. Parrish. This instrument indicates the height of water and pressure of steam in a boiler at any requested place, at whatever distance from the boiler. Two metallic tubes extend from the boiler to wherever the indications are to be made, one from the steam space, the other from the water space. A bent glass tube connects them. Scott Medal, 10 July 1851. JFI, October 1851. Grimes to CSA, 5 March 1851. Descr, with Illus. Cresson to Board of Managers, recommending Scott Medal, 10 July 1851.

587 Dilks, Joseph. Philadelphia. Water Gauges. John F. Frazer, John C. Cresson. When the water falls, the float arm is depressed, moving the arm connected to the index. When the water falls so low as to endanger the boiler, the slide opens the steam whistle chamber. With 2 Illus, 8 May 1851. Dilks to CSA, 5 January 1851.

588 Haines, William S. (Applicant). Philadelphia Hospital, Blockley. Heating and Ventilating the Blockley Hospital with Birkinbine, Martin and Trotter apparatus. John F. Frazer. No Report. Comm Disc 11 December 1851. Haines to Cresson, 24 March 1851.

589 Stark, Nathan. Albany, New York. Iron Car Wheels. J. Vaughan Merrick, Angus N. Macpherson. Solid wrought iron car wheels are to be fabricated under a vertical direct action steam hammer. The plan appears feasible yet as to expense and comparative cheapness experience alone can decide. 14 August 1851. Stark to Morris to Jones and Co. 13 March 1851. Descr. Large page of drawings.

590 Trautwine, John C. Chm of Special Comm. Carver, John E. (Applicant). Roof Trusses of Dr. McDowell's Church. John C. Trautwine, John McClure. After careful experiments with a model of the church's fallen roof, Comm has concluded that the accident was owing partly to inferior timber and partly to defective design. The actual breaking load of the trusses was not quite one half of the calculated one. 11 March 1852. JFI, April 1852. Carver to CSA, 25 March 1851.

591 Fennant and Workman. Philadelphia. Safety Apparatus for Steam Boilers. John F. Frazer, John Agnew, William D. Parrish. When the flue is exposed and overheated, the rope--which in the proper state of the boiler is immersed in water--is burnt off, releasing a weight. This turns a four-way cock to prevent water from contacting the hot metal. It is doubtful that even the momentum of the falling weight could be relied upon to operate a cock of sufficient dimensions to act efficiently. 10 July 1851. Workman to CSA, 12 April 1851.

592 Smith, G. W. Chm of Special Comm. Comm to Analyze the Illuminating Gas used in the City of Philadelphia. G. W. Smith, John H. Frazer, R. A. Tilghman, James C. Booth, Charles M. Wetherill. Comm Disc 10 July 1851. Folder Missing. See JFI, June 1852.

593 Maynard, James A. Boston, Massachusetts. Tuyere for Blacksmith's Forges. A. N. Macpherson, John Agnew, Charles Evans, Prosper Martin. Comm Disc without report. 11 March 1852. Maynard to CSA, 17 June 1851. Maynard, Descr, 20 June 1851.

594 Sibbald, George. Washington D. C. Valve Cock. George Harding. No Report. Comm Disc 13 May 1852. Folder Missing.

595 Knox and Shain. Philadelphia. Level, Engineer's. John C. Trautwine, S. W. Roberts, William E. Morris. The instrument is equal to any the Comm has seen. A stop effectively presents the telescope from revolving when in field use. 9 October 1851. Knox and Shain to CSA, 9 July 1851.

596 Pomeroy, E. G. Baltimore, Maryland. Copper Coating for Iron. R. A. Tilghman, John Agnew, Charles M. Wetherill. After the iron has been cleansed by rubbing and pickling, it is dipped for a moment in diluted sulphuric acid and then dried by exposure to fire. The iron is dipped in a thick slip of rather fusible clay. This coppered sheet iron will be a new and valuable addition to the materials used in the arts. 10 February 1853. JFI, March 1853. Pomeroy to CSA, 13 September 1851. 3 Pomeroy to Tilghman, 13 December 1851 - 4 May 1852. Ellicott to Smith, 26 January 1852. Pomeroy to Smith, 26 January 1852. Offprint of JFI.

597 Teal, Peter. Philadelphia. Ventilator. John H. Towne, George W. Smith. The contrivance is ingenious but will be practically useless, being affected by barometric and temperature changes to such a degree as to destroy its efficiency. 8 January 1852. Teal to CSA, 7 October 1851.

598 Graff, Charles. Philadelphia. Lathe. John Agnew. No Report. Comm Disc 10 February 1853. Graff to CSA, 1 November 1851.

599 Whitescarver, F. A. Philadelphia. Mathematical Instrument. John F. Frazer. This is a modification of the theodolite. A plotting apparatus has been added by which the triangles containing the qualities given and required may be graphically constructed. It appears useful for ordinary mapping, yet is too inaccurate for geodetic surveys. 8 January 1852. Whitescarver to CSA, 3 October 1851. Large Illus with Descr.

600 Mahan, Jason M. Philadelphia. Stereotype. B. Howard Rand, George Harding, J. Vaughan Merrick, George W. Smith. The metal is melted, the caster for the moulds heated, and the plaster moulds dried by the same fire. This is ingenious and satisfactory as regards economy of time, space and fuel. The Comm recommends a first premium for the apparatus on deposit at the last Exhibition and the Scott Medal. 12 January 1854. JFI, February 1854. Mahan to CSA, 4 November 1851. Mahan to Cresson, 27 October 1851. 2 Descr with Illus. Adv.

601 Myers, Laurence. Philadelphia. Railroad Coal Cars. Robert Frazer. Coal or other material is placed in two wrought iron cylinders. There are several serious objections but the ones which appear fatal to this plan of construction are its increased cost, great weight, and limited capacity. 10 February 1853. Myers to CSA, 4 November 1851. Adv. Illus.

602 Newell, Stewart. Philadelphia. Oil, Lubricating. John Agnew. No Report. Comm Disc 9 November 1854. Newell to CSA, 11 November 1851.

603 Dunn, George R. and Co. Philadelphia. Oil, Lubricating. John Agnew. No Report. Comm Disc 9 November 1854. Dunn and Co. tp CSA, nd. Adv. Roberts, Pennsylvania Oil Co., T.

604 Martin, J. P. (Philadelphia) and Singer, I. M. Singer, I. M. and Co. (Applicant). Sewing Machines. Franklin Peale. Two threads are generally employed. The "wrong side" or "auxiliary" thread is fed by a shuttle and bobbin. Martin calls the machine "self-regulating" in that it stops when the thread breaks. The machine of Mr. Singer is certainly capable of doing the best of work. 10 March 1853. JFI May 1853. Mearton, for Singer & Co., 18 November 1851. Mearton to Hamilton, 7 November 1851. Martin to CSA, 8 November 1851, with Adv.

605 Devlin, John. Philadelphia. Steamboat Paddle Wheels. J. Vaughan Merrick, George W. Smith. One shaft only propels the vessel and is subjected to heavy concussions in stormy weather. The plan is impractical since shaft is not securely attached to the hull. 8 January 1852. Devlin to CSA, 11 November 1851.

606 Parson, Lemuel H. Lambertville, New Jersey. McAllister and Co. (Applicant). Scale Measure. John F. Frazer, John C. Trautwine, John C. Cresson. A slide having divisions of 0.09 in. on its edge with divisions of 0.1 in. on the plate over which it moves serves as a vernier. This is accurate without the expense of minute divisions on the fiducial scale. Scott Medal. 12 February 1852. McAllister and Co. to Hamilton, 23 December 1851.

607 Frazer, John F. Chm of Special Comm. Comm to consider the means of protecting the roof of the Institute from fire. No Report. Comm Disc 9 November 1854. Folder Missing.

608 Smith, George W. Chm of Special Comm. Comm to investigate the destruction on the tops of chimneys. No Report. Comm Disc 12 October 1854. Folder Missing.

609 Bartlett, Job. Philadelphia. Heater for Dwellings. John F. Frazer, Thomas Stewart. The fire is made broad and shallow. The hot gases of the furnace are enclosed between two streams of cold air. Comm approves of the principle of indirectly heating a large quantity of air in place of overheating a smaller quantity, yet do not consider the introduction of side pipes as an improvement. 9 June 1853. Bartlett to CSA, 27 January 1852.

610 Judson, Junius. Utica, New York. Governor Valve. J. Vaughan Merrick, John Agnew. This "fan" valve is opened more rapidly at first, and more uniformly than the ordinary butterfly valve. Judson's improvement deserves to be generally introduced. 10 February 1853. JFI March 1853. Judson to CSA, 22 December 1851, written on Adv. Judson to Hamilton, 2 February 1852, written on Adv.

611 Blake, Francis. Boston, Massachusetts. Shears, Rotary. John F. Frazer. No Report. Comm Disc. 14 December 1854. 4 Blake to Hamilton: 27 October 1851 - 1 May 1852. Descr.

612 Wagner, J. Z. A. Philadelphia. Steam Engine. J. Vaughan Merrick. The advantages do not compensate for certain demerits, including increased friction of packing in the cylinders and the expense of getting up such a pair of engines to form the peculiar conformation of the shaft. 13 May 1852. Wagner to CSA, 12 January 1852, written on Adv.

613 Gatchel, J. L. Elkton, Maryland. Brown, A. C. (Applicant). Philadelphia. Hydraulic Rams. John F. Frazer, John C. Cresson, J. Vaughan Merrick. The ram is called "double-acting" in that it keeps the water in the air vessel separate from that driving the instrument. A spring placed upon the head of the ram prevents stoppage when the valve does not instantly fall, a cause of annoyance in the use of most hydraulic rams. 14 April 1853. JFI June 1853. Brown to CSA, 9 February 1852. Adv. Drawing.

614 Thomson, John. Kensington in Philadelphia. Earth Borer. Robert Frazer, Edwin Greble. Fearing the benefits might be destroyed in practice by friction, a working machine was made and the endeavor was made to prevent it turning. The Comm fears were groundless. 9 September 1852. JFI December 1852. 2 Thomson to CSA: 16 February - 9 September 1852. Dup with amendments. Note on amendments.

615 Cameron, A. Charleston, South Carolina. Matthew, David (Applicant). Philadelphia. Railroad Car Wheel. Robert Frazer. No Report. Comm Disc 12 October 1854. Matthew to Hamilton, 24 April 1852. Drawing. Adv - Bourshett's Railroad Car Wheel.

616 Poesche, Theodore. Air Wheel. John F. Frazer. No Report. Comm Disc 14 October 1852. Poesche to Cresson, (? May 1852).

617 Russell, Jonathan. Artificial Leg. B. Howard Rand, William B. Page, F. W. Sargent, George R. Morehouse. This locking apparatus is objectionable as no locking can take place when the leg is straight. When the wearer makes the first movement of walking, the joint instantly locks. 11 November 1852. 2 Russell to CSA: 17-19 February 1852, with Illus.

618 Severson, Benjamin. Schenectady, New York. Bridge, Iron. Robert Frazer. No Report. Comm Disc 12 October 1854. Severson to FI, 18 September 1852. Adv.

619 Stran, Thomas V. New Albany, New York. Bell Ringing. John Agnew. No Report. Comm Disc 12 May 1853. Stran to CSA, 20 September 1852. Stran to Secretary, FI, nd, with Bancroft's card.

620 Lewis, J. W. P. Lighthouse Construction. George W. Smith, John C. Cresson. The first plan consists of cast iron blocks dovetailed to secure vertical and horizontal bounds. The second plan combines strength with economy in cost. The Comm strongly recommended the plans. 11 November 1852. Lewis, 8 October 1852. Lewis, Descr, 12 October 1852.

621 Goddard, Kingston. Philadelphia. Carriage Axle. B. Howard Rand. John C. Cresson, F. P. Dimpfel. The design makes less noise in moving and enables a horse to travel faster and further. Scott Medal. 9 December 1852. JFI January 1853. Goddard to CSA, 14 October 1852. Adv. See Cresson to Board of Managers, 12 April 1853, recommending Goddard for Scott Medal, in CSA 562.

622 Deschamps, F. O. Philadelphia. Omnibus Register. B. Howard Rand, George W. Smith, J. Vaughan Merrick. Upon the receipt of each fare, the driver pulls a handle which rings a bell and causes an index to move forward on the dial one division. Concealed dials can be examined only with a special key kept by the proprietor. This instrument will check the dishonesty of drivers and agents. Comm recommends that the Comm on Exhibitions award a first premium. 10 March 1853. JFI May 1853. Deschamps to CSA, 3 November 1852. Large sheet of drawings.

623 Batchelder, John M. and Farmer, Moses G. Boston. Telegraph Register and Wire Insulator. L. Turnbull. No Report. Comm Disc 9 November 1854. Batchelder to Hamilton, 25 October 1852. (3) Batchelder and Farmer, Descr of Telegraph wire insulator, Pyrographic Telegraph register and Telegraph register. Batchelder to Hamilton, 2 December 1852. Adv. (4 copies). Batchelder's business card.

624 Romans, William. Alexandria, Virginia. John Agnew. No Report. Comm Disc 10 February 1853. Romans to CSA, 12 November 1852.

625 Dilks, Joseph W. and James. Philadelphia. Water Gauges. John F. Frazer, John C. Cresson, J. Vaughan Merrick, John Agnew. Messrs. Dilks have modified the instrument formerly presented to CSA. The recent improvement decreases the tendency to stick by diminishing contact. Scott Medal. 10 February 1853. JFI April 1853. Dilks to CSA, 10 December 1852. Illus. See Cresson to Board of Managers, 12 April 1853, recommending Dilks for the Scott Medal, CSA 562.

626 Senneff, Jacob. Philadelphia. Weaver's Looms Metal Heddle. Mathias Baldwin, William B. Jackson, Paul Moody. The form and peculiar smoothness of the eye afford great facility in weaving. Scott Medal. 14 July 1853. JFI August 1853. Senneff to CSA, nd, December 1852. Dup, with Baldwin to Hamilton, on alterations.

627 Bean, E. W. Hatboro, Pennsylvania. Telescopy, Zenith Instrument. John F. Frazer, John C. Cresson, George W. Smith. A telescope mounted on a vertical axis can pivot in a horizontal plane. The use of a differential screw for recording minute differences of altitude is new. 10 February 1853. JFI, Report and Bean's Descr, May 1853. Bean to Hamilton, 23 November 1852, Descr with drawing.

628 Richards, F. DeB. Philadelphia. Stereoscopes. John F. Frazer, John C. Cresson, B. Howard Rand. A screw at the back of the instrument lessens or increases the distance of the picture from the lenses to suit any focus. This is an improved modification. 10 February 1853. JFI, Report and Descr. April 1853. Richards to CSA, 4 November 1852, Descr with Illus.

629 Clark, James J. Philadelphia. Telegraphic Instrument. B. Howard Rand, Lawrence Turnbull, J. Vaughan Merrick. The instrument is self-winding and uniformly moves the drum and the paper coiled on it. The Comm recommends that the Comm on Exhibitions award a first premium. 14 April 1853. JFI, Report and Descr, January 1854. Clark to CSA, 14 January 1853. Large drawing. Descr.

630 Fisher, Thomas. Philadelphia. Mathematical Science. John F. Frazer. No Report. Comm Disc. 10 November 1853. Fisher to CSA, 26 January (1853).

631 Fisher, William. Wilmington, Delaware. Hydraulic Ram. J. Vaughan Merrick. No Report. Comm Disc 12 January 1854. Fields to CSA, 24 January 1853. Fields, 1 November 1851, Descr.

632 Receveur, P. N. Philadelphia. Rose Engine. J. Vaughan Merrick, John F. Frazer. The tool frame is movable, the mandrel rotates in permanent bearings, promoting rapidity, accuracy, and variety of design. Scott Medal. 9 June 1853. JFI August 1853. Receveur to CSA, 27 October 1852.

633 Taylor, James. Philadelphia. Taxidermy, Specimens of Mounted Birds. B. Howard Rand, Thomas B. Wilson. The appearance of the specimens is highly creditable, being prepared with more care than is usual for Taylor. 9 June 1853. Taylor to CSA, 15 February 1853.

634 Hook, E. and G. G. Boston. Organ. John E. Addicks, W. H. W. Darley, John Welch, Charles M. Cresson. The key action is perfect; the double open pedal pipes speak promptly. It is a brilliant and beautifully voiced instrument. Comm recommends that the Comm on Exhibitions award it a first premium. 14 July 1853. E. and G. G. Hook to Addicks, Chm CE, 15 April 1853.

635 Turner, H. C. Cheraw, South Carolina. Telegraph. John F. Frazer, George Harding. This improvement in the repeating apparatus for long lines would reduce the number of batteries required by placing the repeating magnet at the end of each circuit. The plan displays great ingenuity yet is of doubtful utility. 13 April 1854. Turner to Hamilton, 11 July 1853. Large drawing. Descr.

636 Echols, Josephus. Columbus, Georgia. Steam Engine Condenser. J. Vaughan Merrick, John F. Frazer. A pipe open at both ends is arranged below the water line in a steam ship and a current of water is formed by the ship's motion forward. This does not improve the apparatus already in use. 11 January 1854. Echols to CSA, 6 August 1835, for report on his Condenser and Gauge for Steam Engines (CSA 636½) and Pneumatic Pump.

636½ Echols, Josephus. Columbus, Georgia. Water Gauge. J. Vaughan Merrick, John F. Frazer. Two glass bulls eyes are placed on a brass tube. Should the scale remain clear, this form would be an improvement on the ordinary glass tube. 12 January 1854. See Echols to CSA, 6 August 1853, in CSA 636.

637 McRea, William C. Philadelphia. Telegraph, Railroad Drawbridge and Safety Switch. John F. Frazer, John C. Cresson. The electric circuit runs through an insulated rail and is completed through a magnet on the locomotive, ringing a bell. The invention is worthy of trial in practice. 15 October 1853. JFI, Report and Descr, February 1854. McRea to Hamilton, 1 September 1853. Descr. 3 Drawings. 2 McRea to Frazer: 5-14 September 1853. Pr Dup of Report.

638 Yale, Charles D. Richmond, Virginia. North, Chase and North (Applicant). Philadelphia. Heater for Dwellings. B. Howard Rand, George W. Smith, John Agnew. The rapid rusting of the coils and central cylinder would weaken their powers of hot air conduction as well as rendering it expensive to keep in good order. 12 January 1854. North, Chase & North to CSA, 7 September 1853.

639 Parry, George T.. Philadelphia. Roller Bearings. J. Vaughan Merrick. This improvement in turntables reduces friction. It is to be applied to propeller shafting or vertical shafts. 10 January 1856. JFI April 1856. Parry to CSA, 8 September 1853. Rice to Hamilton, nd, on delivering Parry's anti-friction box. Note concerning Illus (Illus missing).

640 Collins, Michael. Boston. Baker & Williams (Applicant). Philadelphia. Ventilators. B. Howard Rand. This is an excellent cap for protecting chimneys from down draughts, yet it is a poor ventilator. 14 September 1854. Baker & Williams to CSA, 20 September 1853.

641 Myers, Laurence. Philadelphia. Coal Cars. Robert Frazer. No Report. Comm Disc 12 October 1854. Myers to CSA, 6 October 1853.

642 Somerville, James McAlpin. Philadelphia. Algologist's Assistant. John L. LeConte, John F. Frazer, John C. Cresson. This is a most important improvement in the art of preserving sea-weeds. 9 February 1854. Somerville to CSA, 25 October 1853.

643 Bates, Robert. Philadelphia. Stammering Cure. J. Aitken Meigs, B. Howard Rand, George W. Smith. After a discussion of the theories of the causes and cures of stammering, the Comm described Mr. Bates' three varieties of instruments which can be worn without attracting notice. Comm recommends a first premium and Scott Medal. February 1854 with Illus. JFI April 1854. Bates to CSA, 24 October 1853.

644 Shawk, Abel and Salomon. Carbon Engine Bisulphuret. John F. Frazer. No Report. Comm Disc 13 July 1854. Shawk and Salomon to Cresson, 28 November 1853.

645 Clarke, Joseph F. Phoenixville, Pennsylvania. Coffer Dam. Fairman Rogers, John F. Frazer, John C. Cresson. An arched form makes the dam support itself without relying on the ground. This arrangement would not compensate for disadvantages. The report includes discussion of earlier cast iron coffer dams. 9 March 1854. Clarke to CSA, nd (7 January 1854). Clarke to Hamilton, 8 March 1854. Illus.

646 Smith, Samuel B. New York. Electro-Magnetic Machine. John F. Frazer, Thomas J. Weygandt. A succession of shocks may be given to the patient, either from the secondary or primary circuits. Comm has heard favorable opinion of it and recommends that the Comm on Exhibitions award a first premium. 8 June 1854. JFI July 1854. Smith to CSA, nd, through the favor of William H. Hazzard.

647 Atkins, Jearum. Chicago. Paschall Morris & Co. (Applicant) Philadelphia. Reaper and Mower. Algernon S. Roberts, John C. Cresson, A. L. Elwyn. The peculiar motions of the "self-raking" apparatus resembles those of the human arm at the shoulder and elbow joints. Scott Medal. 13 July 1854. JFI August 1854. Paschall Morris & Co. to Board of Managers, 31 October 1853. Order form for Atkins Self-Raking Reaper and Mower.

648 Hammitt, John T. Philadelphia. Railroad Car Seat. Strickland Kneass. No Report. Comm Disc 12 June 1856. Hammitt to CSA, nd. Adv.

649 Holden, Eli. Philadelphia. Watch Movement. B. Howard Rand. Holden made this watch movement by his own hands seventeen years ago. Although it reflects great credit upon his skill at the time, the Comm does not at this time recommend that the Comm on Exhibitions make an award, 10 May 1855. Holden to CSA, 27 January 1854.

650 Thum, Charles D. Philadelphia. Brushes, Varnish. H. Howard Rand, Robert Carson, George Gardom. The handle extends below the ferrule, giving greater elasticity to the brush. Comm fully endorses the first premium awarded at the last Exhibition and recommends Scott Medal. 8 June 1854. JFI July 1854.

651 Colton, Sabin. Philadelphia. Bank Note Security. Alfred L. Kennedy, Charles Welsh. The simpler means called "Protectorate" is better. Colton's indelible ink can be removed with slight difficulty. 12 July 1855. Colton to Cresson, nd (8 March 1854). Colton to CSA, 6 June 1854.

652 Gatchell, J. L. Elkton, Maryland. Brown, A. C. (Applicant). Philadelphia. Lightning Rod. John F. Frazer, John C. Cresson, Edward P. Eastwick, Thomas J. Weygandt. The true function of the lightning rod is by induction upon the cloud at a distance, causing discharge. This view follows from the experiments of Franklin and the explanation of Faraday. The rod is recommended as cheap, durable and efficient. 8 June 1854. JFI July 1854. Brown to CSA, 25 April 1854.

653 Bakewell, Thomas W. Cincinnati, Ohio. Mathematics Table of Natural Sines. John F. Frazer, John C. Trautwine. Bakewell may have overestimated both the novelty and the value of his tables. He deserves every praise for his zeal but the Comm cannot recommend the publication of his tables. 8 June 1854.

654 Hartshorne, Henry. Chm of Special Comm. Gas for Cooking and Warming. Henry Hartshorne, John F. Frazer. The economy of coal for heat continues to outweigh the convenience of gas. The difficulties in obtaining satisfactory experiments has left the Comm without certain knowledge of the cost of producing hydrogen gas on a large scale. No practical application can be made of the idea at present. 10 January 1856. Hartshorne to FI, May 1854.

655 Strode, Joseph C. West Chester, Pennsylvania. Hydraulic Ram. John F. Frazer. No Report. Comm Disc 9 April 1857. Strode to CSA, 17 May 1854. Adv.

656 Royal, Jarvis. Bridgeton, New Jersey. Ventilating Walls. Thomas S. Stewart. This plan will be found less efficient and economical for providing ventilation than either of the old methods of hollow walls or hollow bricks. 10 August 1854. Royal to CSA, 14 June 1854. Royal, 17 May 1854, with drawing.

657 Mayer, Andrew. Philadelphia. Gas Regulator. Charles M. Cresson, B. Howard Rand, John C. Cresson. Although not a perfect regulator, it approximates this more than any other adapted to single burners. 13 April 1855. JFI May 1855. Mayer to CSA, 16 June 1854. 3 Adv.

658 Thatcher, Joseph. Philadelphia. Gas Meter. John F. Frazer, Andrew Mayer, John C. Cresson. The contrivance appears to perform its function completely but fails to produce the diminution of speed afforded by the tangent screw and will require additional gearing. 10 August 1854. Thatcher to CSA, 28 June 1854.

659 Day, B. Franklin. Philadelphia. Steam Engine. J. Vaughan Merrick, Washington Jones, Edward P. Eastwick. The advantages are so far counterbalanced by defects that it is not likely to supersede existing arrangements. 9 November 1854. Day to CSA, 28 June 1854.

660 McMullen, John. Philadelphia. Steam Boilers Incrustation. Washington Jones, B. H. Bartol, John Agnew. This plan of agitating the water is intended to supersede frequent blowing out; Comm is of the opinion that the most effective and reliable means of preventing the deposit of scale is periodic blowing out. 14 December 1854. McMullen to CSA, 28 June 1854.

661 Reed, William. Pittsburgh, Pennsylvania. Bridge,Iron. John C. Trautwine, M. B. Smith, Charles E. Smith. In this plan the suspension rod and the standard are within the guides. While this combination is not original with Reed, he has simplified the construction of Suspension Guide Bridges. 10 May 1853.

662 Truman, Joseph M. Philadelphia. Sewer Trap. Thomas S. Stewart. This cast iron tube is set in the usual way with the action of the trap intermittent and the seal only momentarily broken. This arrangement will prove efficient. 11 June 1857.

663 McKay, James. Philadelphia. Newell, Stewart. (Applicant). Philadelphia. Rotary Engine. J. Vaughan Merrick, John Agnew, Washington Jones. The plan shows ingenuity. The most apparent defects seem to be of a mechanical nature. In accordance with the request of the inventor, Comm abstains from making a final report until a more perfect engine shall be constructed and tried. 14 June 1855. Newell to CSA, nd (10 October 1854).

664 James, William. Philadelphia.. Locomotive Safety Bars. Fairman Rogers, John C. Trautwine. Report discusses earlier English inventions of safety buffers and the effects of sudden stops by trains. This apparatus would lessen somewhat the shock when two trains come together at a moderate speed, yet would have no effect at hish velocities. 8 February 1855. James to Cresson and others on CE, 2 November 1854. Adv.

665 Francis, Joseph. New York. Army Wagon. Joseph Harrison, John Agnew, J. H. Towne. This combines the quality of a boat with that of a wagon. Francis has made this perfectly watertight, corrugating the iron as in his Life Boats. 14 December 1854. Francis to CSA, 20 November 1854. Francis to Hamilton, 6 December 1854. Descr.

666 Barry, J. R. Philadelphia. Railway Car Ventilator. John H. Towne. No Report. Comm Disc 8 November 1855. Barry to CSA, 28 May 1854.

667 Brick, Samuel R. Philadelphia. Brick, A. D. (Applicant). Philadelphia. Gas Burner. B. Howard Rand. A better result is

667 (continued) obtained by the use of less expensive regulators. 13 December 1855. A. D. Brick to CSA, 29 November 1854. Adv.

668 Mascher, John F. Philadelphia. Stereoscope. John F. Frazer, B. Howard Rand, Fairman Rogers, John L. LeConte. This is very compact, allowing a stereoscopic daguerreotype to be kept with its proper lenses in the same case used for ordinary pictures. 8 February 1855. JFI March 1855. Addendum to original report, Comm endorses CE's award of first premium. Mascher to Chm, CSA, 13 December 1854. Addendum to JFI report, on Mascher's having later submitted to the inspection of FI members, a stereoscope arranted in a locket. Adv and price list. Mascher, Descr of his claims to originality, 19 December 1854, with 4 affidavits and a receipt. The Comm declined to report on the question of originality, saying only that Mascher had received a patent and that it was recommended for general use.

669 Queen, James W. Philadelphia. Microscope. John F. Frazer, Joseph Leidy, Fairman Rogers, John L. LeConte. It is provided with only a single objective and a single eye-piece. Additional powers should be added to it, when it will be justly entitled to the name of Student's Microscope. 8 February 1855. JFI March 1855. Queen to Chm, CSA, 12 December 1854.

670 Peters, Charles. Rossell & Co. (Manufacturers). Trenton, New Jersey. Anvils. John Agnew. No Report. Comm Disc 12 June 1856. Adv, Rossell & Co. Minute Book, 11 January 1855, indicates that Walter Cresson was applicant.

671 Batchelder, John M. Boston. Telegraph Wire Insulation. L. Turnbull. No Report. Comm Disc 11 October 1855. Batchelder to Rand, 13 November 1854. Adv.

672 Tasker, Thomas T. Philadelphia. Morris, Tasker & Morris (Manufacturers). Philadelphia. Furnace, Self-Regulating Hot-Water. John F. Frazer, John C. Cresson, J. H. Towne. A reservoir float governs the register in a flue admitting air to the chimney. The apparatus is more expensive at first but presents peculiar advantages of increased regularity, safety and economy of fuel and labor. With Illus. 8 March 1855. JFI June 1855. Tasker to Cresson, 11 January 1855. Tasker to Frazer, 16 February 1855, with envelope with torn seal. 2 Adv. Morris, Tasker & Morris. Illus, with table of references.

673 Wharton and Shiver. Philadelphia. Steam Engine. Joseph Harrison, Jr., Washington Jones, B. H. Bartol, John Agnew. Two parallel slots are connected by a short angle causing the engine to start when steam is applied at the dead point of the crank. This feature might be useful in some cases. 8 March 1855. Wharton and Shiver to CSA, 13 January 1855.

674 Hall, Evans and Watson (Applicants). Lock, Powder-Proof. Joseph Harrison, Jr. No Report. Comm Disc 12 June 1856. Appl, 5 February 1855. Minute Book indicates Evans and Watson as applicants (12 April 1855).

675 Silver, Thomas. Philadelphia. Marine Steam Engine Governor. John H. Towne, John Agnew, Washington Jones. This pendulum governor will not be affected by the position of the axis. To express an opinion as to the efficiency of this or any other marine governor would require more investigation. 10 May 1855. Silver to CSA, 2 February 1855. 2 Adv - one large. Drawing.

676 Weygandt, Thomas J. Philadelphia. Galvanometer. Fairman Rogers, John C. Cresson, B. Howard Rand. Each key of the pole changer works like the writing key of a telegraph; the operator can change the direction of the current by depressing a key with his finger. 12 July 1855. JFI August 1855. Weygandt to CSA, 1 March 1855.

677 Elkinton, Joseph L. Philadelphia. Sawdust, Spontaneous Combustion. B. Howard Rand, John C. Cresson. Porous materials, when greased, will take fire from the heat developed by the oxidation of the grease. The Chief of the London Fire Brigade describes fires that have been started because wood, long exposed to temperatures but little above that of boiling water, will become charred and will inflame. The latter caused the fire in Elkinton's factory. 10 July 1856. Elkinton to CSA, 23 March 1855. Elkinton to Comm, 30 November 1855.

678 Masson, Abraham. Philadelphia. Steam Engine. J. Vaughan Merrick, Washington Jones, John Agnew. The use of four cylinders materially increases expense and engine wear, and is not compensated for by the slight additional uniformity in motion. 13 September 1855. JFI October 1855. Masson to CSA, 20 April 1855. Masson to Hamilton, 11 May 1855.

679 Pollak, A. Washington, D. C. Iron Beams and Girders. John H. Towne. The report discusses a beam patented in France in 1853 and described in Lecons de Mechanique Practique. Comm is surprised that a patent should have been issued in this country for a construction described at length in so familiar a book. 13 December 1860. 5 Pollak to Hamilton: 12 July 1855 - 15 June 1858. Pollak to Smith, 12 March 1855. Descr. Pollak to CSA, 8 June 1858. 2 Drawings (one large).

680 Dyott, M. B. Furnace. J. H. Towne, J. C. Cresson, B. Howard Rand. Comm does not think that this furnace has any advantages resulting from the movable grate to compensate for its additional complexity. 15 January 1856. Dyott to CSA, 1 June 1855. Dyott to Comm, nd. 2 Adv.

681 Sheppard, William M. Philadelphia. Paper Folding Machine. F. Peale. No Report. Comm Disc 12 June 1856. Sheppard to CSA, 2 June 1855.

682 Yale, Linus, Jr. Hoskin, John (Applicant). Philadelphia. Locks. Franklin Peale, John Agnew. This lock gives as much security as possible to confer upon such means of protection. A small economical lock is also very secure. 12 June 1856. JFI July 1856. See 682½ for Hoskin to CSA, 10 July 1855.

682½ Yale, Linus, Jr. Hoskin, John (Applicant). Philadelphia. Iron Doors. Franklin Peale, John Agnew. This conbimation of chilled and wrought iron in a woven basket form increases security against the usual means of depredation. 12 June 1856. JFI July 1856. Hoskin to CSA, 10 July 1855.

683 Dale, John D. Philadelphia. Wood Moulder. John Agnew, Thomas Stewart, John McClure. Any number of moulding bits may be arranged around, and secured side by side, between disks on the same shaft, with slitting teeth or saws dividing each set. Scott Medal. 10 January 1856. JFI, with Descr and Illus, April 1856. Dale to CSA, 28 September 1855. Large Adv.

684 Rosset, Louis. Propeller, Wave-Powered. Barnabas H. Bartol, Washington Jones. No provision is made for backing to avoid collision. During a calm the machinery would be useless. 8 May 1856. Rosset to CSA, 10 July 1855. 2 Rosset to FI Committee: 30 August 1844 - 23 February 1846 (in French). Rosset, Descr (in French). Descr in English.

685 Lay & Brother (Manufacturers). Philadelphia. Lamp Black. B. Howard Rand. The article is smooth and free from grit, yet may leave a stickiness when used for blacking leather. 10 April 1856. Lay and Brother to CSA, 4 January 1854.

686 Lewis, H. L. B. Ventilators, Railway Car. J. H. Towne. No Report. Comm Disc 9 July 1857. Lewis to CSA, 13 October 1855.

687 Egan. Powell, Hazlett and Co. (Applicant). Philadelphia. Writing Fluid. Samuel Mason. No Report. Comm Disc 11 February 1858. Powell, Hazlett & Co. to CSA, 30 October 1855.

688 Tremper, John. Philadelphia. Governor, Pneumatic Rotary. Washington Jones, J. H. Towne. This is almost frictionless and the device is extremely sensitive and prompt in its action. 8 May 1856. JFI, with Descr, October 1856. Tremper to CSA, 2 December 1855. Adv.

689 Price, Philip. Bridge. Fairman Rogers. No Report. Appl Withdrawn. Comm Disc 12 March 1857. Price to CSA, 24 December 1855.

690 Leeds, Lewis W. Philadelphia. Heating and Ventilating. J. H. Towne. No Report. Comm Disc 10 May 1860. Leeds to CSA, Descr, January 1856.

691 Hoard, J. W. Providence, Rhode Island. Brown, James M. (Applicant). Philadelphia. Gas Regulator. B. Howard Rand, C. M. Cresson. This tension of the spring attached at one end to the valve, was insufficient at high pressures upon the inlet, and too great at low pressures. 14 August 1856. JFI September 1856. Brown to CSA, 25 February 1856. Pamphlet. Adv.

692 Roberts, Aaron. Philadelphia. Fire Extinguisher. John Agnew, Thomas S. Stewart. A telescopic pipe brings a jet of water closer to the fire and would supersede the necessity of carrying a hose up a ladder. 14 August 1856. JFI November 1856. Roberts to CSA, 21 February 1856.

693 Whitall, Henry. Philadelphia. Planisphere. John F. Frazer, E. Otis Kendall. This instrument furnishes a cheap, portable, and sufficiently accurate substitute for a celestial globe or series of charts. 8 May 1856. JFI June 1856. Whitall to CSA, 10 March 1856.

694 Chauvenet, William. Annapolis, Maryland. Protractor. John F. Frazer, E. Otis Kendall. Transparent charts with meridians and parallels of latitude for every degree are laid down on a stereoscopic projection of the earth. This arrangement of charts may be used by navigators as a rough check on their calculations. Scott Medal. 8 May 1856. JFI June 1856. Chauvenet to Frazer, 20 March 1856. Cresson to Board of Managers, FI, 10 November 1857, recommending Scott Medal.

695 Goddard, Kingston. Philadelphia. Bridle. M. W. Baldwin. Comm Disc 11 September 1856. Goddard to CSA, 20 March 1856.

696 Brooks, William F. New York. North American Seamless Tube Co. (Manufacturers). Tubes, Seamless. John Wiegand, John Agnew. These are produced by longitudinally rolling a casting or ingot of metal over a mandril. This seamless tube is a most desirable article, especially for locomotives and marine engines. 14 August 1856. Cox to Cresson, CSA Chm, 23 April 1856. Dup of Report, copied by Hamilton, for Secy. Descr.

697 Frick, Jacob. Philadelphia. Steam Boiler Feed Alarm. Washington Jones, John Agnew. This consists of a check valve, blow-off valve, and safety-feed valve, with an alarm attached. The Comm considers it useful to place a cock between the check valve and the boiler. 14 August 1856. JFI, with Descr, September 1856. Frick to CSA, 16 May 1856. Descr.

698 Cornelius, Robert. Cornelius, Robert C. (Applicant). Philadelphia. Steam Regulating Valve. John F. Frazer, Washington Jones. The pipes govern the valve by the expansion and contraction of the metal of the pipes themselves. It is a very ingenious use of a well-known physical law. 9 July 1857. R. C. Cornelius to CSA, 16 June 1856. Descr.

699 Winslow, Seth E. Lamp, Spirit-gas and Safety Can. John F. Frazer, W. H. Gobrecht. A wire gauge diaphragm prevents the propogation of explosions. This will add to the safety of these household utensils. 9 April 1857. JFI June 1857. Winslow to Cresson, CSA, 11 July 1856.

700 Gregory, H. D. Philadelphia. Aerial Navigation. John F. Frazer, E. Otis Kendall, John C. Cresson. The invention requires serious modification before it can come practically into use. 9 April 1857. Gregory to CSA, 17 July 1856. Gregory to Chm, CSA, 12 March 1857. Gregory, Descr, 26 July 1856. Gregory, lengthy Descr (16 pages). Dup, copied by Hamilton.

701 Wheelock, Hiram. Boston. Pike, Greene and Co. (Applicant). Philadelphia. Gas Burner. C. M. Cresson, B. Howard Rand, John F. A series of experiments indicates that this form is prejudical to economy. 11 June 1857. Pike, Green & Co., per Hewins, to FI CSA, 16 July 1856. Wheelock's Pocket Almanac and Filter Regulating Gas Burner Advertiser, 1856.

702 Cresson, Charles M. Philadelphia. Gas Retorts. John F. Frazer, Fairman Rogers, B. Howard Rand. A system of cells is arranged in the walls and in the bottom of the retorts. Comm deems this to be a very valuable improvement. 11 June 1857. JFI August 1857. C. M. Cresson to John C. Cresson, Chm, CSA, 7 October 1856. Draft. Record of Experimental Trials.

703 Teal, Peter. Philadelphia. Coupling Shaft. Fairman Rogers, Washington Jones, Joseph H. Warrington. The coupling is exceedingly neat, showing no projecting screw heads or sharp corners. The fine work will make it too expensive. 12 February 1857. Teal to CSA, 24 October 1856.

704 Ross, J. P. Lewisburg, Union County, Pennsylvania. Valve Gear. John Agnew, Washington Jones, William D. Parrish. Comm believes that the plan cannot be applied to engines whose dimensions exceed a certain limit; under that limit they consider it a good arrangement. 11 June 1857. Ross to CSA, 28 October 1856.

705 Maskell, Thomas. Philadelphia. Keel, Movable. J. Vaughan Merrick, Francis Grice. This plan for a galvanized iron false keel does not present advantages which would cause its substitution for the Center Board generally employed in Coasting Vessels. 12 February 1857. Maskell to CSA, nd (19 December 1856). Maskell to Hamilton, 12 March 1857. Pamphlet. 4 Illus (one large).

706 Bloom, J. Philadelphia. Lock, Bank. John F. Frazer. No Report. Comm Disc 10 September 1857. Bloom to CSA, 1 December 1856. Bloom to Hamilton, 3 June 1857.

707 Cochrane, James. New York. Arthur, Burnham & Gilroy (Manufacturers). Philadelphia. Hydrant. John Agnew, Henry H. Kelley, Joseph H. Warrington. The iron hydrant is encased in a wooden box, which will not require repair oftener than an ordinary hydrant. It is an ingenious contrivance and worthy of trial. 9 April 1857. JFI June 1857. Gilroy to CSA, 5 December 1856. Adv.

708 Maskell, Thomas. Philadelphia. Steam Engine, Hot Vacuum. Fairman Rogers. No Report. Comm Disc 11 June 1857. 2 Maskell to CSA, nd (28 January 1858). Adv.

709 Morris, Ellwood. Railroad Splice. Fairman Rogers, S. W. Roberts, John H. Towne. This fish-joint is made between two cross-ties. Although not differing essentially from Wild's splice, it is one of the best forms of iron splice yet proposed. 8 October 1857. JFI, with descr, February 1858. Morris to CSA, Descr, nd. Illus.

710 Butcher, William & Son. Iron Coating. Washington Jones, B. B. Gumpert. This prepared iron should be a valuable material for roofing, especially as a substitute for tinned plate. 9 July 1857. JFI August 1857. Butcher and Son to CSA, 19 November 1856, Descr.

711 Aubin, N. New York. Illuminating Gas Manufacture. John H. Towne. No Report. Comm Disc 10 May 1860. Aubin to Hamilton, 15 April 1857. Np, Report of Dr. Carr on Aubin's Gas Works, 1856. Illus. Adv.

712 Ritchie, E. S. Boston. Queen, James W. (Applicant). Philadelphia. Air Pump. John F. Frazer. No Report. Comm Disc 12 November 1857. Queen to CSA, 21 April 1857.

713 Cameron & Co. Charleston, South Carolina. Boiler Iron. J. Vaughan Merrick, Angus N. Macpherson, W. H. Merrick, John Agnew. This iron is of ample strength to withstand a working pressure higher than normal for such a boiler. 11 February 1858. Cameron & Co. to Hamilton, 20 March 1857. Cameron & Co. to Macpherson, 10 February 1857.

714 Miller and Kailley. Canton, Ohio. Pratt & Freeman, Philadelphia. Steam Gauge. Washington Jones. The diaphragm is of India rubber. If pure gum, which will maintain its elasticity uniformly, be used and kept from contact with steam, these gauges may be relied on for correct indications. 12 November 1857. 2 Pratt and Freeman, Philadelphia Rail-Way Supply Agency, to CSA: 7 April - 11 August 1857.

715 Gordon, George P. New York. Evans, H (Manufacturer). Philadelphia. Card Press. Fairman Rogers, C. M. Cresson, James H. Bryson. That 10,000 cards can be printed per hour, the Comm sees no reason to doubt. It is an exceedingly perfect machine. 19 July 1857. JFI September 1857. Evans to CSA, 7 April 1857. Adv.

716 Cooper, John H. Philadelphia. Hand Printing Press (Typewriter). John F. Frazer, William C. McRea, John Wiegand. This experimental model carries only capital letters and adjustments will be necessary in order to make it practically useful. The apparatus is ingenious. 9 July 1857. JFI September 1857. Cooper to CSA, 8 April 1857. Adv.

717 Torry, J. W. Interest Tables. 1858. No Report. Folder Missing.

718 Williams, Thomas W. Philadelphia. Axle Nuts, Securing. John Agnew, Washington Jones. The contrivance is very pretty in theory, but the Comm doubts its utility. 8 October 1857. Williams to CSA, 6 June 1857.

719 Hartman, Newton. Philadelphia. Coal Dumping Bucket. Fairman Rogers. No Report. Comm Disc 10 June 1858. Hartman to CSA, 9 June 1857.

720 Dewey, Samuel W. Sandstone Elastic. John F. Frazer. No Report. Comm Disc 9 December 1858. Dewey to CSA, 29 May 1857. Dewey to Frazer, 29 May 1857, on "Dewey Water," a type of mineral water.

721 Penrhyn Marble Co. Boston, Massachusetts. Marble Mantels, Imitation. John F. Frazer, Fairman Rogers, John Agnew. The articles examined are of slate prepared by means of a peculiar bath. The beauty of the manufacturer well deserves a First Premium. 10 September 1857. JFI October 1857. Penrhyn Marble Co. to Hamilton, 20 April 1857, Descr.

722 Greene, C. A. Philadelphia. Lamp, Burning Fluid. John F. Frazer. No Report. Comm Disc 10 June 1858. Greene to Actuary, FI, 27 June 1857.

723 Wiegand, S. Lloyd. Philadelphia. Eccentric, Adjustable. Washington Jones, J. Vaughan Merrick, B. H. Bartol, John Agnew. This valve gear performs the usual functions with fewer parts and wearing surfaces. It is well suited to locomotive engines. 13 May 1858, JFI, with Descr. July 1858. Wiegand to CSA, 7 August 1857. Adv.

724 Munson, David. Indianapolis, Indiana. Darrach, M. (Applicant). Philadelphia. Lightning Rod. John F. Frazer, B. Howard Rand, B. B. Gumpert. Notwithstanding the ingenuity in the manufacture of the rod, it will prove inferior in efficiency to a solid bar of the same diameter. 12 November 1857. Darrach to Comm, 9 September 1857. Munson, Descr from Pt.

725 Lewis, David D. Tamaqua, Pennsylvania. Railway Frog. Fairman Rogers, Washington Jones, Fred Graff. It is an effective way of attaching the point to the casting, making it firm and easy to remove for repairs. 11 December 1857. JFI January 1858. Lewis, Descr, 21 September 1857. Rogers, notes on Lewis' frog.

726 DeVilleroi. Philadelphia. Musical Instrument. B. Howard Rand, C. M. Cresson, Thomas J. Weygandt. A rectangular metallic tube is closed at one end and divided into two distinct longitudinal channels. Thirty-six metallic reeds correspond to as many openings which are closed by the fingers. 10 December 1857. JFI January 1858. DeVilleroi to Cresson, nd (in French). Adv printed in Paris. DeVilleroi, Descr.

727 Pearce, William and Lowrie, John. Ridgway, Thomas S. (Applicant). Hampshire County, Virginia. Car Dumping Method. Ellwood Morris. No Report. Comm Disc, 13 May 1858. Ridgway to CSA, 5 October 1857. Illus. Ridgway to Morris, J. C. Cresson, Strickland Kneass, nd.

728 McDonald. Marshall, A. J. (Applicant). Warrenton, Virginia. Railroad Brake. Fairman Rogers, Ellwood Morris. The brake of each car in the train acted upon simultaneously and are under the control of the engine driver. This system deserves the attention of practical men and adequate trial. 14 January 1858. Marshall to Cresson, 17 November 1857, asking for report on McDonald brake. Illus, with notation, Thomas W. Smith, Alexandria, Virginia, December 1857. Note on References by Patent Office relative to Steam Brake. Descr. Morris to Rogers, 16 December 1857. Marshall to Comm, nd.

729 Lowthorp, Francis C. Trenton, New Jersey. Testing Machine. John Agnew, Thomas S. Stewart, W. H. Merrick. The rapidity with which materials can be tested recommends the machine to the notice of civil engineers. 13 May 1858. Lowthorp to Hamilton, 11 December 1857. Descr. Illus (large).

730 DeHart, Levi M. Reading, Pennsylvania. Paddle Wheel. Barnabas H. Bartol, Washington Jones. Each arm, not being supported by its fellows, must be made strong enough to withstand the resistance if its submerged paddles. It is questionable if any advantage would be gained by its use. 8 April 1858.

731 Francis, Jerome B. Philadelphia. Tooth Extraction by Electro-Magnetism, Painless. B. Howard Rand, William H. Hazzard, Henry Hartshorne, William S. Wilkinson, Franklin Peale, James Aitkin Meigs, J. D. H. White, Edward Townsend. An electro-magnetic current traverses the body of the patient and the circuit through the tooth is completed at the moment at which extraction is to begin. Comm believes its use to be entirely without danger. Scott Medal. 8 April 1858. Francis to CSA, recommending Francis for Scott Medal. Harding, Francis' attorney, to CSA, 7 April 1858. Harding to Hamilton, 4 June 1858. Illus, large. Wilkinson to Comm, 3 April 1858, on experiences with Francis' method.

732 Hunter, William. Cortland County, New York. Bennett, John H. (Applicant). Philadelphia. Mower and Reaper, Rotary. Governeur Emerson. No Report. Comm Disc, 13 January 1859. Bennett to CSA, 7 May 1858.

733 Jayne, J. W. Brick Machine. Thomas S. Stewart. No Report Comm Disc, 12 June 1862. Jayne to Hamilton, 13 May 1858. Jayne to Stewart, 12 August 1859.

734 Allen, S. S. Rogers, C. B. and Bayes. Philadelphia. Mower and Reaper. Governeur Emerson. No Report. Comm Disc, 10 May 1859. Rogers to CSA, 25 May 1858, to examine the mower and reaper patented by Allen, improved by Rogers and Bayes, and manufactured by Bayes and Brother.

735 Gatchell, John L. Elkton, Maryland. Rice, J. D. (Applicant). Philadelphia. Lightning Rod. John F. Frazer, John C. Cresson, B. B. Gumpert, B. Howard Rand. This is similar to that reported favorably on 8 June 1854 (CSA 652). A rope of twisted copper wire is substituted and a copper point is used in place of platina. Comm believes the modifications will increase its efficiency. 12 August 1858. JFI September 1858. Rice to CSA, 19 June 1858.

736 Espy, James P. Philadelphia. Storms, Theory of. John F. Frazer. No Report. Comm Disc, 12 June 1862. Espy to CSA, 22 June 1858.

737 Ayres, William W. Worcester, Massachusetts. Boyden, David (Applicant) Philadelphia. Hydrant Water Filter. C. M. Cresson. This filter was subjected to a trial of several months duration. After considerable use the ground surfaces of the stopcocks became roughened so that the spindle could not be turned. 12 January 1860. Boyden to Comm, 20 July 1858. Adv.

738 Cooper, John H. Philadelphia. Gas Regulator. Charles M. Cresson, John C. Cresson, B. Howard Rand. In consequence of some imperfection in the instrument furnished for examination, the Comm has been unable to prosecute satisfactorily any series of experiments. 13 December 1860. Cooper to CSA, nd (August 1858).

739 Jones and Smith (Manufacturers). Pittsburgh, Pennsylvania. King, H. D. (Applicant) Philadelphia. Shafting and Rods. John Agnew. No Report. Comm Disc. 12 June 1862. King to CSA, 20 August 1858. King, note on rods and instruments, 27 August 1858.

740 Gordon, Charles. Washington, D. C. Protractor. Fairman Rogers, John F. Frazer, John C. Trautwine, Ellwood Morris. It is especially intended for plotting from the field notes of a compass survey and is exceedingly useful for many varieties of a draughtsman's work. 9 January 1859. JFI July 1859. Gordon to CSA, 29 October 1838.

741 Fairchild, John H. Jericho, Vermont. Water Wheel. John F. Frazer. No Report. Comm Disc, 10 May 1860. Fairchild to CSA, 3 November 1858. Fairchild to CSA, nd (December 1858). Adv - Illus (large). Adv.

742 Regan, Henry William. Cressona, Schuylkill County, Pennsylvania. Pump. Washington Jones. No Report. Comm Disc, 8 January 1863. Regan to Cresson, 25 November 1858. Regan, statement of claim, 11 December 1858. Illus of Regan and Neuer Pump (large).

743 Beach, William. Philadelphia. Roof Tiling. Thomas S. Stewart. No Report. Comm Disc, 10 May 1860. Beach to CSA, 11 October 1858.

744 Harris, Denslow, W. P. (Applicant) Philadelphia. Time Register. Fairman Rogers. No Report. Comm Disc, 8 January 1863. Denslow to CSA, 20 October 1858.

745 Appleton Tracy and Co. Watches. Fairman Rogers, Coleman Sellers, Washington Jones. To judge merely from a careful inspection, these watches are well made. 9 June 1859. Appleton Tracy & Co. to Addicks, CE, 23 October 1858, with note - Referred S & A.

746 Hall, S. W. Philadelphia. Thermograph. John F. Frazer, B. Howard Rand. This records atmospheric temperatures. It occupies considerable space and is invariable. Ordinary care is sufficient to prevent any derangement. 10 May 1859. JFI June 1859. Hall to Chm, CSA, 10 November 1858. Hall to Frazer, 1 February 1859, Descr. Sample, 28 - 31 January 1859 (large).

747 Thomas, James T. Philadelphia. Burner, Coal or Carbon Oil. B. Howard Rand. No Report. Comm Disc, 12 May 1859. Thomas to CSA, 12 November 1858. Thomas to CSA, nd (January 1859), withdrawing appl.

748 Roettger, H. H. & Co. Philadelphia. Optical Instrument. Fairman Rogers. No Report. Comm Disc, 12 June 1862. Roettger & Co. to CSA, 13 November 1858, with Barler, for Roettger & Co., to Hamilton, 13 November 1858.

749 Prentiss, E. Freeman. Philadelphia. Washing Solution. B. Howard Rand, C. M. Cresson. When applied as directed by the package labels this may be advantageously used for most detergent purposes. 14 June 1860. Prentiss to CSA, 16 November 1858. Adv.

750 Maule, Henry. Philadelphia. Railway Telegraph Signals. Ellwood Morris, Fairman Rogers, John C. Trautwine. The Comm doubts whether adequate return would be made for the additional complication and extra cost. 10 March 1859. Maule to CSA, 18 November 1858. Adv.

751 Leeds, Joseph. Penna. Patent Chimney & Ventilator Co. (Applicant) Philadelphia. Chimney and Ventilator. John F. Frazer, John Agnew, R. A. Tilghman. This system of flues has advantages over the old systems of heating but not over those now well known. The register is simple and effective. 8 December 1859. Parker to Hamilton, 22 November 1858. 2 Leeds to CSA, on report: 15 March - 11 June 1859. Illus.

752 Mascher, John F. Philadelphia. Clock, Railway. Fairman Rogers. This is to promote accuracy in the running of cars by City Passenger

752 (continued) Railways. The clock strikes a blow to warn each driver that it is time to start. 9 June 1859. Mascher to CSA, nd (December 1858). Mascher to Hamilton, 10 June 1859.

753 Ritchie, E. S. Boston, Massachusetts. Rhumkorff's Induction Apparatus, Improved. John F. Frazer, John C. Cresson, Thomas J. Weygandt, C. M. Cresson, B. Howard Rand. This apparatus excited by 3 cells of a carbon battery, the zincs of which are 5" in diameter and 11" high, gives a spark eleven inches long. The Comm is not aware of any spark over 3" ever being obtained by Rhumkorff or Hearder. Scott Medal. 10 May 1860. JFI, with Descr, July 1860. Ritchie to Hamilton, 2 December 1858. Ritchie to Frazer, 11 December 1858. Ritchie, Descr, 10 December 1858.

754 Stevens, Bela N. Philadelphia. Lock. M. W. Baldwin. No Report. Comm Disc, 10 May 1860. Stevens to CSA, 31 January 1859.

755 Wiegand, S. Lloyd. Philadelphia. Wheel Valve Motion, Oblique. Washington Jones, John Agnew. The number and style of the parts will make its first cost greater, while the strains upon the wheel and pins will cause more rapid wear than usual. 9 June 1859. Wiegand to CSA, 11 March 1859

756 Conner, Eli T. Philadelphia. Railway Frog. Ellwood Morris, John C. Trautwine. The cast iron bed of the frog would receive pieces of old nails cut off, and properly bent, so as to form wing rails, removable at will, without raising the frog. 14 July 1859. Conner to CSA, 6 April 1856.

757 Haskell, Thomas. Steam Engine, Hot-Vacuum. 1860. No Report. Folder Missing.

758 Fawkes, Joseph W. Christiana, Lancaster County, Pennsylvania. Steam Plow. John C. Cresson, Frederick Fraley, Joseph Cresson, Jr. At 3 miles an hour, 8 furrows were turned with ease and completeness. The machine is especially designed for breaking up prairie land. Scott Medal. 9 August 1859. JFI, September 1859. Fawkes to Cresson, 28 July 1859. Np, Daily Evening Express, 13 February 1860.

759 Brown, F. C. Philadelphia. Railway Turnout. Fairman Rogers, J. C. Trautwine. This is practicable for the ordinary speeds of city horse cars. Some practical modification may be found necessary after a trial on a large scale. 8 December 1859. Brown to FI, 3 September 1859. Rogers, Draft.

760 Shreiner, Philip. Columbia, Pennsylvania. Stove. B. Howard Rand, John C. Cresson. For warming the room above the chamber in which the stove is placed, this arrangement will prove efficient. Only a moderate portion of the heated air will go to objects near the stove on the floor. 8 December 1858. Shreiner to Atkinson, 19 September 1859. Draft.

761 McWilliams, Robert. Philadelphia. Hoffman, Samuel W. (Assignee). Philadelphia. Railway Axle Boxes. Fairman Rogers, John C. Trautwine, John Agnew. A simple washer moves with the journal as the brass wears, keeping the joint tight and impervious to dust. 8 March 1859. Dup of printed report. Copy of patent.

762 Pettit, George, Nugent, William. Susquehanna County, Pennsylvania. Railroad Chair. Fiarman Rogers. No Report. Comm Disc, 8 January 1863. Pettit and Nugent to CSA, 25 October 1859.

763 McNeill, Thomas E. Philadelphia. Railway Sleeping Car. Fairman Rogers, John C. Trautwine. The car can be rapidly converted into a sleeping car at night. The seats and backs can be detached from the frames and converted into berths of the proper length. 8 March 1860. McNeill to CSA, 13 October 1859. McNeill, Descr. Illus (large).

764 Long, Robert H. Philadelphia. Grice, Joseph (Applicant). Philadelphia. Salinometer Case. John F. Frazer, John Agnew, Washington Jones. A waste-pipe allows a current to pass through the instrument. The engineer can read it at a glance without being scalded. 12 January 1860. JFI, with Descr. February 1860. Grice to CSA, 14 November 1859. Adv. Grice to Hamilton, 12 December 1859.

765 Jones, A. C. Philadelphia. Coupling Hose. John Agnew. No Report. Comm Disc, 8 January 1863. Jones to Cresson, 11 January 1860.

766 Marshall, Samuel. Wilmington, Delaware. Carriage Fastenings for Curtains. B. B. Gumpert. No Report. Comm Disc. 14 January 1864. Marshall to FI, 25 February 1860. Marshall to Hamilton, 2 March 1860. 2 Descr, with T.

767 Heydrich, Gustave. Philadelphia. Poesche, P. (Applicant). Philadelphia. Fire Escape. J. E. Wootten, Washington Jones. Its out-of-the-way location would make it difficult to maintain in such free working condition, especially by a female excited by the conflagration. 20 September 1860. 2 Poesche to Hamilton: 1-10 March 1860. Copy of Pt. Illus.

768 Wilson, Archibald. New York. Gas Lighting by Electric Spark. John F. Frazer, Fairman Rogers, John C. Cresson. The wire passes from the Ritchie Induction Apparatus to the wire above the first burner; from there to the wire above the second, and so on. The experiments give every reason to believe the Electric Gas-Lighter will be successful in practice. 14 June 1860. JFI August 1860. Wilson to Cresson, 6 March 1860. Wilson to Hamilton, 19 March 1860. Adv.

769 Singer, Joseph. Cleveland, Ohio. Bingham, Frank D. (Applicant). Philadelphia. Coupling Hose. Washington Jones, John Agnew. This affords unusual facility for joining and detaching hose, but it would not withstand the rough usage necessarily during the extinguishing of a conflagration. A trial should be made. 12 July 1860. Bingham to CSA, 18 April 1860. Illus.

770 Lafferty, H. W. Philadelphia. Steam Boiler Furnace for Marine Engines. John Agnew, J. E. Wootten. The inventor requested leave to withdraw the model, having discerned that the same theory was patented in March 1859. 10 May 1860. Lafferty to CSA, nd (April 1860).

771 Morgan, Richard P. Chicago, Illinois. Railway Carriage. Fairman Rogers, John C. Trautwine. The arrangement seems too complicated to be of practical importance. With modification, it might be adapted to some form of city horse car. 13 June 1861. Morgan to CSA, 15 May 1860. Ltr, 11 June 1860. Illus.

772 Yerkes, Jones. Philadelphia. Refrigerator. A. L. Kennedy. No Report. Comm Disc, 13 December 1860. Yerkes to CSA, 18 April 1860. Adv.

773 Clark, P. C. Reading, Pennsylvania. Wootten, J. E. (Applicant). Philadelphia. Propeller, Canal Boat. Barnabas H. Bartol, John C. Trautwine, Washington Jones. The intermittent action of the paddles will cause shocks to the machinery and hull. The plan was patented by John Fitch in 1788. 20 September 1860. Wootten to CSA, 25 May 1860.

774 Hackley, C. V. Chain Battery. 1864. No Report. Folder Missing.

775 Bridges and Dieterick. Philadelphia. Hose Protectors. John Agnew, William Eckfeldt, William C. Vinyard. These are formed of two flaps of gum and canvass interposed. The Comm has witnessed the operation of the protector by the passing of numerous cars over them without injury to the hose. 13 June 1861. Bridges and Dieterick to CSA, 19 October 1860.

776 Paine, William H. Sheyboygan, Wisconsin. Metallic Measuring Tape. Fairman Rogers, John C. Trautwine. Ordinary engineer's chains vary in length owing to changes in temperature. A handle at one end of this tape has a simple screw adjustment to keep the length constant. 13 June 1861. Paine to CSA, 11 January 1861. Paine to Hamilton, 31 January 1861. Paine to Draper, Descr, nd. Directions.

777 Mitchell, Hawley P. Philadelphia. Ice Breaker. J. E. Wootten, Washington Jones. A gang of circular saws operate in a frame in the bow of the boat. As this method has been anticipated, it would seem unnecessary to discuss the value of the plan. 10 October 1861. Mitchell to CSA, 6 August 1861.

778 Fowler, John Jr. Plow, Steam. Coleman Sellers. No Report. Comm Disc 12 June 1862. Kennedy, Phila. Society for Promoting Agriculture to FI, 10 June 1861. Kennedy to Hamilton, 27 September 1861. Np.

779 Pickle, Henry. Plane Table and Comb. Scale Calculator. Fairman Rogers, John F. Frazer, John C. Trautwine. The plane table is not new but the calculator appears to be an entirely new application, in practice, of a well understood principle. 10 July 1862. Pickle to CSA, 22 November 1861. Descr. Illus. 4 pages of calculations, a map--specimens.

780 Knight, Robert T. Philadelphia. Telegraph. John F. Frazer, John C. Cresson. Knight claims to have invented the type-wheel and piano-keys method of printing messages, yet Wheatstone lectured on it in 1840 and Vail wrote about the same feature in 1837. 10 July 1862. Knight to Cresson, 28 March 1861. Knight, 30 March 1861, statement concerning the invention.

781 I. P. Morris & Co. (Applicant). Philadelphia. Explosion of Steam Boiler at the Port Richmond Iron Works of I. P. Morris & Co. John F. Frazer, John Agnew, George W. Smith, John C. Cresson, Henry Birkinbine. The safety valve of the exploded boiler was too small. Its stem was rigid and incapable of the amount of play indispensable to the action of the valve. If the statement of the assistant is believed, the Engineer carelessly threw cold water on the bottom of the boiler. Comm strongly recommends that managers of establishments using steam forbid their engineers to throw water upon boilers as a practice fraught with danger. 10 July 1862. JFI August 1862. I. P. Morris & Co. to Hamilton, 9 December 1861. Briggs, Supt. Pascal Iron Works, to Frazer, 16 November 1861, account of injury to boiler there earlier in the year, and the danger of throwing cold water. Frazer, Information to be Sought, and Jones, reply. Draft.

782 Zimmer, Matthias. Osceola Mills P. O., Clearfield County, Pennsylvania. Brewing Method. John F. Frazer, R. A. Tilghman, Washington Jones. The Comm has no evidence that such apparatus has ever increased the quality of the brewed liquor. 12 March 1863. Zimmer to Hamilton, 21 June 1863. Dup of Report.

783 Richard Norris & Son (Applicant). Philadelphia. Steam Boiler Explosion. John F. Frazer, John Agnew, John C. Cresson, George W. Smith. This boiler is filled with tubes, leaving only a small steam space and reducing the quantity of water in the boiler. This exacts great care from the engineer. No doubt this explosion furnishes another instance of the dangerous consequences of adding water to an overheated boiler. 10 December 1863. 2 Norris & Son to Frazer: 13-20 April 1863.

784 Sibbald, George. Philadelphia. Engine, Atmospheric. Fairman Rogers, John F. Frazer, Washington Jones, John Agnew. A modification of Newcomen's engine, this single acting engine is unfitted for most purposes. 12 March 1864. Sibbald to Chm, CSA, 9 February 1863 (4?), reply to report. Sibbald to CSA, 7 May 1863.

785 Guardians of the Poor (Applicant). Philadelphia. Lightning Protection For Blockley Alms-House. John F. Frazer, John C. Cresson, Fairman Rogers. The report describes the structures, materials, and elements of efficient protection. Iron rods one and a half inch round should be erected on the chimneys of each front, raised at least 15' above the tops. The Report discusses a system of interconnected rods and conductors. 19 April 1866. JFI June 1866. Miller, Office of Guardians of the Poor, to Board of Managers, 3 June 1863.

786 Devaux, Alexander. Miller, Edward (Applicant). Philadelphia. Granary. S. W. Roberts. No Report. Appl Withdrawn. Comm Disc 10 March 1864. Miller to Cresson, 13 June 1863. Roberts to Hamilton, 9 March 1864.

787 Whitall, Henry. Planisphere. John F. Frazer, H. D. Gregory, E. Otis Kendall. The planisphere is made circular and fixed. As it is now made it can be used with as much accuracy as the celestial globe. Whitall has warped his planisphere somewhat, diminishing its value by rendering it less easy in adjustment. 14 April 1864.

788 Woolston, Samuel. Vincentown, New Jersey. Marine Camel. Fairman Rogers, Washington Jones. A water-tight vessel is divided by 2 longitudinal vertical bulkheads into 3 compartments. From the bottom of the 2 outer compartments arms are projected on which rests the keel of the vessel to be raised. The great size of this camel renders it uneconomical. 12 May 1864. Woolston to CSA, 16 July 1863. Woolston to F. Rogers, 2 November 1863.

789 Heermann, Charles. Philadelphia. Iron Clad War Vessels. Washington Jones, B. H. Bartol, Henry Hoover, John W. Lynn. Semi-steel cast bars are attached by bolts to the side of the vessel. The peculiar shape of the bars would require much planing in order to make close fits at joints. Only actual trial is capable of developing its shot resisting qualities. With Illus, 14 January 1864. 2 Heermann to CSA: 24 September 1863 - 14 January 1864.

790 Hafer, John. Stove, Cone Radiation. John Agnew. No Report. Comm Disc 4/19/86.

791 McIntire, Charles. Easton, Pennsylvania. Sewer. Fairman Rogers, Strickland Kneass, Washington Jones. This is adapted to swampy localities. The piles are liable to decay where they are alternately wet and dry. It would be difficult to replace any without disturbing the entire structure. 23 May 1866.

792 Vance, Lorenzo. Sawing Machine. Washington Jones, John C. Cresson, Charles H. Cramp. A cast iron plate has upon each end a disc of metal with toothed rims. A patentee asked for a report upon the adaptability of the machine to sawing ship timber. This machine has the advantage of facility of management and compactness. 23 May 1866. Vance to Brasson (sic), 30 June 1864. Vance to CSA, 12 July 1864. Np, Scientific American, 30 April 1864.

793 Dunseith, Samuel. Philadelphia. Leather Tanning. J. F. Frazer. No Report. Comm Disc 19 April 1866. Dunseith to CSA, 21 November 1864. Circular. Business Card, M. G. Dambruch. Hamilton to Frazer, 3 December 1864, on Comm.

794 Brown, Barclay. Byberry, Philadelphia. Furnace. John Agnew, S. Lloyd Wiegand, W. Barnet LeVan. The furnace is made in continuous sections. Each grate can be raised or lowered by means of levers to apply heat to any part of the Boiler or Evaporating Pan. The Comm cannot judge its merits without practical tests. 23 May 1866. Brown to CSA, 25 November 1864. Brown to FI, 15 December 1864. Brown to Comm, 7 April 1865. Adv.

795 Shaw, Thomas Chm of Special Comm. Sound and Color Signals. Thomas Shaw, John F. Frazer, John C. Cresson. Comm has examined the various sound and color signals used in the United States and found a great want of regularity. United States legislation is necessary for a uniform system. Danger signals should have first consideration. The Report contains recommendations for whistles and workmen's signals, bell sounds, flags, lamps, and detonating signals, for other purposes as well. 23 May 1866. Hamilton, Extract of Minutes of FI meeting, 17 November 1864, with resolution concerning the investigation. Copy of resolution concerning Memorial to Congress. J. Vaughan Merrick. Memorial to Congress.

796 McKnight, Safford & Co. Philadelphia. Carbonate of Lead. R. E. Rogers. No Report. Comm Disc 19 January 1867, McKnight, Safford & Co. to CSA, 17 February 1865.

797 Irvine, Arthur. Philadelphia. Steam Valve Rotary. William Sellers, W. Barnet LeVan. A cylindrical valve moves by rotating about its axis in place of sliding in a rectalinear direction as with the common valve. The combination of parts offers sufficient promise of success to make it worthy of a trial. 23 May 1866. Irvine to Hamilton, 30 March 1865.

798 Mathewson, James R. (Applicant). Philadelphia. Union Steam Fan Blower Co. (Manufacturer) Boston. Steam Fan Blower. Coleman Sellers, Washington Jones, John Agnew. For creating an artificial draft, this will prove useful in cases of impaired natural draft. Even so, it would be better without the fan with it. 23 May 1866. Mathewson, Appl. 5 October 1865. Adv.

799 Peirce, Lewis. Philadelphia. Mathematics, Area of Circles. Pliny E. Chase, John F. Frazer. Comm is unable to discover any advantage in the new method. 23 May 1866. 2 Peirce to CSA: 13 November - 25 December 1865. Descr.

800 Thomas, Charles F. Chester, Pennsylvania. Mains, Tapping Water and Gas. Robert C. Cornelius, Henry G. Morris, Thomas H. McCollin. This plan involves the drilling of a circular cavity before inserting the stopcock in the main pipe. This method saves the cost and risk attending the stoppage of water supply and lessens the risk of injury to the main pipe. "Tapping bands or bosses" and ferrules or connectors are required. 23 May 1866. Thomas to CSA, 5 February 1866.

801 Cooper, J. H. Philadelphia. Gas Regulator. B. Howard Rand, Henry Morton, Albert R. Leeds. This apparatus consists of an iron chamber into which the gas passes from the mains by a central pipe. A drum in a circular recess of the upper part of the chamber rises or falls with changes in the pressure. This modification of the guiding apparatus of the holder of the well-known mechanical governor is "new and useful." The Mercury Regulator will act with efficiency under moderate variation of pressure but loses pressure slightly at increased levels. With regard to the assumed injurious effect of the mercury evaporation from the seal of the apparatus, the Comm considers its occurence "highly improbable." 25 July 1866. E. E. Bratton to CSA, 21 March 1866.

802 Reehfuss, George. Philadelphia. Sewing Machine. Coleman Sellers, Henry Morton. In a former report (CSA 802, adopted 23 May 1866) the Comm favorably noticed the machines for sewing button holes and making up carpets, yet delayed reporting on the sewing machine for general work until the invention had been perfected. The combination machine belongs to that class known as shuttle machines and produces the "lock stitch." Selvedges can also be united by the stitch closely resembling "Overcasting" in hand sewing. The work done by the carpet machine is of a "very superior character." All the machines examined are well made and "seemingly not liable to get out of repair - doing very excellent sewing." 25 September 1867. Paxson to CSA, 5 March 1866. Paxson to CSA, 11 July 1867. Morton to CSA, 13 July 1867.

803 Yale, Linus, Jr. Shelburne Falls, Mass. Bar Vice. Edward Longstreth, John Agnew, Washington Jones. The movable jaw of this vice runs on the guides of the fixed jaw. The nut which engages the work is not fixed but is supported in the guide of the movable jaw. A half turn of the screw will bring the nut down so as to engage the rack, and another half turn secures the work. This improvement in the movable nut is "extremely useful and valuable as saving a great amount of time." 25 July 1866. Morton to CSA, 26 March 1866.

804 See, James H. Charlestown, Mass. Coffee Pot. Fairman Rogers. No Report. Comm Disc 25 September 1867. Draft. See to CSA, 5 May 1866.

805 Shive, David. Philadelphia. Governor. Washington Jones, S. Lloyd Wiegand, Emile Geyelin, Robert H. Lamborn. The improvement in centrifugal governors consists in so suspending the arms carrying the heavy balls that they shall be free to move in a plane intermediate between tangential and radial to the circle of motion. Greater sensitiveness to slight changes of velocity and a more prompt action as a result can be secured by this new form of governor. 19 January 1867. JFI June 1867. Shive to CSA, 6 May 1866.

806 DeMorat, A. J. Philadelphia. Telegraph Cable. John F. Frazer. No Report. Comm Disc 19 January 1867. DeMorat to CSA, 14 May 1866.

807 Fletcher, Matthew. Jewell, E. (Applicant). Philadelphia. Rotary Engine. Coleman Sellers. No Report. Comm Disc 19 January 1867. Jewell to CSA 16 May 1866.

808 Krausch, Theodore. Philadelphia. Locomotive Pulling Bar. Washington Jones, Theodore Berger, J. Sellers Bancroft. The report includes a diagram of the arrangement of a pulling bar made stiff and attached by pins to vertical links (forward) and to the engine platform by an eyebolt. The plan has "many good qualities." A practical trial would be desirable to prove the efficiency of the arrangement." A brief discussion of earlier workers in this area is included. 24 March 1869. Bergner to Jones, 20 August 1868. Krausch to CSA, 16 June 1866.

809 Harrison, Joseph Jr. Philadelphia. Steam Boiler. Coleman Sellers, Henry Morton, John F. Frazer, John Agnew, John C. Cresson. Boilers of cast iron include a combination of hollow spheres. A series of experiments tested the boilers under extraordinarily severe use. The Comm "unhestitatingly approve and heartily recommend it to public favor" as being "perfectly safe" and of "great utility." 19 January 1867. JFI February 1867. Harrison to Cresson, 6 September 1866. Np with Illus attached to report.

810 Speakman, Thomas S. Camden, New Jersey. Lamp, Water Light. Henry Morton, Hector Orr, Lemuel J. Deal. The consumption of coal oil is not ably less in the lamp with water than without. Heat absorbed in the water is vaporized at the wick, reducing the amount of heat carried into the lamp. 27 November 1867. Speakman to Morton, 11 November 1867.

811 Speakman, Thomas S. Camden, New Jersey. Safety Valve. John Agnew, William G. Rhodes, Edward Longstreth. The connection of this spring safety valve to the water boiler would guard against accidents. 27 March 1867. Speakman to CSA, 25 November 1866.

812 Leffingwell, J. G. Newark, New Jersey. Gas Regulator. Henry Morton, Robert E. Rogers. An elastic, horizontal diaphragm rises or falls with the change in gas pressure. The method is "efficient, economical, and durable." 19 January 1867. Gould to CSA, 27 November 1866. Sturges to Morton, 27 June 1869.

813 Coates, William B. Philadelphia. Coupling Pin. Robert H. Lamborn, James S. Whitney, S. W. Roberts. Mud or ice could collect on the locking contrivance causing it not to function and the cost of making the pin would operate seriously against its general use. These opinions were supported and reaffirmed in a second report of 24 May 1867. 25 September 1867. Descr. Illus. Dup of Report. 2 - Coates to CSA, 10 December 1866; Hamilton to Lamborn, 8 April 1867. Dup of Report on a Pennsylvania Steel Company form.

814 Gregg, Isaac. Philadelphia. Brick Press. Cyrus Chambers. No Report. Comm Disc 25 September 1869. Gregg to CSA, 20 December 1866.

815 Speakman, Thomas S. Camden, New Jersey. Water Gauge, Ship. Washington Jones. No Report. Comm Disc 22 April 1868. Speakman to CSA, 12 January 1867.

816 Page, John H. Philadelphia. Spark and Dust Arrester. Robert H. Lamborn. No Report. Comm Disc 25 September 1869. Martin to CSA, 5 February 1867.

817 Wilson, E. Philadelphia. Heater, Exhausting and Ventilating. Henry Morton, Coleman Sellers, Jesse Thorn. Air is brought into direct contact with the heated surfaces of the fire cylinder. The air to be heated is first withdrawn from the rooms which were to be made warm. The Comm doubts the end could be secured since a slow or economical fire cannot be maintained. 25 September 1867. Wilson to CSA, 12 April 1867. Dup.

818 Kitson, George L. Philadelphia. Valve, Alarm and Check. W. Barnet LeVan. No Report. Comm Disc 25 September 1869. Kitson to CSA, 16 June 1867.

819 Hock and Fitz. Beebe, George E. (Agent). Philadelphia. Foot Warmer. Hector Orr, James H. Cresson, James Lukens. A wooden box encloses a tin watertight rectangular water container which is removable and refillable. This arrangement is neat, convenient, and economical. 23 October 1867. Descr, Beebe, 14 August 1867. Beebe to CSA, 21 August 1867.

820 Fenton, H. Tyndale. Philadelphia. Steam Boiler. Washington Jones, John Agnew, Jacob B. Haupt. An upright cylinder receives a cylindrical fire box with water around and above it. About this is connected the central flue or combustion chamber. The apparatus is difficult to clean and the proposal to weaken part of the circulatory tubes to yield to overpressure cannot be carried out in practice. The report contains a discussion of the general use of combustion chambers in steamboilers. 23 January 1868. Fenton to Boyle to CSA, 17 September 1867. 3 Illus. Fenton to Jones, 9 December 1867. Fenton to CSA, 21 January 1868. Descr. Fenton 17 September 1867. Fenton cites several authorities on steam boilers to support his invention.

821 Atherton, Peter. Philadelphia. Steam Boiler. Washington Jones, Jacob B. Haupt, John Agnew. The apparatus seems to possess no new advantages and the plan of using cast iron for some part of the flues does not seem advisable. 23 January 1868. Fritton to Haupt, 8 November 1867.

822 Zimmerman. Charles D. Macqueen & Co. (Applicant). Philadelphia. Steam Cooking Apparatus. Robert F. Fairthorne, Charles Bullock, John C. Brown. This apparatus possesses a superiority over the ordinary cooking boilers in that the articles cooked in the upper two or three divisions do not come in contact with any condensing surface. 25 March 1868. Macqueen to CSA, 3 October 1867. Dup of the Report.

832 Fairbanks & Ewing. Philadelphia. Scales, Furnace. Robert H. Lamborn, Charles C. Savery, Percival Roberts. This scale consists of the usual series of levers attached to a compound beam, containing movable graduated steel bars as "weights." These beams can be used singley or in combination. This modification is recommended for convenience, permanence, accuracy, and comparative economy. 24 March 1869. Fairbanks & Ewing to CSA, 16 October 1867.

824 Gilbert, Joseph. Philadelphia. Fireproof Ceiling. J. Vaughan Merrick, Thomas S. Stewart, Edwin F. Durang. The substitution of corrugated sheet iron covered with cement for brick or concrete arches, or for flatsheets or iron covered with cement, appears to reduce the weight of the floor, save time in the execution of the work and in scaffolding, and saves in story height owing to the reduced thickness of the arch. The Comm believes its fireproof qualities to be equal to other methods commonly employed. 26 February 1868. Gilbert to CSA, 15 November 1867. 2 Dup of the Report.

825 Oakford, Isaac R. Philadelphia. Steam Boiler. Washington Jones, John Agnew, Jacob B. Haupt. The location of the circulation pipes next to the furnace and the manner of attaching the upper ends of tubes to the stream connections appears objectionable. 22 April 1868. Oakford to CSA, 16 November 1867. Descr with Illus- Oakford. Dup of Report.

826 Oat, Alfred A. Lock, Permutation. No Report. Comm Disc, 25 November 1868. Folder Missing.

827 Riedd. Philadelphia. Car Spring. J. H. Redfield. No Report. Comm Disc, 22 September 1869, Letter, Sachse to CSA, 7 December 1867.

828 Merrick, Samuel V. Chm of Special Comm. Philadelphia City Councils. (Applicant). Paving Highways. No Report. Comm appnt 26 February 1868. Folder Missing.

829 Richardson, J. H. Philadelphia. Signal Lantern. Hector Orr, Albert R. Leeds. The lantern is intended for marine service and for use along railroad tracks. Its construction is "simple and philosophical." Recommended for the Scott's Legacy Medal and premium. 22 April 1868. Richardson to CSA, 27 February 1868. Hamilton to Richardson, 23 November 1868. 2 Cresson to Board of Managers of FI, May 1868 and nd (March 10 1869).

830 Neynaber, Alfred F. W. Philadelphia. Steam Boiler Water Indicator. Washington Jones, John Shinn, Hector Orr. This water float indicator is equal to any of its class. The Comm cannot speak as to its greater reliability, believing that when incompetent persons are placed in attendance of an automatic indicator they are apt to neglect the conditions within the vessel and "perhaps cause what they are intended to avert." 22 July 1868. Neynaber to CSA, 27 May 1868. Neynaber to CSA, 14 July 1868 (in support of Indicator). Adv with Illus.

831 Montgomery, R. Steam Boiler. Washington Jones. No Report. Comm Disc, 23 March 1870. Ltr, Montgomery to CSA, 18 July 1868.

832 Warner, W. Y. Railroad Car Coupling. Joseph M. Wilson, Henry Pettit. This improvement will allow cars to connect themselves if brought together without any attendance. This saves one half the labor usually required in the management of trains, yet can only be used in cars that have a common platform height. 28 April 1869. Gibson to CSA, 1 October 1868.

833 Russell, Ephraim. Waynesburg, Pennsylvania. Railroad Car Coupling. Joseph Wilson. No Report. Comm Disc, 27 April 1870. Russell to CSA, 19 November 1868. Russell to Actuary of FI, 22 March 1870.

834 Lynde, J. D. Philadelphia. Steam Boiler Water Indicator. Washington Jones, Edward Longstreth, J. Sellers Bancroft. This low water alarm is "as good as any known", yet automatic indicators of this type are "of doubtful utility" as they are "productive of negligency." 23 March 1870. Lynde to CSA, 13 November 1868. 3 Pr Adv (with Illus).

835 Ludlow, H. G. Stop Valve, Sliding. Coleman Sellers. No Report. Comm Disc, 27 April 1870. White to CSA, 24 December 1868.

836 Breed, Z. Philadelphia. Fire Extinguisher. Coleman Sellers, Theodore D. Rand, Henry Morton. This iron vessel efficiently applies water to the burning material. 22 June 1870. Breed to CSA, 5 January 1868.

837 Allen, J. G. Philadelphia. Spirit Meter. Charles M. Cresson. No Report. Comm Disc 27 April 1870. Allen to CSA, 12 January 1869.

838 Savery, Charles C. Philadelphia. Water Cooler. Edward F. Moody, Samuel B. Howell. This combination "Ice-Water Cooler" and Refrigerator, lined with "Porcelain Metal," is a marked advance upon the old zinc safes. 24 March 1869. Savery to CSA, Descr and Illus. nd.

839 Walter, Thomas. Philadelphia. Street Car Broom. J. Sellers Bancroft. No Report. Comm Disc 27 April 1870. Walter to CSA, 15 March 1869.

840 Sibbald, George. Preston, Caroline County, Maryland. Steam Engine, Caloric. Washington Jones, No Report. Comm Disc 27 April 1870. Sibbald to CSA, 31 March 1869.

841 Shaw, Thomas. League Island, Pennsylvania. Gunpowder Pile Driver. John C. Cresson, Edward Longstreth, John Agnew. The action of a model was in all respects satisfactory. Scott Legacy Medal recommended. 20 November 1871. Shaw to CSA, 15 April 1869. Cresson to Hamilton, 29 March 1871. Cresson to Hamilton, 11 April 1871. Record of pile driving by ordinary process. Record of pile driving by Shaw's patent gunpowder process.

842 Eddowes, A. K. Philadelphia. Plate Glass. Jacob B. Haupt, Jesse Thorn. The plate glass rests against a strip of cork (attached to the rabbit of the sash) and is fixed in place by molding grooved out in the side next to the glass. An elastic substance in a cylindrical form placed in the grooves allows expansion and contraction of the plate. 20 February 1871. Eddows to CSA, 21 October 1869.

843 LeChatelier, L. Paris, France. Gowen, Franklin B. (Applicant). Philadelphia. Counter Pressure Steam. Coleman Sellers. No Report. Comm Disc 23 October 1871. Gowen to Merrick, 3 March 1870. Merrick to Sellers, 5 March 1870. Note on Subcommittee, Cresson, 23 March 1870.

844 Williams, Stephen. Philadelphia. Mangles. John Agnew. No Report. Comm Disc 16 January 1871. Williams to CSA, 20 April 1870.

845 Cumming, James. Jersey City, New Jersey. Gauge Cock. Henry W. Bartol, William A. Cheney, R. Eglesfeld Griffin. The essential principles are found in CSA 42. The improvements claimed are "disadvantagious." 22 June 1870. Cummings to CSA, 26 April 1870. Descr with Illus - Cumming.

846 Harris and Company. Philadelphia. Steam Pipes Casing Covering. Washington Jones, John H. Cooper, Edwin Smith. Plaster of Paris mainly with charcoal and a fibrous binding material are molded into half cylinders. It is readily applied and can be removed without injury. 28 September 1870. Harris & Co. to CSA, 8 June 1870.

847 Cansler, William W. Philadelphia. Gas Burner. B. Howard Rand, Charles M. Cresson. This invention to heat the gas before it is consumed did not produce an increase of light unless a corresponding increase of gas has been consumed. 17 October 1870. Cansler to CSA, 7 July 1870. Hamilton to Rand, 9 August 1870, on Comm.

848 Allen, J. G. Philadelphia. Railroad Car Heating and Ventilating. William H. Wahl, Charles Bullock, John H. Cooper. Supplying air from the bottom of the car is advantageous. 20 March 1871. Allen to CSA, 14 September 1870.

849 Speakman, Thomas S. Camden, New Jersey. Lubricator. Hector Orr, William H. Wahl, Lemuel J. Deal. With a "moderate share of attention" this invention will prove well-adapted for its purpose. 20 February 1871. Ltr, Speakman to CSA, 17 November 1870.

850 Speakman, Thomas S. Camden, New Jersey. Ventilator. Hector Orr, William H. Wahl, John Agnew, Lemuel J. Deal. This galvanized iron structure appears likely to modify any ordinary current of air and can hardly fail to be effective when attached to bodies in motion. 20 February 1871. Speakman to CSA, 17 November 1870.

851 Haskell, Ebenezer. Bits and Braces. J. B. Haupt, John McClure, Jesse Thorn. This is no simpler than the ordinary square socket brace yet the advantages are numerous. 26 June 1871. Note on approved members of the Subcommittee.

852 Worrell, Thomas B. Lock. Coleman Sellers, John Goehring. The inventor claims this cannot be picked. The Comm disagrees. 17 April 1871. Worrell to CSA, 30 December 1870.

853 Slocomb, S. A. Philadelphia. Cleaner, Grain and Fruit. J. B. Burleigh, John Wise, Jacob B. Haupt. Many spiral brushes move the articles to be cleaned in a constant rotary motion. This new application of a long known principle may tend to secure additional cleanliness, confort, and health. 17 May 1871. Slocomb to CSA, 31 January 1871.

854 Burleigh, J. B. Philadelphia. Lightning Rod. John Wise, Hector Orr, D. S. Holman. This invention moves in the right direction but the reception and safe dispersion of a powerful natural discharge would be more conclusive as to its value than the most elaborate discussion in advance. 17 May 1871. Burleigh to CSA, 20 February 1870.

855 Tilghman, B. C. Philadelphia. Sand Blast. Coleman Sellers, Samuel Sartain, Charles M. Cresson, William Struthers. This invention's effects would be hard to imitate by any other known mechanical process. Cresson Medal. Copy of JFI article included in Report. 26 June 1871. JFI, March 1871. Tilghman to CSA, 23 February 1871.

856 Witmer, Tobias. Eggertsville, New York. Fire Escapes. William Barnet LeVan, Jacob B. Haupt, Thomas Shaw, Charles C. Savery. A series of ladders permanently mounted to a carriage are raised by a new system of extension. 18 Spetmeber 1871. Witmer to CSA, 4 March 1871.

857 Holmes, Edgar. Frear Artificial Stone. F. A. Genth. No Report. Comm Disc 23 October 1871. Holmes to CSA, 5 March 1871.

858 Sibbald, George. East New Market, Dorchester County, Maryland. Steam Engine. Hector Orr, Washington Jones. This intricate engine will not allow a proper judgment without a carefully finished working model. 20 January 1873. 3 Sibbald to CSA: 9 March 1871 - 19 April 1873. Descr 20 March 1871. Sibbald to Holman with Descr and Illus, 23 September 1871. 2 Sibbald to Orr: 9-12 November 1872. Sibbald to Cresson, 14 June 1873. Sibbald to Holman 14 June 1873. Orr to Sibbald, 31 October 1872. 2 Sibbald to Orr to Jones: 29 April - 2 June 1873.

859 Pettit, William. Philadelphia. Truck, Railway Car. Charles M. Cresson, Edward Longstreth, B. H. Bartol. Moving the center pin behind the center of the truck diminishes the shock of entering or leaving a curve and increases the safety of railway travel. 16 September 1872. Pettit to CSA, 27 March 1871.

860 Haupt, Jacob B. Philadelphia. Brick Machine. Edward Longstreth. No Report. Comm Disc 19 May 1873. Haupt to Cresson, 1 May 1871. Wahl to Cresson, nd.

861 Worrell, Thomas B. Philadelphia. Bank Lock. No Report. Comm Disc 15 April 1872.

862 Loiseau, E. F. Fuel, Artificial. Charles M. Cresson, William H. Wahl, John Wise. This is well adapted for use when great intensity of combustion is not desired. The method of production is ingenious. 18 December 1871. Loiseau to CSA, 25 April 1871.

863 Heller and Brightly. Philadelphia. Transit Instrument. John Trautwine, Charles S. Close, Lewis M. Haupt, Samuel L. Smedley, Elwood Morris. The Comm is highly pleased with the improvements found in this instrument. To solve all doubts, letters were addressed to 2 engineers who had used it daily for 6 months. The answers were "satisfactory in the highest degree". 18 December 1871. Heller and Brightly to CSA, 20 October 1871. Cresson to Knight, 12 January 1875. Heller and Brightly to Board of Managers of FI, with T. 26 January 1875.

864 Lawford, J. M. Philadelphia. Mineral Wool. William H. Wahl, Edward Longstreth, John H. Cooper, Edwin Smith. This material is formed by jets of steam escaping through liquid slag. It is well adapted to serve as an incombustible lining or protection to retain or exclude heat. 15 April 1872. Lawford to CSA, 17 November 1871.

865 Worrell, Thomas B. Philadelphia. Locks. W. F. Durfee, Luther L. Cheney, John Goehring, W. P. Tatham. The lock is an ingenious mechanism, which, when in perfect order, would be very difficult to pick. Yet a light amount of violance can remove portions essential to its security. After a second examination, the Comm is still of the opinion it is not entitled to the commendation of the Institute. 15 April 1872. Worrell to CSA, 13 February 1872.

866 von Tagerr, C. G. Philadelphia. Paving. Jacob B. Haupt, Hector Orr, Henry B. Campbell. Pouring heated concrete into the interstices of the cobbles is praiseworthy, yet the upper portion of concrete would soon be cut out by the horses' shoes. Warrants actual trial on a limited space if cost is not extravagant. 20 May 1872. von Tagerr to CSA, 11 February 1872. von Tagerr to Cresson, 24 May 1872.

867 Braun, D. Martin. Cape Vincent, Jefferson County, New York. Aerial Navigation. John Wise, John Hoskins, Francis H. Richard. This consists of an oval or cigar-shaped float. The plan suggested is worthy of commendation. 19 July 1872. Braun to Wahl, 9 February 1872.

868 Sturgeon, William R. (Agent). Philadelphia. Water Closet, Wakefield Earth. Edward F. Moody, B. Howard Rand. The use of some such contrivance is imperatively demanded where water closets are not admissable. This plan causes the 'earth' to be placed in an even and smooth layer, a necessary and valuable improvement. 20 May 1872. Sturgeon to CSA, 29 February 1872.

869 Sturgeon, William R. (Agent). Philadelphia. Pump. Coleman Sellers. No Report. Comm appnt 18 March 1872.

870 Murden, Edgar O. Philadelphia. Basin, Fomenting. Isaac Morris. No Report. Comm appnt 18 March 1872. Murden to CSA, 29 February 1872.

871 Waggener, D. B. (Applicant). Philadelphia. Fire Extinguisher, Gardner. Theodore D. Rand, William H. Wahl. The principle of operation is identical with that of other extinguishers but the protection against corrosion from the materials employed gives this machine an advantage. 20 May 1872. Waggener to CSA, 18 January 1872.

872 Burson and Whitall, Henry. Philadelphia. Paddle Wheel. John C. Trautwine, Washington Jones, John W. Nystrom. Feathered paddle wheels are more complicated in construction than the ordinary fixed wheels but are attended by a gain of power. 17 June 1872. Whitall to CSA, 22 April 1872.

873 McClain, John A. Philadelphia. Swing. G. Morgan Eldridge, William B. Cooper, David Brooks. Using principles of mechanics, the swing, suspended from a frame, has a small lateral motion. The rider can increase or diminish his motion by the exercise of an almost inappreciable amount of force. Recommended as being adapted to the use of invalids and persons needing light exercise as well as of children. 19 July 1872. McClain to CSA, 1 May 1872. Illus.

874 Rowand, J. Randolph. Philadelphia. Railway Safety. Solomon W. Roberts, Edward H. Williams, Edward Longstreth, R. E. Rogers. Collapsing buffers holding broken anthracite coal are attached to each end of the car, preventing dangerous recoil after collision. The Comm does not think it will take the place of elastic buffers. 16 June 1873. 2 Rowand to CSA, 7 May 1872 - 31 May 1873.

875 Omentelar, Robert S. Philadelphia. Railway Cars, Ventilating and Constructing. P. Frazer. No Report. Comm Disc 16 June 1873.

876 McCull, William. Philadelphia. Window, Car. F. B. Miles. No Report. Comm Disc 16 June 1873. McCull to CSA, 2 May 1872.

877 Dyott, M. B. Philadelphia. Lamp, Street. Luther L. Cheney, John Wise. Superior to the ordinary street lamp for lighting, the tasteful design, moderate cost, and durability commend it for general street and doorway uses. 17 February 1873. Dyott to CSA, 1 June 1872.

878 Dual, A. Writing Machine. No Report. Folder Missing.

879 Burr, Richard. Philadelphia. Waterwheels. John W. Nystrom. No Report. Comm Disc 16 June 1873. Burr to CSA, 7 June 1872.

880 Gordon, George F. Philadelphia. Iron Inlet. Samuel S. Smedley, J. T. Lovegrove. Inlets should permit the descent of water and prevent the ascent of gas and the accumulation of filth in the inlet. This elbow-shaped cylinder does not. 20 April 1874. Gordon to CSA, 22 August 1872. Note from Cresson on Comm, 21 September 1872.

881 Shuster, I. Philadelphia. Paddle Wheel. John W. Nystrom. No Report. Comm appnt 17 February 1873. Shuster to CSA, 1 November 1872.

882 Toye, W. H. R. Philadelphia. Printing Press, Color. Hector Orr, Charles S. Close, Washington Jones, Cyprien Chabot. This printing machine built on the cylindrical principle and modified by using a flat printing form, seems able to print several different colors on one surface. The attempted improvement is desirable. 16 December 1872. Toye to CSA, 21 October 1872.

883 Getz, Joseph C. Philadelphia. Steam Boiler. William M. Henderson. No Report. Comm Disc 19 May 1873.

884 Westinghouse, George Jr. Pittsburgh. Railroad Air Brake. John H. Towne, Solomon W. Roberts, J. Sellers Bancroft, Charles M. Cresson. A steam engine on the locomotive operates an air pump. A line of pipes, hose, couplings, and automatically acting valves connect this to the brake cylinders located under each of the cars. The brakes are automatically applied on each car. A series of experiments demonstrated the extraordinary efficiency of this brake apparatus. Scott Medal. 16 March 1874. Westinghouse to CSA, 25 January 1873. Descr, Note on Scott Legacy, nd. 3 Westinghouse to Towne: 14 April - 7 December 1873. Bogaley, Secty, Westinghouse Co., to Towne, 11 March 1873. 3 telegrams, Westinghouse to Towne, 27 May 1873, 2 nd. 2 notes to Towne on Comm: 19 February - 5 March 1873. Westinghouse Air Brake Co. circular.

885 Wharton, William Jr. Philadelphia. Railroad Safety Switch. William F. Durfee, B. C. Tilghman, Coleman Sellers, Edward Longstreth, Theodore D. Rand, Charles M. Cresson, William H. Wahl. A useful improvement and simple in character. Its introduction would result in greatly increased safety. Scott Medal. 17 March 1873. Wharton to CSA, 23 January 1873.

886 Irwin, John H. Lantern. William H. Wahl, S. Lloyd Wiegand, Isaac Norris. When made in the proportions of the lantern exhibited, a clear, steady and reliable light is produced. When the supply of air is interrupted, as whenever it is overturned, the flame is extinguished, a feature of safety not found in other lanterns. Scott Medal. 21 April 1873. Irwin to CSA, 21 February 1873.

887 Baker, G. R. Philadelphia. Heating and Ventilating. Addison Hutton, James H. Cresson, Charles S. Close. The apparatus was examined in Model and as exemplified in the FI building. It is the best in efficiency and simplicity that has been brought to our notice. 16 February 1874. JFI, May 1873. Baker to CSA, 26 February 1873. Baker to CSA, 14 February (1874).

888 Gear, Alonz G. Boston. Stone Dressing. Washington Jones. No Report. Comm appnt 16 June 1873. Gear to CSA, 23 May 1873. London to Holman, 28 May 1873.

889 Gardner and Ranson. Claflen, H. M. (Applicant). Air Brake. John H. Towne. No Report. Comm Disc 17 August 1874. Claflen to CSA, 22 May 1873. Claflen to Cresson, 31 May 1873. Claflen to Holman, 20 November 1873.

890 Henderson, William M. Philadelphia. Railroad, Hydraulic Brake. John H. Cooper, Thomas Shaw, F. J. Lovegrove. The high speed of steam passenger trains, the inadequacy of the old brake arrangement, and the brakeman's not always being where he is needed combine to demand of our railroad companies the use of a more effectual means such as those which can be applied by the engineer as well as by the brakeman. 19 January 1874. JFI, February 1874. Henderson to CSA, 6 October 1873.

891 Richardson, Joseph H. Hardie, David (Applicant). Philadelphia. Chimney Cowl. W. Barnet LeVan, John Gardiner, Percy A. Sangwinetti. Its details are not of a character to replace those now in use. 16 February 1874. Hardie to CSA, 19 September 1873. Dup of Report, 16 March 1874.

892 Moore, George R. Philadelphia. Drain Head. William M. Henderson, Samuel Sartain, John Hall. It is well adapted and useful domestic article from a sanitary point of view. 15 December 1873. Moore to CSA, 17 September 1873. Pt.

893 Bounds, James. Philadelphia. Fireproof Tile. Thomas Stewart. No Report. Comm Disc 17 August 1874. Bounds to CSA, 13 October 1873.

894 Seymond, Charles. Propeller. John W. Nystrom, William A. Cheyney, William M. Henderson. This consists of loose blades free to revolve around arms stationary on the hub. Not based upon sound mechanical principles. 15 December 1873. Seymond to CSA, 27 October 1873. Illus.

895 Weigand S. Lloyd, Chm of Special Comm. Philadelphia. Report on Standardization of Screw Threads for Tubing. No Report. Comm Disc 2 February 1876. Wahl to Cresson, 29 October 1873.

896 Forster, A. D. Philadelphia. Gas Burner Damper Attachment. Charles M. Cresson, William H. Wahl. Experiments show that the damper afforded more candlelight per foot of gas. 19 January 1874. Forster to CSA, 31 October 1873.

897 Baldwin, Frank S. Philadelphia. Calculating Machine. Pliney E. Chase, John W. Nystrom. This is ingenious and valuable, an improvement upon the invention of Thomas. Scott Medal. 15 June 1874. Baldwin to CSA, 29 October 1873. Pt.

898 Close, Thomas J. Philadelphia. Car Seat, Reversible. J. B. Knight. No Report. Comm Disc 17 August 1874. Close to CSA, 22 November 1873. Copy: Knight to Jackson and Sharp Mfg. Co. and The Harlan and Holyswith Mfg. Co., 10 February 1874.

899 Langham, Henry. Philadelphia. Knitting Machine. Luther L. Cheney. No Report. Comm Disc 17 August 1874. Langham to CSA, 18 December 1873.

900 Evans, Thomas R. Philadelphia. Shoe-making. James H. Billington, W. H. Wevil. The leather underneath is comfortable to persons with tender insteps. A novel and useful invention. 16 March 1874. Evans to CSA, 8 December 1873.

901 Moseley, Thomas W. H. Philadelphia. Fireproof Construction. Charles S. Close. No Report. Comm Disc 3 September 1875. Moseley to CSA, 3 January 1874.

902 Kilgore, Damon Y. Philadelphia. Window Blind. Luther L. Cheney. No Report. Comm Disc 17 August 1874. Kilgore to CSA, 5 January 1874.

903 Bilgram, Hugo. Philadelphia. Expansion Gearing. S. Lloyd Wiegand, William Barnet LeVan, Theodore Bergner. Verbal Report. 20 April 1874. Bilgram to CSA, 16 March 1874.

904 Lee, Amos. Propellers. John C. Trautwine. No Report. Comm Disc, 21 December 1874. Lee to CSA, 27 February 1874. Albertson to Wahl, 16 March 1874.

905 Kay, W. D. Philadelphia. Carrier for Turning Cranks. Washington Jones, J. B. Knight, Thomas Shaw. This is adjustable and will no doubt occasionally prove handy but the Comm does not think it adaptable for general use in machine shops. 21 July 1874. Kay to CSA, 4 March 1874.

906 Barry, Job R. Philadelphia. Railway Car Heating and Ventilating. William H. Wahl, John H. Cooper. A small stove is placed in the space under the seat in the middle of the car between the wheels. A fan-blower distributes the warm air. Useful and meritorious. 18 May 1874. Barry to CSA, 7 March 1874. Illus.

907 Moore, George R. Philadelphia. Coupling. Solomon W. Roberts. No Report. Comm Disc 17 August 1874. Moore to CSA, 16 March 1874.

908 Bate, William S. Philadelphia. Faucet. John Canby, J. B. Knight, John J. Weaver. This faucet has a swinging barrel and two passages in the key, one for hot, and the other for cold water. By swinging the barrel, hot water, cold water, or a mixture will be discharged or the passages may be closed - no water. All swinging faucets leak after considerable use. This one is open to the same objection but is otherwise well adapted and of less cost. Report has Illus. 21 September 1874. Bate to CSA, 31 March 1874. Descr with Illus.

909 Close, Charles S. Chm of Special Comm. Philadelphia. Report on the Increased Steam Pressure Allowed by Law. Charles S. Close, F. J. Lovegrove, William Barnet LeVan, Charles M. Cresson. The amended Act of Congress (approved 17 December 1872) permits an increase from 110 pounds to 150 pounds of pressure per square inch upon steam boilers of 42" diameter and with plates 1/4 inch in thickness. The Comm recommends that FI ask Congress to rescind the amendment and re-enact the maximum pressure of 110 pounds per square inch. The FI had previously drafted legislation on steam boiler safety after conducting experiments on the strength of materials, and the causes and means of prevention of explosions, done at the Treasury Secretary's request, 1835-1836. A draft of a communication of Congress warned that increased pressure allowed by the amended act will in many instances produce accidents. 1 December 1875. Wahl to CSA, 22 February 1874.

910 Nystrom, John W., Chm of Special Comm. Philadelphia. Report on Terminology. John W. Nystrom, Fairman Rogers, J. Vaughan Merrick, John H. Towne. The great indistinctness of "dynamical terms" causes difficulty for persons engaged in the mechanic arts. It is highly desirable to determine the meaning of such terms, giving them definitions which will be generably acceptable throughout the scientific world. This work can best be accomplished by a national body of authority such as the Smithsonian Institution. The Comm recommends that the FI request the Smithsonian to consider the subject. Comm Disc 1 December 1875. See CSA 909, Wahl to CSA, 22 February 1874.

911 Smith, Harper M. Philadelphia. Steam Packing. William H. Wahl, William Barnet LeVan. Verbal Advisory Report. Comm Disc 20 April 1874. Smith to CSA, 8 April 1874. Wahl to CSA, 18 April 1874.

912 Wiegand, S. Lloyd. Philadelphia. Steam Boiler, Sectional. Edward Brown, William Barnet LeVan, William H. Wahl. A trial to six hours duration was made and the results given. The time was too short to give reliable results. 17 May 1875. Wiegand to CSA, 10 April 1874.

913 Pepper, Calvin. New York. Silicon Steel Manufacture. J. Blodgen Britton. No Report. Comm Disc 21 July 1874. Pepper to CSA, 6 April 1874. Britton to Cresson, 17 June 1874. Note, Cresson to Holman, nd.

914 Ash, John S. Bucks County, Pennsylvania. Pumps. William H. Wahl. No Report. Comm Disc 3 September 1875. Ash to CSA, 10 March 1874.

915 Smith, R. D. O. Washington, D. C. Ventilation. Robert Grimshaw. No Report. Comm Disc 18 January 1875. Smith to CSA, 5 June 1874. Adv.

916 Connery, James W. Philadelphia. Caulking Boilers. S. Lloyd Wiegand, F. J. Lovegrove, Washington Jones, William Bernet LeVan. A modified form of caulking tool produces a decided improvement in the finish, strength, and durability of the seams. 17 August 1874. Connery to CSA, 16 June 1874. Dup Report, 17 August 1874.

917 Alexander Brothers (Agents). Philadelphia. Steam Boiler, Sectional. William Barnet LeVan, John H. Cooper, Washington Jones, E. D. Leavall, Jr. The brick walls have cast iron plates to support the sections built into the side walls. Cast iron is not a safe and reliable material to use in constructing parts of steam boilers to be subjected to heat. With Illus, 1 December 1875. Alexander Brothers to CSA, 12 June 1874. Draft, 9 August 1875. Diagram.

918 Prunty, John F. Baltimore. Relief Valve. Thomas Shaw, Edward Brown, Alfred R. Roberts. This provides relief from pressure caused by the stoppage of the current from steam Fire Engines or other sources of pressure. The Comm is fully convinced of the merit and general unity of this. Scott Medal. 15 February 1875. Adv. T from President of Howard Fire Insurance Co. of Blatimore, 27 August 1874, 3 copies. Illus. Blake Hose Association envelope.

919 Lacey, Griffin S. Philadelphia. Gas Regulator. William Barnet LeVan, S. Lloyd Wiegand, William H. Wahl. This efficiently regulates the flow of gas by automatically closing a valve suspended from a flexible diaphragm. The Comm would suggest the substitution of some other material other than copper. Iron would be better suited besides being cheaper. 18 January 1875. Lacey to CSA, 7 August 1874.

920 Riddell, Robert. Philadelphia. Mechanical Construction by Projection. Lewis M. Haupt, John W. Nystrom, Pliny E. Chase. The idea and plan of this book is a good one but the language is ambiguous. By omitting reasons and general principles, the author makes the artisan a mere machine, relying on a book for a special solution for each case. 16 November 1874. Riddell to CSA, 28 July 1874.

921 Smith, Harper M. Philadelphia. Iron Welding. Edward Longstreth. No Report. Comm Disc 3 September 1875. Smith to CSA, 28 July 1874.

922 Brach, J. Philadelphia. Water Cooler and Filter. William H. Wahl, S. Lloyd Wiegand. Suspending the ice above the water allows the melted ice to abundantly cool the water while providing a notable economy of ice. 15 February 1875. Brach to CSA, 14 July 1874. Pt.

923 Riehle Brothers. Philadelphia. Crane Beam. Washington Jones. No Report. Comm Disc 3 September 1875. Riehle Brothers to CSA, 28 August 1874.

924 Riehle Brothers. Philadelphia. Testing Machine. Washington Jones. No Report. Comm Disc 3 September 1875. Riehle Brothers to CSA, 28 August 1874.

925 Barr (Inventor). Richard and Pike (Applicant). Steam Trap. Washington Jones, John Canby, William H. Wahl. When the curbed brass tools are cooled, they contract. Well designed. 15 March 1875. Richards and Pike to CSA, 21 September 1874. Pt.

926 Uniform Ststem of Railroad Signals. Hector Orr, J. P. Lesley, H. P. M. Birkinbine, T. Shaw, E. Longstreth. Comm Appnt, 19 October 1874. Filder Missing.

927 Fiss, Banes, Erben & Co. (Manufacturers). Philadelphia. Referred by Judges, 1874 Exhibition. Yarns. Thomas Finley, Joseph Whitecar, Samuel R. McDowell. Fine yarns have never before been made successfully in the United States. While there is no direct claim of invention, there is great improvement. Report adopted 15 March 1875 with exception of Comm's recommendation for award of Cresson Medal. Finley and McDowell, Judges - Class 13, to CSA (November 1874), with note, Tatham. Fiss, Banes, Erben & Co. to CSA, 31 December 1874.

928 Fairbanks & Ewing. Philadelphia. Track Scales. J. Sellers Bancroft. No Report. Comm appnt, 16 November 1874. Fairbanks and Ewing to Cresson, 12 November 1874.

929 Baker, John G. Philadelphia. Pressure Blower. S. Lloyd Wiegand, William Barnet LeVan, Hugo Bilgram, F. J. Lovegrove. Slight loss by leakage from points not being tight is compensated by freedom from friction. The workmanship is excellent, the performance of the machine under test in every respect satisfactory. Scott Medal. 15 March 1875. Baker to CSA, 16 November 1874, with Pt. Report on Objections of Awarding Scott Legacy Medal and Premium to Baker. C. Chabot, Morgan Eldridge, Lewis M. Haupt. Comm considered verbal and written (attached - 13 including 4 Pt) arguments. Objections have not been sustained. 7 July 1875.

930 Thurston, R. H. Referred by Judges, 1874 Exhibition. Bank Lock and Testing Machine. Washington Jones. No Report. Comm Disc 3 September 1875. Tatham, Chm, Comm on Exhibitions, to Cresson, 12 November 1874. (See CSA 939 for Comm on Thurston's Testing Machine).

931 Tatham, Benjamin and Brittin, John W. Referred by Judges, 1874 Exhibition. Elevator Safety Catch. D. K. Miller, Henry R. Heyl, Hugo Bilgram, Henry Cartwright. Two metal arms attached underneath and extended beyond the platform fit into zig-zag grooves in the side guides of the elevator. When descending velocity exceeds a certain limit, impact with the sides of the grooves retards the lateral motion of the arms, causing these to lock and stop the platform. Superior safety. Scott Medal. 3 November 1875. Tatham, Chm, Comm on Exhibitions to Cresson, 14 November 1874. Pt.

932 Kerigan, Michael J., Faxon, Edwin, and Emerson, William. Table, Adjustable. Cyprian Chabot, C. B. Walker, Lemuel Justice. This sewing machine table tilts from a horizontal to an inclined position, permitting the operator to change his posture. This relief from the fatigue of being in a constant position may be of benefit but the necessary tilting of the table is objectionable to a large share of the work generally done on sewing machines. 15 February 1875. Faxon (Adjustable Table Co,) to CSA, 16 November 1874. Pt.

933 Bennor, Joseph. Philadelphia. Mechanical Movements. William M. Henderson, John Hall, Hugo Bilgram. This is intended as a substitute for belting or gearing but in Comm opinion is practically inferior, owing to excessive friction and loss of power by indirection. Could be employed in small machinery owing to its possible compactness, where the introduction of belting or gearing would be impractical. 2 June 1875. Bennor to CSA, 18 November 1874. Pt.

934 Tyson, Charles. Philadelphia. Shoe Machine to Unite Soles to Uppers. Cyprian Chabot, Luther L. Cheney, John Goehring. This can be operated by any person of ordinary intellect; the several operations being performed automatically with great certainty and accuracy. It reduces the cost of manufacturing shoes and boots. Scott Medal. 17 May 1875. Tyson to CSA, 18 November 1875. Pt.

935 American Meter Co. Referred by Judges, 1874 Exhibition. Jet Photometer. George Brinton Phillips, Theo D. Rand, George A. Koenig. Comm is unable to conduct the research needed to judge its ability to measure light. Tests on the measuring of the illuminating quality of gas, comparing it to the "Sugg" and Standard Bar Photometer, indicated the jet photometer's readings are more delicate than the others. Practical and reliable. 3 November 1875. Tatham, Chm Comm on Exhibitions (1874) to Cresson, 18 November 1874.

936 Zentmayer, Joseph. Referred by Judges, 1874 Exhibition. Microscope. John Gibbons Hunt, George R. Moorehouse, E. Otis Kendall, B. Howard Rand. Marked superiority of general workmanship and finish, securing greater precision and durability. Several improvements including the introduction of the circular rotating concentric stage. 18 January 1875. Tatham, Chm, Comm on Exhibitions to Cresson, 20 November 1874. Cresson to Board of Managers of FI, 6 February 1875.

937 Fries, J. T. & Co. Referred by Judges, 1874 Exhibition. Railroad Relay Switch and Sounder. W. J. Phillips, William H. Sawyer. There is nothing new in the construction or pattern. 6 October 1875. Tatham, Chm, CE, to Cresson, 21 November 1875.

938 Reed, Thomas L. and Phillips, Eugene F. Providence, Rhode Island. Referred by Judges, 1874 Exhibition. Insulation for Wires. Cyprien Chabot. No Report. Comm appnt 21 November 1874. Tatham, Chm, CE, to Cresson, 21 November 1874. Pt. Chabot and Wiegand, 10 August 1875.

939 Thurston. Referred by Judges, 1874 Exhibition. Testing Machine. Washington Jones. No Report. Comm appnt 21 November 1874. Tatham, Chm, CE, to Cresson, 21 November 1874.

940 Shank, Thomas M. Referred by Board of Managers. Water Meter. Washington Jones. Comm appnt 25 November 1874. Tatham to Cresson, 25 November 1874, with table of observations. Shank to Judges on Pumps and Hydraulic Machinery, FI Exhibition, 14 November 1872, with data and Pt Illus. Jones, 5 February 1875.

941 Morton, Joseph W. Sharon Hill, Delaware County, Pennsylvania. Flying Machine. John Wise, Hector Orr. Mathematical premises are correct and the inferences assumed are logical. This warrants a practical test. Confidential Report. 3 September 1875. Morton to CSA, 9 November 1874.

942 Chase, Pliny E. Philadelphia. "Velocity of Primitive Undulation" (Paper). No Report. Date of Application, 12 November 1874.

943 Chambers, C. Philadelphia. Referred by Judges, 1874 Exhibition. Book Folding and Pasting Machine. Hector Orr, Washington Jones. Small actual force is applied, but there is great exactness. Amended to award Cresson Medal, 15 March 1875. Tatham, Chm Comm on Exhibitions (1874) to Cresson, 12 November 1874. Note to CSA, nd.

944 Goodes, Ebenezer A. Philadelphia. Sewing Machine. Luther L. Cheney, Joseph Bennor. This machine can sew with two or more needles attached to the needle-bar if desired, and can do overseaming and ornamental stitches. The "drop-feed" method is used. 2 June 1875. Goodes to CSA, 5 December 1874. Pt.

945 Blake, Grimshaw, Robert (Applicant). Philadelphia. Hydraulic Hose. Hugo Bilgram. No Report. Comm Disc 2 February 1876. Grimshaw to CSA, 10 December 1874.

946 McBride, Thomas. Philadelphia. Hydraulic Brake. John H. Cooper. No Report. Comm Disc 3 September 1875. McBride to CSA, 12 December 1874. Pt. Descr, Pr.

947 Edgar, John. Macpherson, A. N. (Applicant). New Bloomfield, Pennsylvania. Steam Engine Crank. William M. Henderson, William Barnet LeVan, Otto Suthy. The connecting rod end describes an ellipse instead of a circle. The idea is very old. 6 October 1875. Edgar to Macpherson, 5 October 1874, with Descr. Macpherson to Sellers, 18 November 1874. Macpherson to Edgar, nd.

948 Clark and Semmer. Roger, Thomas J. (Applicant). Philadelphia. Belting. S. Lloyd Wiegand, J. B. Knight, Cyrus Chambers, Jr., William Barnet LeVan. Two layers of leather cemented upon a web of canvas and riveted with copper rivets has a durability surpassing other kinds. Scott Medal. 15 February 1875. Rorer to CSA, 14 December 1874. Chew to Townsend, 5 August 1874 with ltr Gloster Mfg. Co. to Chew, 4 August 1874. Draper to Alexander Brothers, 21 July 1875. (Sketches of belt 15 February 1875).

949 Machette, E. V. Philadelphia. Flour and Buckwheat, Self-Raising. No Report. Comm not appnt. Machette to CSA, 12 December 1874. 2 copies - Notarized Statement, Seltzer, 5 January 1875, with Judges' Report, American Institute, 30 December 1874.

950 Grimshaw, Robert. Philadelphia. Fire Hydrant-Lamp Post. Luther L. Cheney, S. Lloyd Wiegand. A stop cock with the axis of the plug eccentric to the axial line of the tube combines a lamp post and street lantern for promptly extinguishing fires as well as avoiding multiplication of obstructions in the highways of cities. 2 June 1875. Grimshaw to CSA, 16 December 1874. Illus.

951 Hopkins, William P. Lawrence, Massachusetts. Lathes, Gear Cutting Attachment and Work Holder. Cyprien Chabot, Luther L. Cheney, Charles E. Ronaldson. Ingenious and very useful additions for a machine shop and as a substitute for more expensive machines. 17 May 1875. Hopkins to CSA, 18 December 1874. Adv listing the awards received from Maryland Institute, Buffalo Exhibitions, American Institute, New Hampshire State Fair, Massachusetts Charitable Mechanics Association.

952 Wilkinson, C. F. and Co. Lattimer, Pennsylvania. Railroad Car Coupling. Thomas Shaw. No Report. Comm Disc 3 September 1875. Wilkinson to CSA, 15 December 1874.

953 Eldridge, G. Morgan. Stove Damper. Benjamin M. Feltwell, Thomas S. Stewart, Charles Williams. A balance knob adjusts spontaneously to an increase in pressure. Eldridge has only modified an earlier invention; see writings of Dr. Neil Arnott and Robert Ritchie, 5 January 1876. Eldridge to CSA, 21 December 1874. Descr.

954 Walker, R. L. Hollingsworth, Z. T. (Agent). Philadelphia. Furnace. S. Lloyd Wiegand, Cyprien Chabot, T. T. Woodruff, L. George Franck. A series of hollow castings with corrugations in the vertical sides with horizontal flues is an economical method of augmenting the

954 (continued) heat-absorbing and steam-generating surfaces of steam boilers. Descr appended; also results of tests made (tables, signed by W. Barnet LeVan). 17 May 1875. Hollingsworth to CSA, 22 December 1874. Adv (3 pages) with Illus, T and seal of Massachusetts Charitable Mechanics Association.

955 Goodwin, William W. Philadelphia. Photometer. George Brinton Phillips, Theo D. Rand, George A. Koenig. Jet photometer has an indicator of a candle power scale. It differs from the Low and Lugg instrument in having the chart transferred to the dial for accurately ascertaining the illuminating quality of gas. 5 July 1876. Goodwin and Co. to CSA, 24 December 1874. Report before amended.

956 Powers and Weightman. Referred by Judges, 1874 Exhibition. Philadelphia. Drug Manufacturing. Charles Bullock, F. A. Genth, James C. Booth, Robert Bridges, George F. Baker. The display of the cheaper alkaloids derived from Cinchona Bark was the largest and finest ever exhibited either at home or abroad. These afford a (some medical authorities say inferior) substitute for the Alkaloid Quinia. Citric Acid manufacture is a new industry here; the manufacture of alkaloids of Cinchona Bark shows ingenuity and skill. Cresson Medal. 19 April 1875. Recommendation from Comm of Judges (1874 Exhibition, Class 15) to CSA, nd, with forwarding note. 8 January 1875 and recommendation from Board of Managers. Morris, 11 January 1875. List of Comm approved by Sellers, 21 February 1875.

957 Hutchins and Mabbitt. Philadelphia and Camden, New Jersey. Chair, Rocking. Luther L. Cheney, James B. Knight. The chair seat is supported by a cross bar extending from side to side, entering sockets fastened to the underside of the seat. Scott Medal. 15 March 1875. Hutchins and Mabbitt to CSA, 14 January 1875. Pt.

958 Bullock, Tatham, William P. (Applicant). Printing Press. Hector Orr, Charles S. Close, Cyrus Chambers, Jr., Luther L. Cheney. Its exact register and clear impression make it capable of book work. It represents "ingenuity directed to a noble purpose." Cresson Medal. 15 March 1875. Tatham to Cresson, 13 January 1875.

959 Poole, J. Morton and Co. Tatham, William P. (Applicant). Wilmington, Delaware. Rollers, Grinding Calendar. Hector Orr, Washington Jones. This has modified independent action of two sets of slide-rests. Scott Medal. 15 March 1875. See CSA 943, Tatham to Cresson, 12 November 1874.

960 Rankins, Andrew. Philadelphia. Lock, Master Key Unpickable. Luther L. Cheney, D. K. Miller, J. Woodruff, J. Sellers Bancroft, D. E. Rice. A tumbler lock, operated by a winged key, is simple in construction but not absolutely unpickable. 2 June 1875. (For "objections" see Minute Book III, p. 65-67, 71-72). Rankins to CSA with Descr, 22 July 1875.

961 Goodyear, Robert Burns. Wilmington, Delaware. Shuttle Box Operating Mechanism. H. F. West, Luther L. Cheney, Barton H. Jenks. Its object is to adjust the drop-box of looms for weaving checks or ginghams, increasing the speed of the loom. Scott Medal. 6 October 1875. Goodyear to CSA, 19 January 1875. Pt.

962 Roots, P. H. and F. M. Potter, P. J. and Hoffman, John W., (Agents). Connersville, Indiana. Pressure Blower, Rotary. S. Lloyd Wiegand, William Barnet LeVan, Hugo Bilgram. The first report (18 January 1875) was returned for further consideration (see Booklet). Two prior inventions with two revolving pistons were very expensive and impermanent. The Roots have systematized and reduced to "practicable perfection at moderate cost" a blower still working after several years. 7 July 1875. Potter and Hoffman to CSA, 8 December 1874. First report with notes, 18 January 1875. Potter and Hoffman to Holman, 16 December 1874 on Potter and Hoffman Railway Engineers and Machinists Supplies paper. Booklet with Review of CSA 962 presented by Hoffman, 19 April 1875.

963 Combs, A. Philadelphia. Lamp, Safety. Coleman Sellers, N. B. Dyott. This metallic lamp is for household use and has no new principle or adaptation. 4 August 1875. Combs to CSA with Pr Descr from A. Combs & Son, 2 February 1875.

964 Lewis, Samuel T. Philadelphia. Steam Piston. Hugo Bilgram. No Report. Advisory Comm Appnt 8 May 1875, Lewis to CSA, 2 February 1875.

965 Hall, Thomas S. Railway Signal, Automatic Electric. L. George Franck. No Report. Comm Disc 1 December 1875. Hall to CSA, 18 February 1875.

966 Stevenson, William B. Philadelphia. Drawing Board. Lewis M. Haupt, Luther L. Cheney, Henry R. Heyl. This simple device will hold a T-square firmly in position and will save time and prevent accidents. 1 December 1875. Stevenson to CSA, 25 March 1875.

967 Wale, George & Co. Lantern, The College. George F. Barker, Charles K. Mills, Charles Bullock. This is "the best lantern of high grade...for sale in this country." Scott Medal. 7 July 1875. Wale & Co. to CSA, 30 March 1875. Pr. Illus.

968 Fitts, George W. Philadelphia. Steam Road Engine. Theodore Bergner, William H. Towne, Hugo Bilgram, Alfred R. Roberts. The traction wheel is capable of very effective application for drawing heavy loads over common roads. This road steamer is deemed capable of much improvement. 7 July 1875. Fitts to CSA, 2 April 1875. 5 Pt.

969 Bonwill, W. G. A. Philadelphia. Dental Mallet, Electro-Magnetic. Theodore D. Rand, William H. Walmsley, Charles B. Dudley. Bonwill is "the first if not the only one to produce a satisfactory instrument, working with more ease to the patient and less difficulty to the operator." Cresson Medal, 1 December 1875. Bonwill to CSA, 8 April 1875.

970 Hely, Henry R. Tatham, William P. (Applicant). Referred to CSA by Judges. Philadelphia. Boxes, Wire Fastened Paper. Hector Orr, Joseph E. Hoover, Alexander Purves. A single piece of paper is shaped, then its edges are fastened with fine wire stapled instead of paste. Scott Medal. 17 May 1875. Tatham to CSA, 8 April 1875.

971 Ellis, John. Fisher, S. Horner (Agent). Lynn, Massachusetts. Gas Burner. William Helme, G. Morgan Eldridge, John J. Weaver. Unable to find any advantage in this one over the great variety of burners on the market. 2 June 1875. Fisher to CSA, 8 April 1875. Pt.

972 Davis, Job A. Bagley, G. A. (Applicant). Sewing Machine, Vertical Feed. John Hall, Luther L. Cheney, Joseph Bennor, C. W. Howard, William M. Smith. This modification is ingenious and is very useful for some purposes and on some fabrics. Scott Medal to the inventor. 3 November 1875. Bagley, V. P. of Davis Sewing Machine Co. to CSA, 31 March 1875. Descr from Davis Sewing Machine Co. Approved list of Comm. 24 April 1875.

973 Meigs, General Montgomery C. (Quartermaster General, U. S. Army). Washington, D. C. Light Dioptric. Henry Cartwright, Samuel Sartain, Joseph Zentmayer. In several respects it is greatly superior to the "water bowl." Tests with and without the glass globe strengthened the light only within the concentrated rays of the globe condenser. 3 November 1875. Meigs to CSA, 13 April 1875. Meigs to Captain N-----, from QM Gen's Office, 13 April 1875. Meigs to Sellers, from QM Gen's Office, 15 April 1875, Descr. Pt. Memorandum, 29 April 1875. Meigs to Rogers, from QM Gen Office, 26 April 1875. Meigs to Sellers, 1 May 1875. Pt.

974 Crary, John W. Philadelphia. Furnace. Hector Orr, J. Sellers Pennock, S. Lloyd Wiegand. Clay surfaces instead of metallic ones possess elements of usefulness. 1 December 1875. Crary and McGuire to CSA, 26 April 1875. Pt. Adv. with Illus.

975 Connor, John. Philadelphia. Swage, Saw-tooth. Henry L. Butler, Samuel Bevan, John Eccles. Compared to a number of rivals, the inventor's claims are well founded. 3 November 1875. Connor to CSA, 7 May 1875.

976 Sholes, G. Latham; Glidden, Carlos; Soule, Samuel W. Bain, J. W. (agent). Milwaukee, Wisconsin. Typewriter. Henry R. Heyl, Cyrus Chambers, Jr., J. Bartless Burleigh. This novel and ingenious instrument is the first of several typewriters that has achieved practical completion. In a second report, the Comm compared this to Thomas Hall's model (1867) and repeated their recommendation for the Scott Medal. 3 November 1875. Bain to CSA, 10 May 1875. Pt. Adv with Illus.

977 Grimshaw, R. Book Manufacturing. Philadelphia. Hector Orr Joseph E. Hoover, John Hall. The plan is meritorious. 1 September 1875. Grimshaw to CSA, 5 June 1875. Descr.

978 Goodyear, Robert Burns. Wilmington, Delaware. Power Loom. Henry F. West, Luther L. Cheney, Barton H. Jenks. Several ingenious points in this loom give beauty and excellence to the finished fabric. October 1875. Goodyear to CSA, 2 July 1875. Pt. Goodyear to Comm - SA with Descr, 21 July 1875. Goodyear to Comm with lists of Ts, 21 July 1875.

979 Willcox, Charles H. and Gibbs. New York. Sewing Machine. J. Sellers Bancroft, Luther L. Cheney, Cyprien Chabot. The speed, quiet, durability, ease of running, and adaption to the purpose entitle this to high praise and the Scott Medal. 1 September 1875. Descr. Willcox & Gibbs. 5 Pts. Descr with 2 Pr Illus.

980 Rankin, Andrew. Philadelphia. Water Pipe. Charles S. Close. No Report. Comm Disc 1 December 1875. Rankin to CSA, 20 July 1875. Rankin to CSA, July 1875.

981 Burleigh, J. B. Lightning Protection. Comm appnt 4 August 1875. C. M. Cresson, W. H. Wahl, David Brook, Robert Grimshaw. Comm Disc 27 March 1882, after the printing of part of its voluminous report.

982 Grimshaw, Robert. Philadelphia. Rails, Street. Alfred R. Roberts, Charles E. Ronaldson, F. C. Prindle. A rail of this type tends to wear down at every spike, as amply shown by experience. 5 January 1876. Gromshaw to CSA, 30 July 1875. Descr. Illus.

983 Grimshaw, Robert. Philadelphia. Fire Hydrant. Hector Orr. No Report. Comm Disc 4 April 1877. Grimshaw to CSA, 4 August 1875. Descr with Illus.

984 Orum, Morris L. Philadelphia. Mandrel for Bending Pipes. William Helme, Washington Jones, Edward Longstreth. This spiral coil of steel wire fits inside the pipe to maintain the cylindrical form of the metal tube at the point where the bending takes place. Very creditable. Scott Medal. 5 April 1876. Orum to CSA, 11 August 1875. Pt.

985 Bookwalter. Menamin, R. S. (Applicant). Steam Boiler. Washington Jones. No Report. Comm Disc 3 September 1875. Menamin to CSA, 12 August 1875.

986 Tebow, Theodore. Philadelphia. Scale-Beam. Luther L. Cheney. No Report. Comm Disc 1 December 1875. Tebow to CSA, 24 August 1875. Tebow to Secretary, FI, 24 August 1875. Pt.

987 Whitehead, Thomas J. South Paris, Maine. Stove and Furnace, Combined. Joseph E. Hoover, John A. Gill, William Smith. The outer casing of galvanized iron was not at any time too warm to rest the hand on it. 3 May 1876. Whitehead to CSA, 2 September 1875. Adv and Descr.

988 Richards, Henry A. Philadelphia. Fire Escape and Hose Elevator. Alexander B. Bary. No Report. Comm Disc 1 December 1875. Richards to CSA, 13 September 1875.

989 Chamberlin, C. A. Philadelphia. Chain Link. L. George Franck. No Report. Comm Disc 3 November 1875. Chamberlin to CSA, 14 September 1875.

990 Gustin, M. Telegraph, Flash Light and Optical. Alexander E. Outerbridge, Jr. Hugo Bilgram. The principal novelty is in the recording arrangement. 5 January 1876. Gustin to CSA, 23 September 1875.

991 Sorenson, Soren. McGee, James M. (Applicant). Ebertoft, Denmark. Leather, Artificial. George A. Koenig, Cyprien Chabot, Otto Suthy. The addition of India rubber to ground-up scraps of natural leather gives the product a greater resistance to abrasion when moist but it lacks natural pliability and tensile strength. 7 June 1876. McGee to CSA, 20 October 1875.

992 Clark, William F. Connecticut. Timber Preservation. Solomon W. Roberts. No Report. Comm Disc 1 March 1876. Clar, Secretary of The National Timber Preserving Co., to CSA, 29 October 1875.

993 Bryan, James C. Philadelphia. Lightning Rods. Charles M. Cresson, Henry Cartwright, Cyprien Chabot, Charles K. Mills. These "Magnetic Electrical and Magnetic Lightning Rods" are inferior to those commonly made from copper conductors. See CSA 488. 5 April 1876. Bryan to CSA, 23 November 1875. Bryan to Sellers, 11 February 1876.

994 Bilgram, Hugo. Philadelphia. Valve Gear. William M. Henderson, John W. Nystrom, Cyrus Chambers, Jr. By a slight alteration, the stroke of the cut-off valve is made nearly constant and sharper than other gears. Although the inventor claims variable time as a novelty, only the stroke is variable. 4 April 1877. Bilgram to CSA, 29 November 1875. Bilgram to Henderson, 29 July 1876. Descr. 3 Pts. Illus. 2 Drafts, 5 August 1876 (one with pencilled notes). 2 Drafts nd (on Variable Time, one with pencilled notes).

995 Wells. Krajewski, Thomas F. (Applicant). New York. Balance Engine. Washington Jones. No Report. Comm Disc 6 September 1876. Krajewski to CSA, 6 December 1875.

996 Stiles, Elizabeth W. Philadelphia. Desk. Joseph E. Hoover, Peter F. Brown, J. Sellers Pennock. This combination reading and writing desk opens a new era in the furnishing of reading rooms; its completeness demonstrates the ingenuity of Stiles. 7 June 1876. Stiles to CSA, 9 December 1875. Pt. Adv.

997 Wigley, Henry. Bilge Pump. Charles S. Close, John G. Baker. The machine displays ingenuity but not novelty. 1 March 1876. Wigley to CSA, 17 December 1875.

998 Corey, Augustus and Harper. New York. Type-setting Machine, Justifying. Hector Orr. No Report. Comm Disc 1 March 1876. Corey to CSA, 22 December 1875. Np Scientific American and New York World as Illus.

999 Thompson, Thomas E. Railroad Brake. John Hall, Cyprien Chabot, William Barnet LeVan. Ingenious and effective, the action is derived from the retardation of the locomotive which throws the brake on to the next car, and so on throughout the train. 1 March 1876. Thompson to CSA, 8 January 1876. 2 copies Descr. Illus.

1000 Edson. Recording Gauge, Time and Pressure. Henry Cartwright. No Report. Comm Disc 3 May 1876. British Pt.

1001 Houghton, Charles. Boston, Massachusetts. Pump. William M. Henderson, John E. Codman, George F. Peifer. Although this device makes no improvement on Savery's apparatus, long held to be of no practical account, it should be commended for its simplicity and economical use of heat from the cooking range. 4 February 1876. Appl. Adv. Descr by Inventor (copy).

1002 Malmgren, Charles O. Stone, A. (Applicant). Chicago, Illinois. Alarm. John J. Weaver, John Langford, D. E. Rice. This burglar alarm is recommended for its ingenious way of attaching to doorknobs and window sashes. 7 February 1876. Pt.

1003 Colburn, G. F. J. Malcom, Granville (Applicant). Evaporator, Porous. J. Sellers Pennock, James Eccles. This porous earthen jar is encased in a perforated metal jacket and can be attached to the register, radiator, or stove. It is preferable to the ordinary pan in the furnace. 7 June 1876. Descr. Pr Adv with T.

1004 Warner, J. P. Wharton, George (Agent). Gas Governor. Henry Cartwright, S. Lloyd Wiegand, John J. Weaver. Tests indicate this act as a simple check on the flow of gas and does not automatically govern gas pressure. 5 May 1876. Wharton to CSA, 19 February 1876. Descr. Illus.

1005 Tingley, John. Philadelphia. Propulsion, Canal Boat. Henry L. Butler, Cyprien Chabot. The many ingenious features have never been put into operation. 6 September 1876. Tingley to CSA, 1 March 1876. Descr.

1006 Barlow, Elisha T. San Francisco, California. Monkey Wrench. Cyrus Chambers, Jr., John Hall. Sixty-five separate and distinct pieces of this wrench make it wholly unfit for the every day use of machinists and engineers. 7 June 1878. Barlow to CSA, 13 March 1876. Pt.

1007 Charlton, John. Philadelphia. Shaft Coupling. Washington Jones, William Barnet LeVan, Henry R. Heyl, Cyprien Chabot. This coupling commends itself for simplicity of construction, efficiency, and facility of operation. Following objections (7 June 1876) to the originality and awarding of a medal, other reports were submitted (7 November 1877 and 6 March 1878) supporting Charlton's originality and integrity. CSA resolved to request President, FI, to appoint Comm from the Board of Managers to consider the matter. Comm Disc 6 March 1878. Charlton to CSA, 23 March 1876. Pt. T, 10 November 1875, Crane, President, and Pearce, Inter-State Industrial Exposition of Chicago. Woodruff to Charlton, with note from J. C., 12 April 1876. T. Adv. Heyl and Chabot, nd. Heyl to Knight, 14 April 1876. Draft of Report. Jones to Chabot, 24 May 1876. Chabot to Heyl, 25 May 1876. Nystrom to CSA, 6 March 1877. Minutes of Sub-Comm meetings, 26 September, 5, 12, 26 October, 2 November 1877. Shaw to Knight, 22 October 1877. Cartwright to Jones, 1 November 1877. Baldwin, Law Office, to Knight, 3 November 1877. Protest of Henry Baldwin, Jr. Brief, Faught vs Charlton. Heyl's Preamble and Resolution, nd. Charlton to Wahl, 5 February 1899.

1008 Slater, Sarah. Philadelphia. Iron and Steel Compound. Luther L. Cheney, John Sumner, Otto Suthy. Other methods are as effective. The Comm fears this to be a kind of quackery that could be harmful. 5 July 1876. Slater to CSA, 29 March 1876. Pt. Adv. for Shaner, Gray & Co.'s Chemical Compound.

1009 Riethmayer, Jacob F. and Ische, Joseph. Hatfield, Pennsylvania. Railroad Signals. Alfred R. Roberts, Charles S. Heller. The motion of the train operates cautionary signals two or three hundred yards in advance of the train. There are serious practical objections. 5 July 1876. Riethmayer to CSA, 31 March 1876. Pt.

1010 Disston, Thomas S. Philadelphia. Rotary Blower. John H. Cooper, Cyprien Chabot, Benjamin F. Quimby, Edwin Smith, Henry R. Heyl. After witnessing trials (data given), the Comm feels it possesses those two essentials of good machinery, easy running and durability. 4 October 1876. Disston to CSA, 3 April 1876. Adv. Plan and Longitudinal Section of Blower (line drawings with arrows).

1011 Eldridge, G. Morgan. Philadelphia. Stove Damper. Cyprien Chabot, Hugo Bilgram. After objections to an earlier Comm, this Comm was appointed. In the second report, the device is described as simple, durable, and efficient. 2 May 1877. Eldridge to CSA, with note on Comms., 6 April 1876. Descr. Eldridge to Knight, 10 August 1876. Eldridge to Comm, 5 February 1877. List of Comm, Approved, 14 September 1876.

1012 Eldridge, G. Morgan. Chm of Special Comm. Philadelphia. Steam Driven Street Cars. G. Morgan Eldridge, Edward Longstreth, Henry Cartwright, Cyprien Chabot. Several agents have been proposed but as yet only steam has been practically successful. The Comm urges legislative and municipal authorities to introduce this improvement. 3 May 1876. Knight to CSA, 6 April 1876.

1013 Shinn, John. Philadelphia. Rail Joint. Alfred R. Roberts. No Report. Comm Disc 5 July 1876. Shinn to CSA, 5 April 1876. Shinn to CSA, 28 April 1876. Pt. Illus.

1014 Chambers, Cyrus, Jr. Chambers Brothers & Co., (Applicant). Philadelphia. Brick-Making Machine. William H. Towne, Henry L. Butler, Charles S. Close, T. J. Lovegrove. These bricks will bear greater pressure and harder usage than hand-made ones. An improvement overcomes the objections of varying lengths of bricks made by the machine in the past twelve years. Simple and effective. 6 September 1876. Chambers Brothers & Co. to CSA, 12 April 1876. 2 Descr with Illus.

1015 Hutt, William H. Philadelphia. Disinfecting Apparatus. Hector Orr, J. Sellers Pennock, Otto Suthy. Still capable of improvement, this is a praiseworthy attempt to mitigate the nuisance of privy wells and exhalations. 5 July 1876. Hutt to CSA, 17 April 1876. Pt.

1016 Henis, Charles F. Philadelphia. Pipe Coupling and Adjustable Elbow. Hector Orr, John Connor, D. C. Rice. The joint devices are useful improvements. The elbow is ingenious and philisophical. 6 December 1876. Henis to CSA, 29 April 1876. 2 Pt.

1017 Clarke, Henry. Roberts, Charles W. (Agent). Baltimore, Maryland. Lock. Luther L. Cheney, Cyprien Chabot, John Hall. Letters are used for the combination of this key-less lock. 6 September 1876. Roberts to CSA, 12 May 1876. 2 Pt.

1018 Applegate, Samuel S. Camden, New Jersey. Alarm. Hector Orr, James Eccles, T. J. Lovegrove. This platform door mat alarm is neat in appearance, not costly, and well-adapted to its useful purpose. 4 October 1876. Applegate to CSA, 18 May 1876. Pt.

1019 Jucket, Edmund B. Providence, Rhode Island. Steam-Boiler, Sectional. W. H. Thorne. No Report. Comm Disc 1 November 1876. Jucket to CSA, 28 March 1876. Pt. Grimshaw to Knight, forwarding Jacket's appl., 1 April.

1020 Keystone Portable Forge Co. (Applicant). Philadelphia. Blowers. Cyprien Chabot. No Report. Comm Disc 1 November 1876. Keystone Portable Forge Co. to CSA, 22 May 1876. Adv with Descr, Illus.

1021 Cornell, J. J. J. J. Cornell and Co. (Applicant). Newark, New Jersey. Trunk Roller. John G. Baker, L. Hillebrand, Thomas P. Conard. This ingenious device does not seem even equal to the ordinary roller so universally used. 4 October 1876. Cornell and Co., to CSA, 25 May 1876.

1022 Stewart, James S. Philadelphia. Pipe Tongs and Cutter. Cyprien Chabot, John Hall. This ingenious and effective apparatus is strong and substantial. 7 March 1877. Stewart to CSA, 15 May 1876. Pt.

1023 Harley, Elizabeth G. Haddonfield, New Jersey. Darner. Hector Orr, D. E. Rice. The "Complete Darner" can be used for darning, embroidering and glove mending and is hollow for holding cotton thread and needles. This "modest and neat contrivance seems fully equal to good service in its familiar sphere." 3 January 1877. Harley to CSA, 3 June 1876, includes Descr. Adv with seal of International Exhibition awarded by United States Centennial Commission.

1024 Price, William J. Philadelphia. Railroad Car Couplings. William Helm, Alexander Worrall. This is inferior to many automatic couplings already in existence. 3 October 1877. Price to CSA, 16 June 1876.

1025 Capen, Francis L. Philadelphia. Computative Meteorology System. Pliny E. Chase. No Report. Comm Disc 1 February 1882. Capen to CSA, 16 June 1876.

1026 Hitchcock. Sigourney, J. M. (Applicant). Watertown, New York. Lamp. William H. Wahl, Luther L. Cheney, Albert G. Buzby. This is especially adapted for consuming fat or greasy oils without the aid of a chimney. Comparative photometric measurements were made. The lamp combines excellence of mechanical construction and utility. 7 May 1879. Sigourney, Pres., Hitchcock Lamp Co., to CSA, 19 June 1876.

1027 Youngman, Jacob and Bostian, J. M. Heatetus, J. (Applicant). Sunbury, Pennsylvania. Slide Valve. Washington Jones, W. F. Durfee. This device is not entitled to commendation. 4 October 1876. Heatetus to CSA, 21 June 1876.

1028 McKennan, J. W. (Applicant). Paper. Samuel Sartain. No Report. Comm Disc 1 November 1876. McKennan, Manager, Commercial Safety Paper, to CSA, 21 June 1876, with sample.

1029 Tatham and Brothers (Applicant). Pipe. George A. Koenig, Barton H. Jenks. Severe tests must be made in order to establish the strength and hardness of the pipes, before any recommendation can be made with safety. Comm Disc January 1880. Tatham and Brothers to CSA, 26 July 1876. Tatham, Descr, nd.

1030 Brach, Isador. Philadelphia. Water Filter. Joseph E. Hoover, T. J. Lovegrove, John W. Hoffman, John G. Baker. A metallic casing encloses several layers of felt and some "compressed carbon." No improvement over other kinds. 7 March 1877. Brach to CSA, 7 July 1876. Pt.

1031 Tracy, Charles A. Philadelphia. Electrical Wire, Laying Underground. Charles S. Heller, Otto Suthy, John Hall. The devisor of this method is not familiar with the electrical difficulties to be overcome. The modern method overcomes these. 4 October 1876. Tracy to CSA, 14 July 1876.

1032 Alissoff, Michael. Philadelphia. Printing Music. John Hall. No Report. Comm Disc 6 June 1877. Alissoff to CSA, 20 July 1876.

1033 Alissoff, Michael. Philadelphia. Type-Writer. John Hall. No Report. Comm Disc 6 June 1877. Alissoff to CSA, 20 July 1876. Pt.

1034 Fish, Leander E. Lippincott, W. V., Jr. (Applicant). Washington, D. C. Gas Regulator. Charles M. Cresson, S. Lloyd Wiegand, Otto Suthy. There is no novelty in the construction of either the Purifier or the Regulator and each is inferior to others in use. 3 January 1877. Lippincott, for Fish-Lippincott & Co., to CSA, 24 July 1876. Pt. Dup.

1035 Dudley, P. H. Dynagraph. Alfred R. Roberts, Charles E. Ronaldson, Cyprien Chabot. This measures and graphically records the resistance of railway trains, demonstrating problems of importance to railway managers. Cresson Medal. 4 April 1877. Dudley to CSA, 2 August 1876. Pr Descr with graph.

1036 Buzby, Albert G. Jacob B. Knight (Applicant). Philadelphia. Change in the System of Awards of FI. Charles Bullock, William Helm, Samuel Sartain, Charles S. Close. Buzby's proposal contains several suggestions which might be adopted. As some awards are fixed by deeds of trust, no change can be made. The purpose and criteria for the awarding of each award are described. Comm Appnt 4 August 1876. Knight to CSA, 2 August 1876. Buzby proposal and FI resolution adopted 21 June 1876.

1037 Mattis, H. J. M. Philadelphia. Boats, Metallic or Paper. Hector Orr, No Report. Comm Disc 5 September 1877. Mattis to CSA, 2 August 1876, with note by Orr on the model.

1038 Cutter, John. Philadelphia. Shoe Sewing. C. W. Howard. No Report. Comm Disc 1 November 1876. Cutter to CSA, 26 August 1876.

1039 Taylor, T. Grow. Philadelphia. Window Screen, Frameless. Hector Orr, Cyprien Chabot. The good intention is obvious, yet the means fall short of the desired result. 3 January 1877. Taylor to CSA, 29 August 1876. Descr.

1040 Wheeler, William F. Philadelphia. Liquid Distributor. John Weaver, James Eccles, Cyprien Chabot, John Hall. There is nothing novel or meritorious about it. 4 April 1877. Wheeler to CSA, 30 August 1876. Wheeler to Comm, with T, nd. Pr Descr with T. 5 Adv. Pr notice of 'Award of Merit' from International Exhibition, Philadelphia, 1876.

1041 Silsby Manufacturing Company (Applicant). Seneca Falls, New York. Steam Fire Engine. Washington Jones, Luther L. Cheney. William Barnet LeVan, John W. Hoffman. This is of the rotary type similar to those used in England in 1816. Other earlier engines are cited. The claims to advantages seem well founded. 7 February 1877. Silsby Manufacturing Co. to CSA, 6 September 1876. "Descriptive Catalogue."

1042 Grant, George B. Charlestown, Massachusetts. Calculating Machine. Lewis M. Haupt, Alexander E. Outerbridge, Jr., Washington Jones. This instrument works with rapidity and certainty, relieving the mind from strain and all doubts of accuracy. The appended Report describes it as combining simplicity, compactness and cheapness. 7 February 1877. Grant to CSA, 10 September 1876. Grant to CSA, 12 September 1876. Descr with Illus. Grant, "A New Calculating Machine," Report from The American Journal of Science and Arts, VIII (October 1874).

1043 Gwathmey, Richard C. Philadelphia. Cyclophore. Pliny E. Chase, Alexander E. Outerbridge, Jr., Albert G. Buzby. It consists of four applying bodies effective in holding cylindrical objects. 6 June 1877. Gwathmey to CSA, 13 September 1876. Canadian Pt with petition and statement. Descr with Illus.

1044 Watkins, W. B. Ives, Julius, Jr. (Applicant). Philadelphia. Telegraph, Automatic Signal. Charles M. Cresson, S. Lloyd Wiegand, D. K. Miller. Fire alarms should be arranged upon a closed circuit and indicate a failure of continuity of connection by means of a danger signal. This apparatus cannot be recommended. 3 January 1877. Ives to CSA, 27 September 1876. Pr Descr with Illus.

1045 Behrns, G. L. H. Brehmer, August (Agent). Philadelphia. Mill Stones. Washington Jones, Cyprien Chabot, Cyrus Chambers, Jr. This uses a strong current of air to promote cool grinding without loss of flour dust. Space is saved in mills by dispensing with the dust and cooling rooms. Scott Legacy Premium 7 February 1877. Brehmer to CSA, 27 September 1876. Brehmer to Jones, on Brehmer's letterhead, 4 November 1876, about a medal. Pr Descr with T, Illus.

1046 Lyman, William. Middlefield, Connecticut. Rowing Gear. Charles S. Close. No Report. Comm Disc 3 April 1878. Lyman to CSA, 9 October 1876. Pt.

1047 Nessle, John P. Newark, New Jersey. Street Railway. Alfred R. Roberts, T. J. Lovegrove, S. Lloyd Wiegand. Two thin iron straps are bolted to the wooden stringer. This method is like Grimshaw's patented method. The lower strap (Nessle's) need not be as long as the top; the iron could be more profitably employed in making the rail stiffer by deepening it. 5 September 1877. Nessle to CSA, 20 October 1876. Nessle to Knight, 31 October 1876. Pr Descr with Illus.

1048 Woodbury, C. J. H. Lynn, Massachusetts. Speed Indicator. Cyrus Chambers, Jr. No Report. Comm Disc 1 November 1876. Woodbury to CSA, 18 October 1876.

1049 Clarke, William Joseph. Trenton, Ontario, Canada. Door Check. J. Sellers Pennock. No Report. Comm Disc 6 December 1876. Clarke to CSA, 24 October 1876.

1050 Deming, C. G. Brake, Self-Acting. Henry Cartwright. No Report. Comm Disc 5 September 1877. Deming to CSA, 31 October 1876.

1051 Fowler, F. G. Bridgeport, Connecticut. Propeller. Coleman Sellers, Jr., Henry Cartwright, Henry L. Butler. Report 3: After consulting impartial engineers, Comm considers the range of this propeller to be limited to small craft in which speed and economy are less important than ease of handling. The invention shows no mechanical triumph. 6 February 1878. Report 1, Washington Jones, Chm., 31 January 1877. Fowler's was antedated in every essential part by Kyle. Report 2, Washington Jones, Chm., 30 April 1877. The index, attached to steering wheel or tiller, is a valuable addition. Scott Medal. Legacy. Fowler to CSA, 1 November 1876. Pt. Descr (11 pages with Pr data from trials). Fowler to Sellers, with Descr and Pr data from trials, nd. Descr with Illus (See Minute Book 2 January 1878).

1052 Lovegrove, T. J. Tubes, Expanding. Cyrus Chambers, Jr. No Report. Comm Disc 3 April 1878. Lovegrove to CSA, 1 November 1876.

1053 Converse, J. C. (Applicant). Tubing. S. Lloyd Wiegand. No Report. Comm Disc 5 December 1877. Converse, President of National Tube Works Co., to CSA, 7 November 1876.

1054 Johnson, Charles E. Goye, W. W. R. (Applicant). Paper-Feeding Machine. Henry R. Heyl. No Report. Comm Disc 5 September 1877. Goye to CSA, 8 November 1876. Note from H. Orr on Sub-Comm, nd.

1055 Wardwell, Simon W., Jr. Shaw, George W. (Applicant). St. Louis, Missouri. Sewing Machine. Luther L. Cheney. No Report. Comm Appnt 14 November 1876. Shaw, V. P. of Wardwell Manufacturing Co., to CSA, 11 November 1876. Shaw to Knight, 29 December 1876, with needles. 2 Pt.

1056 Russell, Hamlin G. Robert, Jonathon L. (Agent). Lincoln, Illinois. Car-Coupling. William M. Henderson, John M. Hartman, John E. Codman. This possesses several advantages including the ability to couple cars of different heights. The cars can be coupled and uncoupled without risk of life. 4 April 1877. Robert to CSA, 16 November 1875. Descr. Pt.

1057 Goodwin, William Farr. Mowing Machine. Cyrus Chambers, Jr., William Barnet LeVan. This was compared to other machines in extensive tests. An 18-page report discusses advantages of this machine and its new, uniform mechanical movements. Cresson and Scott Medals. 6 February 1878. JFI March 1880. Goodwin to CSA, 23 November 1876. Note with Pr Ltr (Chambers, 21 January 1877) sent to machine companies about the tests.

1058 Riehle Brothers. Philadelphia. Testing Machine. William W. Thorne, Cyprien Chabot, L. R. Fraught, Thaddeus Noms, Jr. The design of the more recent machines are excellent, combining strength, compactness, and sufficient accuracy for practical purposes. Such efforts at simplifying, perfecting, and introducing these to manufacturers deserve every encouragement. 4 April 1877. Riehle Bros. to CSA, 25 November 1876. Adv with Descr, Illus.

1059 Murset, Samuel and Zuberbuhler, Emil. Philadelphia. Fire Escapes. J. Bartlett Burleigh, W. L. Boswell, Morris L. Orum, John W. Nystrom. This device has loose pieces which are liable to be lost during a fire. After a discussion of two classes of escapes, the Comm advocates building less inflammable buildings. 2 May 1877. Murset to CSA, 4 December 1876. Pt.

1060 Dordet, V. Philadelphia. Filter, Water. Robert Grimshaw, Hector Orr, William H. Wahl, Cyprien Chabot. After limited testing, the Comm recommends it as a good filter. 2 May 1877. Dordet to CSA, 15 December 1876. Dordet to CSA, with Descr of his work in Paris and his analysis of Phila. water, 15 December 1876. Dordet to Comm, wtih Descr and Illus, 5 March 1877.

1061 Chapin, Henry A. Chapin, Charles L. (Agent). New York. Lamp Burner. William H. Wahl. No Report. Comm Disc, 1 May 1878 Chapin to CSA 8 January 1877. Adv, Chapin Manufacturing Co.

1062 Austin, E. H. Chapin, Charles L. (Agent). New York. Telegraph, Underground. William H. Wahl, George R. Baker, Charles S. Heller, W. J. Phillips, Charles Zentmayer. After a general descussion of international techniques for insulating wires, the lengthy report describes several meritorious features of this system. 2 May 1877. Chapin to CSA, 8 January 1877.

1063 Walsh, William. Philadelphia. Heating and Ventilating. S. Lloyd Wiegand, Charles M. Cresson, George Canby. This appliance is recommended as simple, cheap, efficient, and not liable to maladjustments by carelessness or ignorance of the attendants. 7 August 1878. Welsh to CSA, 31 January 1877. Descr from JFI March 1877.

1064 Marsland, Edward. Sing-Sing, New York. Water Meter. S. Lloyd Wiegand, Edward Brown. The meter is simple, durable, cheap, and accurate. Comm Disc 8 January 1880. Marsland to CSA, 18 January 1877. 2 Pt.

1065 Frost, Edward G. and Sawyer, W. H. Alarm, Thermostatic Fire and Burglar. Charles M. Cresson, D. K. Miller, S. Lloyd Wiegand, E. H. Bartley, Aug. Brehmer. This signals defects in the detective devices; it is the most practical and efficient system that has been brought to Comm's notice. 4 April 1877. Frost and Sawyer to CSA, 3 February 1877.

1066 Weiland, Carl. Chicago, Illinois. Artificial Stone. S. Lloyd Wiegand, Otto Suthy, James H. Billington, Thomas West, Charles Zentmayer. There is some merit to the composition but thorough tests on a large scale have not been tried. 2 October 1877. Weiland to CSA, 26 January 1877. Pt.

1067 Shaw, Thomas. Philadelphia. Exhaust Nozzle, Spiral. William W. Thorne, Edward Longstreth, John C. Trautwine, Jr., J. Haug. This compact and simple device destroys the roar of escaping steam, an important safety feature on steamboats. 2 May 1877. Shaw to CSA, 20 February 1877. 2 Advs, steamboat nozzle and locomotive.

1068 Galt, John. Philadelphia. Loom. Barton H. Jenks, Henry R. Heyl, James Eccles, T. Olsen. The improvement modifies details of no peculiar merit over earlier inventions. 5 December 1877. Galt to CSA, 26 February 1877. Pt.

1069 Auge, Henry. Philadelphia. Window Frame. Hugo Brehmer, Charles A. Doerr, Charles D. Williams. There is no merit to the frame or sash. 2 May 1877. Auge to CSA, 9 March 1877. Illus.

1070 DeZuccato, Eugenio. Lathrop, W. H. (Applicant). Padua, Italy. Papyrograph. Samuel Sartain, Otto Suthy, Henry R. Heyl. A porous stencil of a manuscript is made, from which copies can be made rapidly and easily. 1 August 1877. Lathrop to CSA, 13 March 1877. Pt.

1071 Fowler, William R. Baltimore and Philadelphia. Fly Fan. Hector Orr, John G. Baker. Two wings move horizontally by clockwork; a commendable contrivance. 1 August 1877. Fowler Fly Fan Co. to CSA, 17 March 1877. Adv with international T. Pt.

1072 LaFourcade, William R. Philadelphia. Evaporator. Hector Orr. Comm Disc 6 June 1877. LaFourcade to CSA, with note, 17 March 1877.

1073 Stewart, Sylvester N. Philadelphia. Partition, Movable. Robert Grimshaw, Howell Rea, J. Sellers Pennock. These vertical battens form a temporary partition desirable in numerous instances, but may be more temporary than intended in the case of high or thin partitions. 1 August 1877. Stewart to CSA, 21 March 1877. Note from Stewart on Superiority, nd. Pt, with note.

1074 LaFrance Manufacturing Co. Elmira, New York. Steam Fire Engine. S. Lloyd Wiegand. No Report. Comm Disc 5 September 1877. LaFrance Manufacturing Co. to CSA, 24 March 1877. Adv with T and Judge's Report, 43rd Exhibition of American Institute of New York City, 1874.

1075 Goodwin, William Farr. Mowing Machines Tests. Rejected as the inventor did not request the tests and CSA does not generally report on a machine's merits in competition with others. 28 March 1877. Goodwin to CSA, with note from Sellers on Rejection, 27 March 1877.

1076 Johnson, Wilberforce. Camden, New Jersey. Valve Gear. Hugo Brehmer, John W. Nystrom, Hugo Bilgram. This belongs to the type of reversing gears with single valves, a substitute for link motions. The special feature of this are attained by link motions with less difficulty. 6 June 1877. Johnson to CSA, 27 March 1877. Descr and Illus from Polytechnic Review, "Johnson's Valve-Gear" by J. Haug, nd.

1077 Chamberlaine, Samuel. Philadelphia. Hydro-Pneumatic Motor. Lewis M. Haupt, Alexander E. Outerbridge, Jr., Hugo Bilgram, Washington Jones. The device is inoperative. 1 August 1877. Chamberlaine to CSA, with Descr, 4 April 1877. Chamberlaine, invitation to join in placing motor before the public, with Illus, 2 April 1870. Chamberlaine, 6 page Descr, 23 May 1877.

1078 DeBeaumont, Alexandre. Walton, H. R. (Applicant). Philadelphia. Screw Propeller. John W. Nystrom, William H. Thorne, Robert Grimshaw. It is not advisable to sacrifice propelling power to reverse the blades when the same action can be done better by reversing the engine. 1 August 1877. Walton to CSA, 13 April 1877. Pt.

1079 Strangeland, Elias. Philadelphia. Vegetable Steamer. William B. Cooper, John Langford. It is simple and efficient. 3 October 1877. Strangeland to CSA, 16 April 1877. Descr.

1080 Whiteley. R. Dutton Company (Applicant). Mowing Machine. Hugo Brehmer, Hugo Bilgram. This mechanical movement has reduced the friction to a very small part of original power. Cheerfully recommend Scott Medal. 4 September 1878. R. Dutton Co., to CSA, 24 April 1877. R. Dutton Co., with Pr Illus, to Knight, 15 June 1877. Dutton to Knight, referring him to Whiteley, Fassler and Kelley, 9 September 1878.

1081 Welch, Robert Kemp. Philadelphia. Railroad Car Coupler, Automatic. John W. Nystrom, John E. Codman, Cyprien Chabot. It will uncouple if one car falls off the track. Otherwise it has no special merit over other couplings. 1 August 1877. Welch to CSA, 4 May 1877, with Descr. Adv. Pt. Codman to Nystrom, list of objections, 2 June 1877.

1082 Shirley, John R. Philadelphia. Table. Hector Orr, Samuel Goforth, Jr., John C. Trautwine, Jr., William M. Smith. This extension table is adapted to service where space is scarce. 3 October 1877. Shirley to CSA, 5 May 1877.

1083 Morton, James. Philadelphia. Ratio of Diameter to Circumference. No Comm Appnt. Appl Rej. Morton to CSA, 8 May 1877. Sellers to Knight, with advice for Morton, 9 May 1877.

1084 Shannon, J. P. Baltimore, Maryland. Bran Duster. J. Haug, John W. Nystrom, John Hall. The model is built according to sound mechanical principles, yet the Comm has not seen it perform. 5 September 1877. Shannon to CSA, 9 May 1877.

1085 Edison, Thomas Alva. Louderback, DeLancey H. (Agent). Pen, Electric. Robert Grimshaw, George R. Barker, Samuel Sartain, James H. Billington, Charles Zentmayer. The pen is driven by a galvanic battery; the duplicating press uses ordinary printer's ink. These appear to combine originality, simplicity, and usefulness. 3 October 1877. Louderback to CSA, 17 May 1877. Pr Descr, Illus of pen made by Western Electric Mfg. Co. and Press. Stencil sheet and impression. Samples: Music, Floor Plan, Ltr, T, Illus.

1086 Wainwright, Jacob T. Philadelphia. Steam Boiler Circulating Device. Washington Jones, John M. Hartman. The circulation is too slow to be effective. 3 October 1877. Wainwright to CSA, 28 May 1877. Pt.

1087 Franc, Emil L. Flax Decorticator. No Report. Appl Withdrawn, 1 August 1877.

1088 Jarvis. Stover, G. W. (Agent). Furnace. William H. Thorne. No Report. Comm Disc 4 July 1877. Stover to CSA, with list of users, 7 June 1877.

1089 Robertson, William J. Railroad Car Coupler. Luther L. Cheney, James Eccles, Edward F. Moody. Notwithstanding the importance of the subject, this coupling has no feature which calls for special recommendation. 5 December 1877.

1090 Dornheim, Edward. Fan, Automatic. Hugo Bilgram, Thomas P. Conard, J. Haug. The alleged invention has no special merit as far as ingenuity and originality are concerned. 5 December 1877. Dornheim to CSA, 28 June 1877.

1091 DeBeaumont, Alexandre. Walton, Henry R. (Applicant). Philadelphia. Steam Boiler Heater and Feeder. S. Lloyd Wiegand, J. Haug, James Eccles, D. E. Rice. The capacity of the pump cylinder is clearly insufficient. 3 October 1877. Walton to CSA, 9 July 1877. Pt.

1092 Morton, James. Calculating of the Exact Inch. Appl Rej. 16 August 1877. Morton to CSA, with note from Sellers, 14 August 1877.

1093 Hancock, Fairbanks and Ewing (Applicants). Steam Boiler Inspirator. Hugo Bilgram, J. Haug, William Barnet LeVan, William H. Thorne. The Korting Inspirator has exactly the same construction as, and antedates, the Hancock. Comm deems it inadvisable to discuss the merits of the latter or make a recommendation. 6 March 1878. Fairbanks to Ewing to CSA, 1 September 1877.

1094 Frisell, Joseph P. Air Compression. John W. Nystrom, John W. Hartman, J. Haug. This method is based on one invented in France around 1650. Data on air bubbles is given in discussing why the advantages of this method do not compensate for its disadvantages. 5 December 1877. JFI September 1877. Firsell to CSA, 19 September 1877.

1095 Bower, Henry. Bell, J. Snowden (Attorney). Glycerine Production. Otto Suthy, George A. Konig, Charles K. Mills, E. H. Bartley, Henry Carvill Lewis. This process uses the animal fats previously lost as waste from candle works to refine pure, inoforous glycerine. Desirable, but not new. After examining the objections submitted 30 March 1878, Comm (1 May 1878) did not reverse their adverse decision on the Cresson Medal. 1 May 1878. Bower to CSA, 15 September 1877. Bell, Brief for Applicant, 30 March 1878. Modern corres with note on award of Cresson Medal, 12 March 1879. For similar CSA action, see CSA Minute Book, 1 May 1878.

1096 Bower, Buckland P. B. P. Bower and Co. (Applicant). Cleveland, Ohio. Sewer-Gas Trap. Charles M. Cresson, Hector Orr, Henry Leffmann, John J. Weaver, Cyprien Chabot. A floating ball or valve prevents the escape of liquids or gases. It works with ease and is worthy of commendation. 5 December 1877. B. P. Bower and Co. to CSA, 15 October 1877. Pt.

1097 Disston, Thomas S. Philadelphia. Post-Hole Digger. John Hall, James Eccles, John W. Hoffman. A rod extends the length of the wooden stem, connecting the steel blades with a lever on the handle. One of the best implements of its class. 5 June 1878. Disston to CSA, 13 October 1877. Pt. Adv for Henry Disston & Sons.

1098 Blodgett, R. F. (Applicant). Hartford, Connecticut. Taps and Gauges. William H. Thorne, Henry R. Heyl, Luther L. Cheney, Cyrus Chambers, Jr., Edwin Smith, D. K. Miller. The taps are superior and the gauges almost perfect. FI should encourage the use of correct standards for dimensions in machine shops as these would improve the discipline as well as the character of the products. Scott Medal. 6 March 1878. Blodgett,Secy, The Pratt & Whitney Co., to CSA, 15 October 1877. Blodgett, with Data, to Knight, 15 October 1877.

1099 Heyl, Henry R. Chm of Special Comm. Preventing the Consideration of Subjects Not New or Useful. Henry R. Heyl, J. Haug, William H. Thorne, Cyprien Chabot. Comm suggests an amendment to the rules which would require a complete descr of the subject and its merits, an illustration, and a specimen or model of the article to accompany the application. A Comm of the Secy and 2 members (appointed quarterly) would examine these and report to the general Comm on whether the subjects are worthy of consideration. 4 September 1878.

1100 Hotchkiss, James F. (Applicant). Boiler Cleaner, Kemp's. Comm Disc 3 April 1878. Folder Missing.

1101 Heyl, Henry R. and Brehmer, Hugo. Book-Sewing Machine. Hector Orr, James S. Lever, Clemens Clay, Luther L. Cheney, William H. Thorne. This valuable mechanical contribution from Philadelphia to the world uses non-corrosive wire instead of linen thread to sew books faster and more neatly than by hand. Scott Medal 3 April 1878. JFI, May 1878.

1102 Diver, Robert H. Rail, Street Railway. S. Lloyd Wiegand. No Report. Comm Disc 3 December 1879. Wiegand to Chairman, CSA, 1 October 1879.

1103 Allison, William C. William C. Allison and Co. (Applicant). Pipe. Washington Jones, William H. Thorne, John Canby, John W. Nystrom, S. Lloyd Wiegand. The well organized system of work at the Allison and Co. Mill necessarily brings out accurate and economical products. Highly recommend the general excellence of pipes and tubes. With Illus. 5 June 1878. William C. Allison and Co. to CSA, 12 November 1877.

1104 Wheeler and Wilson Manufacturing Co. (Applicant). Philadelphia. Sewing Machine. Luther L. Cheney. No Report. Comm Disc. 3 December 1879. Wheeler and Wilson Mfg. Co. to CSA, 13 November 1877. J. T. H., "The Wheeler & Wilson 'New System" Sewing Machines," Polytechnic Review (24 February 1877).

1105 Kidder, W. P. Boston, Massachusetts. Printing Press. Hector Orr, Washington Jones, Samuel Sartain, C. E. Howard. The machine is neatly finished and runs smoothly and steadily. 6 November 1878. Kidder to CSA, 14 November 1877. Pr Circular. J. C. "The Kidder Printing Press," Polytechnic Review (5 May 1877). Kidder to CSA, with Descr, 9 November 1877.

1106 Boynton, E. M. Saw. Samuel Bevan, Samuel Goforth, Jr., Charles A. Doerr. This lightning tooth saw is not new and has no advantages over any other gullet or chamber saw in use. 1 May 1878. Lea, on originality of his saw, 9 March 1878. Fisher, Agent for Spear & Jackson on S & J paper, on the originality of their saw, to Henry Disston & Sons, 25 January 1878, with trademark and medals. Note from Technical Encyclopedia.

1107 Seymour, Charles. Definance Machine Works (Applicant). Defiance, Ohio. Pulley Balancer. John H. Cooper, Henry Cartwright, Coleman Sellers, Jr., Henry L. Butler, Hugo Bilgram. This is well adapted for determining all the conditions necessary to perfect rotating balance. More objects can be balanced in a given time than by usual methods. Note on the Scott Medal. 6 March 1878. Defiance Machine Works to CSA, 12 November 1877. Pt. Adv for Defiance Machine Works with Report, "Rotary Balancing," Polytechnic Review, 9 June 1877.

1108 Gardner, Robert N. Governor, Isochronous. John W. Nystrom, John E. Codman, John Shinn. It is not isochronous but did work with full satisfaction. 4 December 1878. Gardner to CSA, 19 November 1877. J. Haug, "Gardner's Isochronal Governor," Polytechnic Review (17 March 1877). Draft Minority Report, Hugo Bilgram. Draft Summary Report, John W. Nystrom.

1109 Johns, H. W. Philadelphia. Asbestos Products. Henry Carvill Lewis, D. E. Rice, William M. Smith, James Eccles, Cyprien Chabot. These articles are important and useful, but not novel. 6 March 1878. Johns to CSA, 3 December 1877.

1110 Johnson, Jesse, Mendham, William and Chambers, Cyrus Jr. Chambers Brothers and Company (Applicant). Cochransville, Pennsylvania. Bolt and Rivet Clipper. John W. Nystrom, James Eccles, Charles Zentmayer, Henry Asbury, John Hall. Chambers Bros. have combined the earlier inventions with a simplicity in manufacturing to produce a very efficient instrument at a low price. Cresson Medal. 6 March 1878. Chambers Bros. & Co. to CSA, 5 January 1878. 4 Pt.

1111 Norcross, H. D. Trask & Co. (Applicant). Governor. Charles Bullock, John J. Weaver, H. Carvill Lewis, T. Henry Asbury, George R. Baker. After being set for the required temperature, it will maintain a steady rate of combustion without further attention to the draft. 4 February 1880. H. D. Trask & Co. to CSA, 9 January 1878. Dup.

1112 Murphy, Alexander Allen. Whyte, A. (Applicant). John Taylor & Brothers (Agent). Montreal, Canada. Fire Extinguisher. John W. Nystrom, Charles S. Heller, Luther L. Cheney, John Canby. This uses only water with compressed air as motive power. Tests were conducted, data and Illus are included. Very useful. 6 March 1878. Whyte to CSA, 17 January 1878. John Taylor & Bro., Pr "Order in Council" on the use of Murphy's extinguisher, 14 May 1877. Pr Adv. Pr T., July 1877. Pr Descr with Illus from Canadian Exhibition, October 1875.

1113 Brazelle, Benjamin. Philadelphia. Governor. William D. Marks, J. Haug, D. E. Rice. Although ingenious and practical, it does not excel other hydraulic governors which have already been invented. In answering Brazelle's objections (see Minute Book III, 4 September 1878), Comm cites earlier governors and declines to alter or amend original report. 2 October 1878, Brazelle to CSA, with location of working governor, 17 January 1878. Pt specifications and application, 6 March 1878. Brazelle to Knight, application for a medal, 4 June 1878, with note, Marks to Knight. Descr with Illus. Brazelle to CSA, objections, nd.

1114 Brumbaugh, Samuel A. Bolton, George J. Philadelphia and Harrisburg, Pennsylvania. Coupling. John Hall, Charles M. Cresson, John J. Weaver, William G. Rhodes, John M. Hartman. This can only partially fulfill the requirements. 5 February 1879. Brumbaugh to CSA, 18 February 1878. Pr Descr with Illus. Pt.

1115 Taylor, Timothy Grow. Philadelphia. Teapot. Hector Orr. No Report. Comm Disc 1 October 1879. Taylor to CSA, 23 February 1878. Descr with Illus, 13 February 1878.

1116 Paxton, Comfort and Compnay (Applicant). Philadelphia. Monuments, White Bronze. Henry Carvill Lewis, George R. Baker, Samuel Sartain. These are practically pure zinc, which, when treated, is almost indestructible. 4 September 1878. Paxton, Comfort and Co. to CSA, 28 January 1878. Konig to Paxton & Comfort, 3 May 1878. Wilson, Schuyler & Co. to Paxton, Comfort and Co., 24 January 1878. Adv with T from 2 chemists.

1117 Hand, Samuel Ashton. Bell, J. Snowden (Applicant). Philadelphia Regulator, Steam Pressure. William D. Marks, C. Douglass Flanigen. J. Q. A. Brown. Ingenious and thoroughly practical. 7 August 1878. Bell and Hand to CSA, 11 April 1878. Pt.

1118 Wheeler, C. Gilbert. Platt, William K. (Applicant). Chicago Illinois. Pipe Covering. J. Haug. No Report. Comm Disc 4 September 1878 (see Minute Book III, 5 March 1879. Platt to CSA, 17 April 1878. 2 Pr Descr with test data. Wheeler to Knight, 9 June 1878.

1119 Grace, Patrick Henry. Sadalia, Missouri. Spark Arrester. Henry L. Butler, Tinius Olsen, John M. Hartman, James I. Hall. Comm cannot express an opinion without practical tests. Report referred back for test results (Minute Book III, 6 November 1878). Comm appnt 27 April 1878. Grace to CSA, 22 April 1878. Pt. Grace to Knight with descr of first trials, 22 April 1878. Adv and ltr from Grace and Penn Patent Agency.

1120 Morey, Bush, David (Agent). San Francisco, California. Air Valve. J. Q. A. Brown. No Report. Comm appnt, 28 May 1878. Bush to CSA, 30 April 1878. Adv.

1121 Kinney, Francis S. Kinney, J. B. (Applicant). New York. Hydraulic Press. Barton H. Jenks. No Report. Comm appnt 28 May 1878. Kinney to CSA, 25 May 1878. Illus from Scientific American. Note with addresses of F. S. Kinney and I. B. Hyde.

1122 Miller, D. K. Philadelphia. Padlock, Self-Locking. Luther L. Cheney, Cyprien Chabot, T. Olsen, John G. Baker. The parts when ready to assemble are interchangeable and a credit to the manufacturer. Scott Medal 6 November 1878. Miller to CSA, 25 May 1878. 2 Adv from D. K. Miller Lock Co.

1123 Clayton, L. C. Philadelphia. Marine Boiler Covering, Wire Loop. Comm not appnt as Clayton requested an examination of only part of his cement compound. See Minute Book III, 5 June 1878. Clayton to CSA, 3 June 1878. Irons and Clayton, descr, 3 June 1878.

1124 Huston, William. Wickersham, Henry N. Wilmington, Delaware. Rotary Steam Engine. J. Snowden Bell. No Report. Comm Disc 2 October 1878. Huston and Wickersham to CSA, 4 June 1878. Pt.

1125 Imlay, William S. Philadelphia. Mechanical Pen. Hector Orr, C. Douglas Flanigen, Albert G. Buzby, John Hall. This cuts paper stencils for the prompt and easy multiplication of documents without using types. 4 December 1878. Imlay to CSA, 23 August 1878.

1126 Hevner, P. Philadelphia. Wire Rope Transport. Lewis M. Haupt. No Report. Comm Disc 3 September 1879. Hevner to CSA, 27 August 1878. Pr Descr with Illus, bilingual.

1127 Ainsworth, J. W. Safety Switch, Automatic. Coleman Sellers, Jr., O. B. Colton, Thomas Shaw, William D. Marks. It gave most excellent results in extensive tests and successfully diminishes the danger of the most prolific source of railway accidents. Lengthy descr (with pencilled notes by E.H.). 5 March 1879. JFI April 1879. Ainsworth to CSA, 20 September 1878.

1128 Ashford, Henry. Philadelphia. Boat Detaching and Attaching Apparatus. J. Haug, Charles S. Close, Alfred Adamson. It is strongly and substantially constructed. The moving parts are composed to prevent exidation by sea water. Scott Medal. 4 December 1878. Ashford to CSA, 1 October 1878. Illus. Yates, Schetky, Bridge to Crosby, Copy of U. S. Navy Report, August 1878. T.

1129 Woods, Oliver Evans. Philadelphia. Mail Delivery System. John C. Trautwine, Jr. Comm requests disc after reporting that this was not within the province of a Comm of the FI. Nd. Comm appnt 2 November 1878. Woods to CSA, 21 October 1878. Descr Woods, "Memorial of Oliver Evans Woods," 6 pages submitted to Congress, February 1878, with T. Woods, "Memorial of Oliver Evans Woods," submitted to Congress, April 1878. "A Case Stated."

1130 DeLandtsheer, Norbert. Clinton, Joseph F. (Applicant). Paris, France. Machine for Treating Flax. Stockton Bates, Charles H. Banes, Caleb J. Milne, John Shinn. This delivers fibers in a clean, straight, long-line marketable shape at low cost. Valuable and useful, worthy of award. 5 March 1879. JFI April 1879. Clinton to CSA, 29 October 1878. Pt.

1131 Kinney, Robert D. Philadelphia. Motive Power. No Comm. Case disc 5 January 1881. Kinney to CSA, 19 November 1878.

1132 Miller, J., Jr. Philadelphia. Gas Pressure Regulator. No Comm Case disc 5 January 1881. Miller to CSA, 21 November 1878. Adv, Miller & Co.

1133 Morgan, W. W. Philadelphia. Carriage Jack. Appl Rej. 4 December 1878. Morgan to CSA, with Descr, 25 November 1878.

1134 Morgan, W. W. Philadelphia. Trap. Appl Rej. 4 December 1878. Morgan to CSA, with descr, 25 November 1878.

1135 MacKinnon, Duncan and Holland, John. Allen, H. Van (Agent). Stratford, Canada and Cincinnati, Ohio. Fountain Pen. Hector Orr, Charles S. Heller, W. L. Boswell, Parker D. Pierce. It is tasteful, useful, and, for the service rendered, not costly. 7 May 1879. Allen to CSA, 6 December 1878. 2 Pt. 2 Adv, D. MacKinnon & Co. Sellers, "Memorandum" with T, 24 January 1879.

1136 Morgan, W. W. Philadelphia. Alcohol Lamp. Appl Rej. 5 February 1879. Morgan to CSA, with descr, 19 December 1878.

1137 Morgan, W. W. Philadelphia. Blow-Pipe. Appl Rej. 5 February 1879. Morgan to CSA, with descr, 19 December 1878.

1138 Pike, Albert C. and Dean, Asahel H. Philadelphia. Lift Pump. Tinius Olsen, C. W. Lawrie, Morris L. Orum, Charles Zentmayer. This would prove a very good pump with the correction of a defect in the packing of the valve-plate shaft. 7 May 1879. Pike and Dean to CSA, 20 December 1878. Pt.

1139 Jay, Pierre Eymard. Bethlehem, Pennsylvania. Aging Liquors. Appl Rej. 5 February 1879. Jay to CSA, 2 January 1879. Descr with Illus. Note on the effect of age on whiskey.

1140 Cudell, Frank E. Cleveland, Ohio. Gas Trap. William P. Cooper, G. Morgan Eldridge, Frank P. Brown. This consists essentially of a heavier than water ball valve which affords a prompt and perfect seal against back pressure of air or water. It has a screw cover for easy inspection. 6 April 1881. Appl, nd. Copy of Pt with Illus. Cudell to Comm with list of advantages and Pr Illus (2 pages), 26 February 1881.

1141 Mossop, George. Philadelphia. Valve. S. Lloyd Wiegand, William M. Smith, Hugo Bilgram, William Barnet LeVan. One used in the machine works of Messrs. Orr, Hess and Morgan for the past three years is still in good working condition. A useful modification of many pre-existing devices. 5 February 1879. Mossop to CSA, 11 January 1879. (3 page) descr with Pr Illus. Pt.

1142 Meaker, John W. Chicago, Illinois. Coin Cashier. Thomas H. McCollin, William B. Cooper, N. H. Edgerton, John H. Seltzer, George R. Barker. This handles, stores, and counts United States coins of all denominations and can accomplish by one movement what other similar machines require two or more to do. 3 December 1879. Meaker to CSA, 13 January 1879. 2 Pt. Meaker Manufacturing Co., Adv.

1143 Fairbanks, Franklin and Ewing. St. Johnsbury, Vermont. Testing Machine. William H. Thorne, William D. Marks, John Haug, L. R. Faught, Joseph Zentmayer. One wedge can be adjusted to any want ot parallelism in the specimen. The whole arrangement is well adapted to insure the greatest accuracy with the least liability to derangement; the only objection is the large space occupied. 7 May 1879. JFI August 1879. Fairbanks to CSA, 30 December 1878. Pt. Typed Descr with Illus.

1144 Goings, Rozier. Philadelphia. Window Shutters. Appl Rej, nd. Goings to CSA, 22 January 1879.

1145 Olsen, Tinius. Riehle Brothers Machine Works (Applicant). Philadelphia. Testing Machines. William H. Thorne, L. R. Faught, John Haug, Joseph Zentmayer, William D. Marks. These are of different designs, adapted for different purposes. All are convenient to operate, properly proportioned and accurate. Although we may criticize some of the details and may see room for improvement in workmanship, we commend Messrs. Olsen and Riehle Bros. for having placed within the reach of manufacturers good, practical means of ascertaining the qualities of metals. Lengthy Descr of Pts. 4 June 1879. JFI July 1879. Olsen and Riehle Bros. to CSA, 5 February 1879. Riehle Bros. with Descr and Pr Illus of Co. medals to Knight, 24 January 1879. Olsen, with amendments to Report and Pr Illus of Co. medals to Secretary, FI, 2 June 1879. 5 Pts. 2 Illus. Draft, with note from Norris and proposed amendments, 1 May 1879.

1146 Rees, Thomas M. Faucets. No Report. Folder Missing.

1147 Winkler, Gustavus R. Williamsport, Pennsylvania. Oscillating Pump. James Eccles. No Report. Comm Disc 3 September 1879. Winkler to CSA, 2 January 1879. Pt. Descr.

1148 D'Auria, Luigi. Philadelphia. Governor. John Haug, Tinius Olsen, S. Lloyd Wiegand, Philip Pistor. There being only one joint, friction is kept at a minimum which cannot fail to render the governor extremely quick of action. In a later supplement, after conducting tests, this opinion is repeated. 4 June 1879. JFI March 1879. D'Auria to CSA, 5 January 1879. 2 Illus.

1149 Rappleye, H. W. Philadelphia. Governor Burner. Hector Orr, Charles H. Brightly, N. H. Edgerton. This is a burner for illuminating gas. Any effective change in pressure raises or lowers a disc which adjusts the opening of the supply to the flame. No display of emphatic novelty but seems likely to fulfill its obvious intentions. 7 April 1880. Rappleye to CSA, 21 February 1878. Rappleye to Norris, requesting a new Comm Appnt to conduct tests (See CSA #1206), 4 April 1880.

1150 Morgan, W. W. Philadelphia. Door-Guard. Appl Rej. Morgan to CSA, with Descr and pencilled note, 5 December 1878.

1151 Morgan, W. W. Philadelphia. Celluloid Engine. Appl Rej. Morgan to CSA, with Descr and pencilled note, 5 December 1878.

1152 Morgan, W. W. Philadelphia. Lathe, Dental. Appl Rej. Morgan to CSA, with Descr and note 'contains no novelty,' 16 December 1878.

1153 Morgan, W. W. Philadelphia. Root Elevator, Dentistry. Morgan to CSA, with Descr and note on postponement, 16 December 1878.

1154 Morgan, W. W. Philadelphia. Inhaler. Appl Rej. Morgan to CSA, with Descr and note, 16 December 1878.

1155 Mershon, George B. Philadelphia. Grate-Bar. Thomas P. Conard, S. Lloyd Wiegand, Tinius Olsen. This rotating grate-bar furnishes ample draft for fuel and permits cleaning the first without opening the furnace. It seems to promise very fair durability. 7 January 1880. Mershon to CSA, 13 March 1879. Descr. 3 Pt.

1156 Warner, James. Bridesburg Station, Philadelphia. Water Boiler. William D. Marks, Wilfred Lewis. This is a compact arrangement of many well-known economical expedients. 5 November 1879. Warner to CSA, 19 March 1879. Adv.

1157 Brauer, Louis. Hospital Buildings. Appl Rej. Brauer to CSA, 27 March 1879.

1158 Blodgett, Brothers. Boston, Massachusetts. Thermostat. Alexander E. Outerbridge, Jr., N. H. Edgerton, Henry Carville Lewis. When the thermostat is delicately adjusted, a simple breath from the lungs can close the circuit. While this may be effective, 3 earlier Pt and a practical disadvantage exists. 5 November 1879. Blodgett Bros. to Norris, 31 March 1879. Appl, 2 April 1879. Descr. Illus.

1159 Crawford, Witsius, A. Terre Haute, Indiana. Attachment for Water Pipes. John J. Weaver, J. Sellers Pennock. This device for emptying pipes at a set temperature should work; without a working model the Comm prefers not to make a definite report. Comm Disc 5 May 1880. Crawford to CSA, 10 March 1879. Pt.

1160 Holland, Charles and Holland, Park. Chicago, Illinois. Gas Retort. Charles M. Cresson. No Report. Comm Disc 7 April 1880. Holland to CSA, with Pr Illus, 16 April 1879. Adv, J. A. Brown & Co., Agents. Booklet with Descr, Illus, T, "History of Petroleum." Cresson to Orr, on risks of fire when using naptha or benzine for domestic use, 7 April 1880.

1161 Piat, A. Melting Furnace, Portable. Alexander E. Outerbridge, Jr., Charles C. Savery, Henry Carvill Lewis, Luther L. Cheney. This does not differ essentially in construction from other melting furnaces other than the furnace lining is in an iron case and can be transported by handles or a travelling crane. Seems convenient and advantageous but the Comm has not observed a working furnace. 3 December 1879. JFI July 1879. Piat to CSA, with note on JFI and Scientific Am. Supplement (No. 180, 14 June), 24 June 1879.

1162 Gilbert, Joseph. Fireproofing Buildings. Hector Orr, Clemens Clay, Benjamin M. Feltrull. This calls for a coating of lime plaster to be placed on all iron girders. It is sufficiently plausible to warrant trial to determine its merits, especially as it involves no serious increase of cost in the structure. 2 June 1880.

1163 Irwin, John H. Philadelphia. Steam Injectors and Ejectors. William D. Marks, William M. Henderson, Tinius Olsen, William Barnet LeVan, Washington Jones. Information from tests is highly important in the cause of science. A valuable improvement in the manner of constructing injectors. (Photocopy of report from JFI.) 8 January 1880. JFI February 1880. Irwin to CSA, 25 August 1879, with note on test date. 3 Pt. Data from tests (2 pages).

1164 Sigaudy. La Societe Nouvelle des Forges et Chantiers de al Mediterranee (Applicant). Paris, France. Agglomerator. Hugo Bilgram, Luther L. Cheney. This is to be used for compressing coal dust into artificial fuel. Better results are attainable by the use of other simple, well-known mechanisms. 2 May 1883. La Societe Nouvelle to CSA, 23 November 1881. Report of earlier Comm (Jones, Unger, Rutter, Sellers, Chm) asking for disc for lack of sufficient information, 6 December 1881. Sellers on progress of Comm with note from Jones to Wahl, 30 January 1882.

1165 Chase, Pliny Earle. Ratio of the Circumference of a Circle to its Diameter. Wilfred Lewis, William F. Sellers. This complex construction in the science of applied geometry does not seem of great importance to that field or of any practical value to the mechanical arts. Comm is not aware of any benefit to be derived from construction of any constant ratio already known. 5 November 1879. Chase to CSA, 1 September 1879. Report of paper read before American Philosophical Society, 20 June 1879. See also JFI, July, August 1879, June 1880, May 1881.

1166 Acid Pump and Siphon Co. New London, Connecticut. Acid Pump and Siphon. Reubin Haines. Appl withdrawn after corres with Comm Chm. Comm Disc 1 February 1882. Appl, 1 October 1879. Livesey of Acid Pump and Siphon Co. to Patrick and Carter, on exhibiting the pumps described, 8 August 1879.

1167 Godley, George F. Philadelphia. Car Wheels. Robert Grimshaw, Cyprien Chabot, James Eccles, Luther L. Cheney. This is highly impractical in construction and in operation. Another instance of the looseness of the Patent Office in granting patents for impractical contrivances. 8 January 1880. Godley to CSA, 12 September 1879. Pt. Descr. Adv. Jenks to Hiltebrand, declining chairmanship, 14 November 1879.

1168 Moore, George R. Philadelphia. Water Closet. William B. Cooper, Edward F. Moody, Charles K. Mills, John Shinn. A permanent current of air removes all sewer gas. It is a great advance. 4 August 1880. Moore to CSA, 27 October 1879. 4 Pt. Adv and T.

1169 Salisbury, Silas C. Seaver, F. A. Schrader, Henry (Applicant). Philadelphia. Gas Governor Burner. Charles A. Brightly, N. H. Edgerton. A very obvious form of remedy for a common problem. As long as free motion of the parts is secured, the desired end may be expected. 7 July 1880. Schrader to CSA, 20 December 1879. Schrader to CSA, 6 July 1880.

1170 Day, Austin G. New York and Seymour, Connecticut. Insulating Material. William H. Wahl, Henry Carvill Lewis. Comm asks to be discharged as they could not be justice to the subject, and to the CSA, with the means and time available. 7 April 1880. Day to CSA, 8 January 1880. Pamphlet.

1171 Haupt, Jacob B. Boiler Generator. William Bernat LeVan, John W. Nystrom, William W. Thorne. This is a new type of boiler. It is difficult to judge the long-range effect of the proposed improvements. Illus and test data. 1 June 1881. Haupt to Chm, CSA, with Descr, nd.

1172 Harris, James and Smith, D. P. Janesville, Wisconsin. Lamp. Hector Orr, John Canby, Parker D. Pierce. A common table lamp, useful and ornamental. 2 June 1880. Harris and Smith to CSA, 22 January 1880. Harris and Smith, Janesville Safety Lamp Factory, to Norris, 22 January 1880.

1173 Spellier, Louis H. Electro-Magnetic Time Telegraph. W. Mitchell McAllister, Cyprien Chabot, Luther L. Cheney. This is a great step in advance of other devices to transmit time from a standard clock to different points in a large city or hotel. 3 November 1880. Spellier, Descr to Chm, 5 January 1881.

1174 Pohl, E. Otto. Adjustable Metallic Awning. No Report. Folder Missing.

1175 Von Laer, James P. W. Washington, D. C. Book Binders. Henry R. Heyl, James S. Lever, Abram Hart. These are substantially complete book covers provided with devices for holding pamphlets, newspapers, sheets of music. No holes are made in the papers nor are they liable to injury. A good and practical device. 1 September 1880. Von Laer to CSA, 24 April 1880. Pt.

1176 Hoe and Co., R. Chisel Bit Inserted Tooth Circular Saw. No Report. Folder Missing.

1177 Rutherford, Adam. Horse Collar. John C. Trautwine, Jr. No Report. Comm Appnt. 14 June 1880. Rutherford to CSA, 6 May 1880.

1178 Woodruff, Theodore T. Philadelphia. Steam Plough. Stockton Bates, Barton H. Jenks, Alfred B. Couch, Otto C. Wolf. This is a great task well begun and its purpose is obviously praiseworthy. 6 October 1880. Woodruff to Orr, 14 September 1880. Pamphlet.

1179 Atchinson. Sayles, J. E. (Applicant). Metal, Wood and Stone Working Machine. Joseph E. Mitchell. No Report. Comm Appnt 14 June 1880. Sayles, New York and London Metal Wood and Stone Working Co., to CSA, with note on Comm Disc, 13 May 1880.

1180 Peterson, Peter. Philadelphia. Waterproof Fabric. Thomas H. Harris, Luther L. Cheney. The improvement consists in glazing the cloth first with a size of rye flour and burnt alum. This requires a lighter second coating to water-proof the cloth. 3 November 1880. Peterson to CSA, 21 May 1880. Pt.

1181 Wilkinson, Alfred. Crowell, William (Applicant). Philadelphia. Piston Rod Packing. Barton H. Jenks, Daniel K. Miller, William Barnet LeVan, Henry R. Heyl. Thoroughly efficient and practical, it prevents the escape of steam while being capable of yielding to any deflections from the true line of the piston's motion. 6 October 1880. Crowell, for Wilkinson, to CSA, 16 June 1880. Pt. Dr.

1182 Reese, Charles. Phila. Laundry Machine Co. (Agents). Baltimore. Mangle. Stockton Bates. No Report. Comm Appnt, 29 June 1880. Phila. Laundry Machinery Co. to CSA, 24 June 1880. 2 Pt. Adv with awards received from Am. Institute, Pa. State Fair, New England Fair, Vermont State Fair, Consolidated Maine State Fair, Androscoggin County Ag'l Society, New Hampshire State Ag'l Society and Atteboro Farmers and Mechanics Club. Circular with T.

1183 Juvet & Co. (Applicant). Canajoharie, New York. Time Globe. W. Mitchell McAllister, Louis H. Spellier. Comm asks to be discharged as nothing was furnished for an examination. 3 November 1880. Juvet & Co., with Pr. Descr, to CSA, 12 August 1880.

1184 Grant, Clinton, E. (Applicant). Boston, Massachusetts. Water Filter. Luther L. Cheney, Cyprien Chabot. Water can be directed through the filtering material or not, as desired. The filter is of good design and simple in operation. 6 April 1881. Page, Mgr. of Grant's Revolving Filter Co., to CSA, 25 August 1880. Adv with reports from New York Herald and Boston Herald on the need for clean water, and T, and note on Phila. Agents. Nichols of M.I.T. to Grant Revolving Filter Co., T, 30 March 1880.

1185 Gregory, C. B. Beverly, New Jersey. Furnace. Henry P. M. Birkinbine. Inventor asked permission to withdraw until practical tests could be made. Comm Disc 1 December 1880. Gregory to CSA, 20 October 1880.

1186 Heyl, Henry R., Chm of Special Comm. Certificate of Merit. Henry R. Heyl, Samuel Sartain, Isaac Norris. This ought to be one of the forms of award CSA may grant to Inventors. It ought to be presented framed for display; the FI will share in the benefits as a sign of continued activity in its sphere. The specimen submitted would be inexpensive as the plate is the property of the FI. 4 January 1882.

1187 Sawyer, E. W. Little, Horace (Applicant). New York and Connecticut. Electrical Machines, Devices. W. W. Griscom. No Report. Comm Disc 6 April 1881. Little, Pres., The Eastern Electric Mfg. Co., to CSA 10 November 1880. D. C. Griscom to Little, on delays asked by Haffey, E. E. Co. representative, and alternative plans to make an examination 30 March 1881. Little to Griscom, declining responsibility for what Sawyer says, 1 April 1881. D. C. Griscom to Little on the efforts made by 2 Comm to agree on a report, Sawyer's insinuations, and FI's position. 4 April 1881. Griscom to Marks, 5 April 1881. Sawyer to Little, on Griscom's alternative plans and Sawyer's opinion of FI, 1 April 1881.

1188 Griscom, William Woodnutt. Philadelphia. Electric Motor and Battery. Alexander E. Outerbridge, Jr., E. Alexander Scott, Addison B. Burk, Robert B. Haines, Jr., N. H. Edgerton. This possesses great power in proportion to its size; it could power a family sewing machine for almost a year without recharging. It is excellent in mechanical details and adaptability to household use. 9 pages. 1 June 1881. JFI December 1881. Griscom to CSA, 23 November 1880. Pt. Griscom to Outerbridge with Descr 20 December 1880. Draft Descr. Draft Report.

1189 Shourd, E. H. Preserving Perishable Articles. Henry R. Heyl. No Report. Comm Appnt 27 November 1880. Appl, 27 November 1880.

1190 Kriebel, Hosea K. West Point, Pennsylvania. Steam Engine. Hugo Bilgram, James Eccles, Barton H. Jenks, Luther L. Cheney. This contains the principal defects of oscillating engines without special valvegear. Several features are objectionable. 1 June 1881. Kriebel to CSA, 3 February 1881. 2 Pts.

1191 Daniels, Henry H. Philadelphia. Door Lock. John Hall, Cyprien Chabot, Thomas Stewart, Frank P. Brown. Claims for this lock cannot be sustained. 7 December 1881. Daniels to CSA, 17 March 1881. Pt.

1192 Rutan, Jennie S. Philadelphia. Fire-Proofing Method. Samuel P. Sadtler, William P. Cooper, Charles H. J. Chormann, John Smethurst, Thomas A. Harris. Comparative tests and chemical analysis commend this for practical use. Although her experiments and conclusions were original, she has been anticipated by Gay-Lussac, Prater, and Versmann and Oppenheim. With Table of Data. 1 June 1881. Rutan to CSA, with note on Descr and samples, 18 March 1881. Rutan, on ingredients, 18 March 1881, with note. Descr with discussion of report, other researchers. Suthy to Rutan, on Mixture's effect on paint, 17 March 1881. Rutan, nd. "Report of an Invention to Prevent Fire Spreading." Adv Women's Medical College of Pa., 1881.

1193 Crocker, James A. John McKay, Jr., & Co. (Agents). Boston, Massachusetts. Filter. G. Morgan Eldridge, Charles F. Henis, Hector Orr, Thomas M. Newbold, George H. Henry. When the filtering properties of the material have been exhausted, the whole apparatus can be taken apart and new material inserted at a very trifling cost by any person of ordinary intelligence. Not liable to get out of order with reasonably fair usage. 3 May 1882. John McKay, Jr. & Co. to CSA, 23 March 1881. Pt. 2 Adv for Crocker Filter Company.

1194 Griscom. Induction Electric Motor. No Report. Folder Missing.

1195 Rogers, T. Mellon. Philadelphia. Ore and Coat Concentrator. George A. Konig, William H. Thorne, Washington Jones. Comm does not value tests conducted on a model as scientific experiments on which to form an absolute judgment. It probably separates as well as the other self-acting jigs where the valuable mineral is heavier than the gangue. 2 November 1881. Rogers to CSA, April 1881. Adv with reports from Phila Inquirer and Phila. North American and U. S. Gazette, Rogers, Stuart & Gill, Limited.

1196 Able, Augustus H. Philadelphia. Water Gauge. John Haug, Hugo Bilgram, Charles A. Rutter. A syphon has been added to an ordinary water gauge of a marine boiler to regulate the height of water when the boiler is in an inclined position by the vessel heeling over under sail. Very useful. Illus. 6 September 1882. Able, Chief Engineer, U.S.N., to CSA, 20 May 1881, with note on Comm alternates. Able to

1196 (continued) CSA, 3 June 1881. Descr and Dup. John W. Nystrom, Charles A. Rutter, Robert Grimshaw. The syphon shows how high the water ought to be in the boiler. When the water level is adjusted so that the boiler's gauge matches the syphon's gauge, this arrangement would be very useful. Illus. In a later report Comm cannot recommend the gauge as now constructed; would be very useful if the principle is properly carried out. Comm changed. 5 April 1882.

1197 Connolly, M. Daniel. Philadelphia. Telephone Exchange. W. J. Phillips. No Report. Comm Disc 1 February 1882. Connolly to CSA, 28 June 1881. Pt.

1198 Walden, Lienau. Philadelphia. Belt Stretching. John W. Nystrom, Hugo Bilgram, John Haug. This machine to regulate the tension of the belting for use on pulleys is a very useful invention. With Adv, 5 April 1882. Walden to CSA, 5 October 1881.

1199 Chase, Charles T. (Applicant). Auburndale, Massachusetts. Thermometer. N. H. Edgerton, Joseph Zentmayer, Charles J. Shain, Samuel Sartain. It unites sufficient accuracy with easy reading: a point difficult to attain in mercurial instruments. 3 May 1882. Chase, for Auburndale Watch Co., to CSA, 8 October 1881.

1200 Bennor, Joseph. Philadelphia. Seal Trap. B. H. Rand. No Report. Comm Disc 6 December 1882. Bennor to CSA, 18 October 1881. Bennor to Comm Chm, with "State of the Art", 7 November 1881.

1201 Pole, Benjamin C. Philadelphia. Differential Car Starter. Morris L. Orum, Tinius Olsen, Hugo Bilgram. This mechanism allows the horses to get a start before the car is set in motion, and is therefore merely equivalent to an elastic trace. 4 April 1883. Pole to CSA, 1 November 1881. Pt. Pole, Pres. and Genl. Mgr. of the Pa. Differential Car Starter Mfg. Co., Ltd., to Wahl, withdrawing application, 15 February 1883. Orr to Wahl, 15 February 1883. Photo, with claims.

1202 Kemble, B. H. Vehicle Axle and Lubricator. William B. Eltonhead, Franklin E. Paige, John H. Missemer, Cyprien Chabot. This construction of the axle and box keeps the wheel clean, running uniform and regular. Ingenious. 6 October 1882. Typed Dup with FI seal and note from Wahl, no Comm names, 2 October 1882.

1203 Lewis, Samuel T. Philadelphia. Ladders. Robert Grimshaw. No Report. Comm Appnt. 2 November 1881. Lewis to CSA, with note on Appl Withdrawn, 7 December 1881, 28 October 1881.

1204 Becher, A. Steelton, Dauphin County, Pennsylvania. Piston Valve. John W. Nystrom, Robert Grimshaw, Hugo Bilgram, William Barnet LeVan. A permanent defect of serious character could result from undue strain of compressed steam on the valve gear. Not recommended. 4 January 1882. Becher, Engineer, the Pa. Steel Co., to CSA, 15 November 1881. Pa. Steel Co., Descr. Blueprints.

1205 Dodson, Wilson P. Railway Safety Switch. No Report. Folder Missing.

1206 Rappleye, H. W. Philadelphia. Rheometric Governor Burner. Lemuel Stephens, Charles Zentmayer, Luther L. Cheney, Horace W. Sellers, James M. Richmond. This affords a better light, at less expense, than any other practical appliance with which Comm is acquainted. 3 May 1882. JFI November 1882. Rappleye to CSA, 2 March 1882. Adv. Typed Dup of CSA #1262, 30 April 1883.

1207 Tarbox, H. L. (Applicant). New York. Celluloid Stereotype Plates. R. S. Menamin, Samuel Sartain, Lewis S. Ware, J. L. Ringwalt, Hector Orr. The inflammability of the products as a serious objection is restated in the second report. 4 June 1882. Tarbox to Wahl, 25 January 1882, with Descr. Celluloid Stereotype Co. to CSA, 10 January 1882. Lefferts, Tres and Secy of Celluloid Mfg. Co. to Eldridge, on celluloid not being liable to spontaneous combustion, 11 April 1882. Eldridge to Wahl, 8 May 1882. 2 Adv. 3 Stereotype Prints.

1208 Anderson, Samuel. Philadelphia. Electric Conduit. N. H. Edgerton, Hugo Bilgram. After a lengthy interview with the inventor, the Comm fails to see any advantage in the conduit to warrant an official investigation. 5 April 1882. Anderson to CSA, 13 February 1882. Lengthy Descr with Illus.

1209 Beecher, James. Hollow Handled Cutlery. S. Lloyd Wiegand, Warner Walker, Cyprien Chabot, Luther L. Cheney. Light and strong, these are a very desirable improvement. Comm remains in doubt as to where they can get this cutlery. Scott Medal. 7 February 1883. Beecher to CSA, 27 February 1882. Typed Dup, with FI seal, signed by Heyl, Chm CSA, Wahl, Secy, 7 February 1883. Eldridge to CSA, objecting to award, 20 March 1883.

1210 Bilgram, Hugo. Philadelphia. Gearing. Cyrus Chambers, Jr., William H. Thorne, B. Frank Teal. This device is a good and practical arrangement for overcoming the annoyance arising from lost motion in the ordinary gear of the planing machine. With note of Scott Medal by Wahl. 1 November 1882. JFI June 1883. Bilgram to CSA, 13 January 1882. Descr. Illus.

1211 Fales, Thomas J. (Agent). Philadelphia. Engine and Boiler. Robert Grimshaw. No Report. Comm Disc 6 October 1882. Fales to CSA, with 2 Pr Illus, Descr and list of awards from 1878 Paris Exposition, Exposition International de Sciences Appliquees a l'Industrie, Am. Institute - 1878, 16 January 1882.

1212 Earle, J. W. (Applicant). Philadelphia. Typewriter Inks. Samuel P. Sadtler, George A. Konig, F.A. Genth, Jr. After conducting a variety of chemical tests, Comm finds these to be indelible under normal conditions. 3 May 1882. Earle to E. Remington & Sons, with typed Descr, to Wahl, 15 March 1882.

1213 Fowler, William R. (Applicant). Philadelphia. Cloth Cutting Machine. James Eccles, Charles E. Ronaldson, Tinius Olsen, Morris L. Orum. The general arrangement is excellent; light in weight but strong. Illus. 7 June 1882. JFI October 1882. Fowler, for the Am. Cloth Cutting Machine Co., to CSA, 21 December 1881.

1214 Alile, A. H. Water Gauge for Marine Boilers. Advisory Report. Folder Missing.

1215 Edwards, Abraham. Philadelphia. Water Closet. Edwards to CSA, 30 December 1881. 2 Adv. 2 Pt. Reported Progress, 3 May 1882.

1216 Kitson, George L. Attractometer. Hugo Bilgram, Pliny E. Chase, Adam Trau, L. d'Auria. This method of sea-sounding without a line is based on the general law of attraction. Comm concludes this cannot be a reliable indicator, due to the heterogeneousness of the solid crust of the earth and other disturbing factors. 3 December 1884. With appendix. Kitson to CSA, 21 January 1882. Illus. 2 Descr. John W. Nystrom, Minority Report of 17 May 1882. This attractometer is useless. Comm encourages attempts to solve the problem, however impossible a successful solution may appear. Illus. John Haug, A. H. Able, Adam Trau, Report of 5 June 1882. Suggest actual trials by U. S. Coast Survey or the Navy Dept. Hugo Bilgram, Adam Trau, Report of 7 February 1883. Attempt to measure depth by attraction is simply absurd. With appended Analysis. Kitson to CSA, requesting report. 3 November 1886.

1217 Back, A. Spongberg, G. (Applicant). Philadelphia. Governor Hugo Bilgram, S. Lloyd Wiegand. This combines the inertia with the centrifugal governor. Such combination governors have been tried frequently and invariably, the loss of prompt action of the centrifugal principle balances the gain attributable to the inertia principle. 6 December 1882. Spongberg to CSA, 18 January 1882. Descr with Illus.

1218 Arnold. Castle, Wilmot. (Applicant). Rochester, New York. Cooking Boiler. Mrs. S. T. Rorer, Mrs. Julia L. Wahl. It is very easy to manage and it requires less fuel than an ordinary steamer as it has less water to heat. It steams, in a test, without replenishing the reservoir, for four hours. Vegetables are as quickly cooked as by boiling, and with better results. 7 June 1882. Castle to CSA, 14 March 1882. Descr.

1219 Kinney, Robert D. Cotton Ginning Machinery. No Report. Folder Missing.

1220 Mestern, C. Bauer. Berlin, Germany. Ventilator. Theo. J. Goldschmidt, Charles Bullock, Louis H. Spellier. This water spray ventilator has the alleged purpose of cooling and purifying air. It could not reduce the temperature of a room more than 3°F during a trial and produced a warmer feeling by the higher humidity. 6 September 1882. Bauer to CSA, 27 March 1882. Lengthy Descr (in German) with Illus.

1221 Dewart, William L. Jr. Washington, D. C. Slide Valve. William H. Thorne, Washington Jones, William Barnet LeVan. The two opposing pressures which are to balance this valve in its seat cannot be so proportioned as to balance each other in all positions. Comm not convinced any practical benefit would result from the use of this device. 7 May 1884. Dewart to CSA, 28 March 1882. Dewart to Wahl, 30 March 1882. Pt. Dewart to Secy, FI, 7 November 1881. Adv.

1222 Sternberger, Leopold. Philadelphia. Clutching and Braking Device for Sewing Machines. Thomas J. Whitney, Cyprien Chabot. It will accomplish the purpose for which it is intended but the claims of the applicant in comparison to other devices of similar character are sustained. 7 March 1883. Sternberger to CSA, 11 April 1882. L. & S. Sternberger, Claims, nd. (Pt referred to in report - missing).

1223 Croft, Alfred. Lubricator for Steam Engines. Advisory Report. Folder Missing.

1224 Wheeler, W. F. Philadelphia. Filter. Harold A. Freeman. Inventor desired an Advisory and not an Examining Committee. Comm Disc 6 October 1882. Wheeler to CSA, 5 June 1882, with Illus. Wheeler to Wahl, 15 September 1882.

1225 Dilks, Joseph W. Philadelphia. Devices for Raising and Lowering Propellers. John Rowbothom. There are many advantages in having a screw propeller that can be moved up and down. The objections to it seem to be borne out in the case of the 'Britannic' of the White Star Line whose similar arrangement had to be removed as it did not fulfill expectations. 7 March 1883. Dilks to CSA, 7 July 1882. Illus. Reply to Rowbothom's objections in Report, nd.

1226 Wilson, Milton M. Wright, James B. (Applicant). Combined Carpenter's Tool. Henry R. Heyl, John Hall, George H. Henry. The usefulness of each one of the tools is very much curtailed by its combination with the others. There is little merit in the combination. 6 December 1882. Wright to CSA, 2 June 1882. Adv. Descr.

1227 Chamberlain, J. N. Springfield, Massachusetts. Pressure Governing Burner. Lemuel Stevens, Charles Zentmayer, James M. Richmond, Luther L. Cheney. It combines a valuable saving of gas and a superior and steady light. Illus and detailed Desc appended. 3 January 1883. Chamberlain to CSA, 22 September 1882.

1228 Shaw, Thomas. Philadelphia. Friction Buffer. J. Snowden Bell, C. Henry Roney, William Barnet LeVan. This is intended to prevent accidents which are liable to ensue from the failure to stop trains at the proper point. Effective and reliable with simple, durable, inexpensive construction. 3 January 1883. Shaw to CSA, 11 October 1882. Adv with Photo.

1229 Shaw, Thomas. Lockwood, William E. (Applicant). Philadelphia. Locomotive. William Barnet LeVan, J. Snowden Bell, Rufus Hill, Otto C. Wolf, Luther L. Cheney. Comm endorses unqualifiedly the correctness of the principle used for counter balancing the momentum of the reciprocating parts. Comm does not feel justified from the facts before them in commending the 4-cylinder locomotive over the standard construction. They do not consider Shaw's improvements as having substantial value compared to the full embodiments of the principle of balancing in the engine "Duplex." 5 March 1884. Lockwood, Managing Director of Shaw Locomotive Co., to CSA, 18 October 1882. 2 Photos with list of Comm. 2 Photos. "Report on the Hammer Blow of Locomotive Drivers" by Joint Comm-FI and Am. Railway Master Mechanics' Association, in The Railway Age XI:25 (24 June 1886). Shaw, Pr Descr of Dynamometer. "Dynamometer for Testing the Hammer Blow of Locomotive Driving Wheels," Illus. Am Journal of Railway Appliances, VI:13 (15 July 1886). Shaw to Wahl, 8 June 1886. Shaw to Wahl, 24 June 1886. Shaw to Wahl, 31 August 1886. Lockwood to Wahl with some chronology of events, 1 July 1886. Lockwood to Wahl, 6 July 1886. Dup. Lockwood to Marks, on exhibiting Locomotive in FI Electrical Exhibition, 23 September 1884. Dup. Spangler to Lockwood, on impracticality of exhibiting it, 11 October 1884. Dup. Marks to Lockwood, T., 17 October 1884. List of Class XI, Electrical Exhibitions Comm. Adv. LeVan, "60 Miles in 60 Minutes," Booklet, nd. Dean Shaw, Report of Joint Comm. Lockwood to Wahl, 18 August 1886. Adv. Reprint from Locomotive Engineers Monthly Journal, March 1889. Article, Phila. Press, September 1882.

1230 Goodwin, William Farr. Stelton, New Jersey. Direct Acting Steam Engines. Otto C. Wolf, William Barnet LeVan, N. H. Edgerton. The valves lie loosely in their seats, permitting relief in case of over-compression or accident to the actuating gear. Commendable. 6 June 1883. Goodwin to CSA, 22 November 1882. Goodwin to Comm, 25 November 1882. Pt. Typed Dup.

1231 Whitall, Henry. Phillipsburg, New Jersey and Philadelphia. Celestial Planisphere. Pliny E. Chase, Charles J. Shain, Hector Orr. The addition for showing the changes in the position of the Pole Star in the Right Ascention and Declination of other stars is simple and ingenious. These are not yet reduced to a systematized manufacture and are not accessible to the public. Scott Medal. 3 January 1883. Whitall to CSA, 13 November 1882. Lengthy Descr.

1232 Stephens, Lemuel. Chm of Special Comm. Philadelphia. Comparative Merits of the Pressure Governing Gas Meter and Gas Burner. Lemuel Stephens,, Luther L. Cheney, J. W. Richmond. The meter, while it will act at somewhat lower street pressure than burners, cannot maintain a uniform pressure due to the friction of the gas in traversing the pipes. The reliable governor burners, owing to their situation, will preserve a uniform pressure. 5 September 1883. JFI October 1883. John W. Nystrom to Chm, CSA, on the friction to flow of gas in pipes. 2 January 1884.

1233 Hitchcock. Watertown, New York. Mechanical Lamp. William H. Wahl, Luther L. Cheney. There have been no radical improvements in the lamp since the previous report (CSA 1026). The Hitchcock lamp combines utility with excellence of mechanical construction. 7 February 1883. 12 Sigonnuy, Hitchcock Co., to Wahl, 15 July 1876 - 7 January 1878. Simpson to Wahl, 31 October 1877. Descr. Adv (Eng and Ger). 2 Illus.

1234 Cummings, George and Brinkerhoff, C. M. New York. Periphery-Contact Disc Electrodes. N. H. Edgerton. Two thin metal discs are placed with their edges at right angles. This device is excellent for rapidly making and breaking contracts in electrical circuits. Also having the merit of ready and delicate adjustment, it seems admirably fitted for telegraphic transmission. 6 June 1883. CSA referred this Appl to Electrical Section of FI for examination and report. 19 December 1882, with note referring it to "Electrical Section." Adv with seal of award from Cincinnati Industrial Exposition. Pamphlet with T., quotes from JFI, N. Y. Review of the Telegraph and Telephone, Report of the Atlanta International Cotton Exposition of 1881; with Report from Ohio Mechanics' Institute, list of awards from Ohio Mechanics' Institute, American Institute, Academie Nationale de Paris. Cummings and Brinkerhoff to Wahl, 27 November 1882. Cummings and Brinkerhoff to Black, 10 January 1883. Descr with some Pr Descr, one from JFI (October 1882, p. 317). For Adoption by Electrical Section see Sellers to Wahl, 6 June 1883, CSA 1235.

1235 Blodgett, George W. and Blodgett, Aaron D. Boston, Massachusetts. Electrical Signal Clock. Louis H. Spellier, John Smethurst, D. S. Holman. This is intended for all purposes where any sort of time signals are required. It solves some complex mechanical problems simply and ingeniously. Scott Medal. 5 September 1883. CSA referred this Appl to Electrical Section of FI for examination and report. Sellers, Secy ES, to Wahl, on Adoption of Reports on Blodgett Bros. and Cummings, 9 March 1883, by ES, 6 June 1883. 3 Pt. Typed Dup.

1236 Pettit, E. R. (Applicant). Philadelphia. Gas Machine. W. W. Goodwin. No Report. Comm Disc 2 April 1884. Pettit, Pres., Peerless Mfg. Co., to CSA, 16 January 1883, with note on Disc.

1237 Sleeman, Nathaniel. Birmingham, (Alabama ?). Gas Regulator. Lemuel Stephens, Luther L. Cheney. This effectually regulates the flow of gas, controlling its pressure to any degree desired. 7 May 1884. Sleeman to CSA, 18 December 1882. 2 Pts.

1238 Fales, Thomas J. Philadelphia. Steam Engine. S. Lloyd Wiegand, William Barnet LeVan, Otto C. Wolf, Harold A. Freeman. This is of the general type of construction known as the Baxter Upright. It is still undergoing undetermined alterations. Comm suggests that its report be considered advisory and that the inventor should submit the perfected machine. 6 June 1883. Fales to CSA, 6 January 1883. Fales to CSA with claims, 2 May 1883. Typed Dup Report.

1239 Creque, Allen P. New York. Kitchen Range Boiler. Frank P. Brown, John J. Weaver, Nathan Middleton. This draws a larger quantity of heated water in a shorter time than other boilers and draws hot water a few minutes after the fire is started. 7 November 1883. In a second report, Comm declined to recommend the Scott Medal. 6 February 1884. Creque to CSA, 7 January 1883. 3 pages Adv, Creque, Ronalds & Co. "Manufacturers of Improved Plumbing Goods to the Front," Hydraulic and Sanitary Plumber, I:7 (1 January 1883), an account of Creque's address to the Association of Master Plumbers of the City and County of New York.

1240 Bennor, Joseph. Philadelphia. Syphon Trap. William B. Cooper, John Edward Eyanson, John Worthington, Cyprien Chabot. An India rubber envelope encloses the ball, producing an effective air seal between the ball valve and its seat. The trap is rendered more effective by syphonage. Scott Medal. 7 November 1883. Bennor to CSA, 22 January 1833. 2 Adv. Pt. Typed Dup.

1241 Teal, B. Frank. Philadelphia. Elevating and Projecting Apparatus. C. John Hexamer, Harold A. Freeman. Lightweight and weak, it is practically valueless in its present form. Comm Appnt 17 March 1883. 2 Illus. Teal to Heyl, request to withdraw appl, 5 September 1883.

1242 Parkhurst, C. D. Improvement in Galvanic Batteries. No Report. Folder Missing.

1243 Spratt, Orlando W. Evans, Othniel B. (Applicant). Philadelphia. Mercury Seal Trap. Charles Henry Roney, J. Sellers Pennock, William B. Cooper. This useful sanitary invention is sure in its action and can be easily taken apart for cleaning. It is a sealed trap to prevent sewer air from entering dwellings. 4 February 1885. Evans to CSA, 18 September 1882. 2 Pt. Adv. Typed Dup Report. Illus of W. B. LeVan's trap "alleged to be an anticipation" of this.

1244 Hotine, Frederick Thomas. Philadelphia. Coffee Urn. William B. Eltonhead, Samuel Sartain, J. Sellers Pennock. The mechanical arrangements are adapted to enable large quantities to be quickly and conveniently supplied at a uniform temperature. The claim that this supplies "chemically pure coffee and tea uncontaminated with metallic oxides from corrosion" is hardly correct. 2 January 1884. Hotine to CSA, 19 March 1883. Pt. Adv.

1245 Eckstein, Horatio D. Philadelphia. Feed Water Heater. S. Lloyd Wiegand, Charles E. Ronaldson, John W. Nystrom. This is usefully effective in recovering, besides heat, a portion of the pure water from the exhaust steam, and thus diminishing the amount of impurities liable to form incrustations in the boiler. 5 September 1883. Eckstein to CSA, 24 March 1883. Pt. Typed Dup Report.

1246 Wales, William Jr. Philadelphia, and New York. Railway Tires. J. Snowden Bell, Rufus Hill, Edward Longstreth. This sectional tire fails to be useful or practical by reason of greater expense in construction and objectionable circumferential joints. 5 September 1883. Wales to CSA, 14 April 1883. Wales to Wahl, with Descr, 3 May 1883. Wales, Descr, nd.

1247 Woodbury, C. J. H. Boston. Electrical Testing Apparatus. Addison B. Burk, N. H. Edgerton. It is an ingenious adaptation of a Magneto-Electrical Machine and Signal Bell. This sets up a current of much greater electromotive force than a two-cell battery, making it more sensitive to slight leaks. With note on adoption of ES 14 September 1883. Supplementary report amended by CSA to recommend Scott Medal. 5 December 1883. CSA referred this appl to Electrical Section of FI for examination and report. Sellers, Secy ES, to Wahl, 25 August 1884. Woodbury to Wahl, 2 February 1884. Woodbury to Wahl, on Report, 2 February 1884. Typed Dup.

1248 Nacke, Arnold. Philadelphia. Screw Cutting Attachment. Hugo Bilgram, Luther L. Cheney, Cyprien Chabot. An ingenious locking device is opened when the screw is cut to the requisite length. The length of the thread to be cut can be regulated. Scott Medal. 6 June 1883. Nacke to CSA, 20 April 1883. Pt. Typed Dup (2).

1249 Hall, Thomas. Reed, Edwin (Applicant). Brooklyn, New York. Typewriter. G. Morgan Eldridge, Charles H. J. Chormann, E. Alexander Scott, Cyprien Chabot. The types are moulded upon a flexible rubber plate which is movable. The inked types are pressed directly upon the paper without the intervening ribbon. Scott Medal. 7 November 1883.

1250 Orum, Morris L. Philadelphia. Lock. Henry R. Heyl, G. W. Wilson. The lock is not practical without a peculiar shaped cutter and a slide. Taken altogether it makes a very neat piece of workmanship with excellent effects both to fine and common furniture. The tools required are adapted to machinery already used in large manufactories. 4 February 1885. Appl., 16 May 1883. Adv (2). Pt.

1251 Cassedy, William F. Mecray, James J. (Applicant). Cape May, New Jersey. Pipe and Hose Coupling. S. Lloyd Wiegand, John J. Weaver, Frank P. Brown. This is simple, substantial and meets fully every desired requirement. 4 March 1885. Mecray to CSA, 16 May 1883. Pt.

1252 Edwards, Abraham. New York. Sewer Gas Trap. G. Morgan Eldridge, Francis Dercum, William B. Cooper. Two pieces of cast iron are screwed together with Mercury for the seal. This is of exceedingly simple and inexpensive construction, with great facility for cleaning. 4 February 1885. Edwards to CSA, 8 May 1883. 6 Pt. Typed Dup.

1253 Dodge, Will W. (Applicant). Wooden Split Pulley. William Barnet LeVan, Cyprien Chabot. Wooden Pulley is much better than an iron one, holding a belt much better. The compression fastening of wood or iron center does not mar the shafting and does not tend to throw the pulley out of balance. Certificate of Merit. 5 February 1885. Dodge, Secy, Dodge Mfg. Co., to CSA, 18 June 1883. Adv. Typed Dup.

1254 Sanderson, Frederick. Friend, Saline Co., Nebraska. Cloth Measuring Machine. Robert C. Ogden, Simon R. Snyder, Charles H. D. E. Con There appears a slight tendency to over-measure, but for single fold cottons or linens it is reasonably safe with sufficiently satisfactory results. 4 June 1884. Sanderson to CSA, 29 May 1883. 2 Pt. Sanderson to Secy, FI, 30 May 1883. Certificate of Warranty, Sanderson Mfg. Co. Sanderson to Secy, FI, 27 November 1883.

1255 Townsend, Isaac. Tent Slips. J. W. Ryan, Theo. E. Wiedersheim, John A. Wiedersheim. These metal slips are strong and light-weight. Another advantage is believed to be the increased holding power of the ropes on the slips. 2 April 1884. Scott Medal recommended. 4 February 1885. Townsend to CSA, 17 September 1883. Pt. Townsend, Agent, Silver Lake Co., to CSA, 17 September 1883. Townsend on slips as Army Standard, to CSA, 9 January 1885.

1256 Eckstein, Horatio G. Feed-Water Heater. S. Lloyd Wiegand, John W. Nystrom, Charles E. Ronaldson. Comm recommends Scott Medal for this invention as "the most deserving." For details of construction and tests see CSA 1245, 5 December 1883.

1257 Kitsee, J. Cincinnati, Ohio. Electrical Fire-Damp Indicator. William H. Greene, George A. Koenig, M. B. Snyder, John Birkinbine, F. A. Genth, Jr., Charles A. Ashburner, Lemuel Stephens. This will indicate the explosive character of the atmosphere and its indications are perfectly trustworthy. It will not function if the wire gauze is clogged with dust. Practical tests should be made. 7 May 1884. Kitsee to CSA, 18 October 1883. Ashburner to Wahl, Kitsee's apparatus is not a practical one, 28 May 1883. Luther to Eldridge, Kitsee's device would fail to be practically safe and reliable, 6 February 1884. Greene to Wahl, Comm regards it as meritorious and theoretically perfect, with note that Snyder, Koenig and Genth approve Green's Ltr, 1 May 1884. Kitsee to Greene, Descr of mines, danger from fire, role of fire-boss in preventing explosions, 21 April 1884. Kitsee to Wahl, in German, 5 February 1884.

1258 Little, Henry H. Camden, New Jersey. Fire Escape. Harold A. Freeman, William B. Cooper, C. John Hexamer. This is of the class of portable fire escapes which are mounted on truck or wagon bodies. While its construction exhibits much ingenuity, several defects greatly impair its practical usefulness. 7 May 1884. Little to CSA, 19 September 1883. Pt.

1259 Marshall, William Morat. Philadelphia. Lamp. Charles H. J. Chormann, Ernest H. Diego. This is an ordinary glass lamp enclosed in a metal and mica case. It has no practical merit and would cost more than either a glass or metal lamp. 5 March 1884. Marshall to CSA, 12 October 1883. Pt. Descr.

1260 Jenkins, James. (Applicant). Harrisburg, Pennsylvania. Center Bearing Truck. Rufus Hill. No Report. Comm Disc 2 April 1884. Jenkins to CSA, 4 June 1883, with note on Disc Booklet, Central Support Car-Truck Co., 1883.

1261 Sharp, Joseph. Cincinnati, Ohio. Belting. S. Lloyd Wiegand. No Report. Comm Disc 5 November 1884. Sharp to CSA, September 1883. Adv.

1262 Rappleye, Hannibal W. Philadelphia. Gas Burner: Request for Medal. Lemuel Stephens, Luther L. Cheney. Rappleye burner is novel, ingenious and cheap. Scott Medal (See CSA 1206). 7 December 1883. Rappleye to CSA, requesting medal, 10 October 1882. Moses G. Wilder, Protest against Award to Rappleye (1206) for his Rheometric Gas Burner. Protest Sustained 5 May 1856. Wilder to FI, lists objections and refers to original letter a year earlier, nd, with note by Wahl on referral back to Comm, 4 November 1885. Typed Dup. Lemuel Stephens, Luther L. Cheney, James M. Richmond. It is entirely effectual and durable in its operation. Written 22 March 1886. Wilder to FI, has read 22 March report and will not 'waste any further time on the matter', 25 April 1886. 2 Pt. 5 Illus - Peebles, Giroud, Rappleye Burners, with notes by Wilder.

1263 Dilkes, Joseph W. Raising and Lowering Propellers. Advisory Report. Folder Missing.

1264 McFadden, Patrick. Philadelphia. Saddles. J. B. Burleigh, Stephen Morris. This adjustable terret and saddle can readily be attached to and detached from any harness. It will meet with universal commendation. 6 February 1884. McFadden to CSA, 14 November 1883. 3 Pt.

1265 Wahl, William H. (Applicant). Philadelphia. Cast Iron as a Material for Boiler Heads. S. Lloyd Wiegand. As Comm was appointed by direction of the FI and in view of recent amendments to By-Laws, Comm suggests they be constituted a Special Comm to report to FI through the Secy. Comm Disc 6 October 1886. Wahl, Secy, to CSA, January 1884. Wiegand to Wahl, report on progress, 4 June 1884. Wiegand to Secy, CSA, report on progress and request for testing machine. 30 December 1884. Wiegand to Wahl, on test borings made, nd.

1266 Pratt, F. A. (Applicant). Hartford, Connecticut. Cut-Gears. Hugo Bilgram, Cyprien Chabot, Luther L. Cheney. This is a system for producing epicycloidal spur gears of a very high degree of perfection. Cresson Medal for putting into practice the system of producing cutters and Scott Medal for the ingenuity displayed in construction. 8 June 1886. JFI August 1886. Pratt, Pres., Pratt & Whitney Co., to CSA, 11 February 1884. Pratt, 9 February 1884. Booklet, C. W. MacCord, "The Teeth of Spur Wheels," 1883.

1267 Conference Comm. Attractometer Reports. (See also CSA 1216) No Report. Folder Missing.

1268 Jay, P. Eymord. New York. Anti-Freezling Valve. B. Frank Teal, Cyprien Chabot, William B. Cooper. An expansion rod contracts in the cold, opening a waste valve on the pipes in the house. The flow of water prevents freezing. Reliable. 2 April 1884. See CSA 1270. Jay to CSA, 9 November 1883. Adv.

1269 Eldridge, G. Morgan. Philadelphia. Electro-Magnetic Protector for Electrical Instruments. Addison B. Burk, E. Alexander Scott, A. F. Fleischmann. This is to protect electrical signalling instruments from the injurious effects of abnormal currents from thunderstorms or accidental connection with electric light wires. It acts to ground or shunt the extra current, adjusting itself to the strength of the current. Tests gave satisfactory results; Comm had no means of determining its action with lightning. With note on adoption by Electrical Section, 15 February 1884. 2 April 1884. CSA referred this appl to ES of FI for examination and report. Eldridge to CSA, with note on ES, 3 November 1883.

1270 Jay, Pierre Eymord. New York. Anti-Freezing Valve. William B. Cooper, Cyprien Chabot. This is a meritorious application of the well-known principle of the expansion and contraction of metal. Recommend Scott Medal. 5 November 1884. Jay to CSA, to examine Valve (CSA-1268) for a medal, April 1884. Pt. Adv with Report CSA-1268. Disclaimer and Claims. W. B. LeVan to Wahl, objecting to award of the medal to Jay's valve which LeVan calls "not new or useful" and similar to valves not "effective in action", 22 December 1884. Cooper and Chabot, Report on W. B. LeVan's evidence as "insufficient." Recommendation, 1 April 1885, with note on adoption 6 May 1885. Sarony-Lambert, V. Pres., The Manhattan Automatic Anti-Freezing Valve Co. to Wahl, with T, 18 March 1885. Adv for Expansion Steam Trap.

1271 Meatyard, Edward B. Lake Geneva, Wisconsin. Die Hammer. George S. Strong. No Report. Comm Appnt 7 April 1884. Meatyard to CSA, 6 April 1884, with note on Appl Withdrawn November 1885. 2 Pt, with note from Coburn & Thacher, Attorneys, to Wahl. 22 March 1884. Meatyard to Wahl, applying at R. Grimshaw's suggestion, 15 March 1884. Meatyard to Wahl, Descr, 15 March 1884.

1272 Fulton, Harmon H. and Olsen, Olaf R. Indianapolis, Indiana. Steel Rimmed Pulley. Hugo Bilgram. No Report. Comm Disc 5 November 1884. Fulton and Olsen to CSA, nd. Fulton, Pres., Indianapolis Machine and Bolt Works, to CSA, nd. Indianapolis Machine and Bolt Works to Wahl, 31 January 1884. Pt. "A New Pulley," The Milling World, IX, No. 14 (31 January 1884).

1273 Rossiter, Lindsey C. Port Carbon, Bridgeport P. O., Pennsylvania. Axles. William B. Eltonhead, Cyprien Chabot. These may be conveniently oiled but do not prevent dirt from entering the hub, which will cause the axle and hub to wear out much sooner than the ordinary axle and hub, when kept clean. 5 August 1885. Rossiter to CSA, 21 January 1884. Adv with T. Rossiter to Secy, nd.

1274 Metzler, Christian E. and Burrell, John H., Jr. Philadelphia. Signal Lantern. Luther L. Cheney, C. Henry Roney, William P. Cox, G. Morgan Eldridge. This combines the safety signal lantern with the danger signal lantern by having two different colored globes form the body of the lamp. A safety signal can be instantly converted into a danger signal by simply reversing the movable body of the lamp. Scott Medal. 3 December 1884. JFI April 1885. Metzler to CSA, 21 February 1884. Pt. Metzler, Treas., Metzler Railway Signal Lantern Co. of New Jersey, to Secy, FI, with Descr, 19 February 1884. Typed Dup.

1275 Bryant, George B. Pottsville, Pennsylvania. Lubricator. Charles E. Ronaldson, Luther L. Cheney, Otto C. Wolf. This automatic lubricator strains the oil of impurities and is extremely economical. Bryant to CSA,.12 February 1884. Pt. Bryant to CSA, with claims, 12 February 1884. Adv, Cooke & Co., Dealers in General Machinery & Supplies. Ronaldson, Comm on Exhibitions, to CSA, 1 July 1885. Final action deferred to after practical tests during Novelties Exhibition (Minutes, 1 July 1885).

1276 Jenkins, Jabez. Philadelphia. Wire Gauze Insole. Charles H. J. Chormann, William B. Eltonhead, Cyprien Chabot. These are good in damp or cold weather, but in warm weather they tend to make the feet warm. 7 January 1885. Jenkins to CSA, April 1884. Descr with Pr Descr. 2 Pt. Typed Dup.

1277 Pietsch, Herman. New York. Stench Trap. William B. Cooper, J. Sellers Pennock, Cyprien Chabot. It has no meritorious novelty; the valve intended to prevent the destruction of the water seal is not likely to be in an air seal at first and will soon become foul and useless. 3 December 1884. Pietsch to CSA, with Pr Descr, March 1884. Pt. Adv. Pietsch to Wahl, 16 March 1885. Pietsch to Wahl, 16 March 1885. 10 T. List of 'References'. "Sewer Gas Prevented", with Np, nd. Pr Notes of Medal of Superiority awarded by Am. Institute to Pietsch, 1883, with lengthy T. W. B. Cooper, J. S. Pennock, to CSA. Report on Objections Made, 30 June 1885. Typed Dup (1884 Report).

1278 National Anti-Sewer Gas Co. (Applicant). Philadelphia. System of Inspection and Disinfection of Soil Pipes. William B. Cooper. No Report. Comm Appnt 25 April 1884. J. E. Wooden, Secy. Descr, nd.

1279 Gould, William F. Des Moines, Iowa. Rail Joints. Rufus Hill, Cyprien Chabot. No decided improvement over joints now in general ise. The cost and increased number of parts are detrimental to general use. 7 January 1885. Gould to CSA, April 1884. Gould, Descr with Illus. 2 Photo. Typed Dup.

1280 Shrieves, Charles D. and Cook, John E. Philadelphia. Underground Conduit for Electrical Wires. Addison B. Burk, D. S. Holman, Perkins. Report Missing. Appl written 21 May 1883. CSA referred this Appl to Electrical Section of FI for examination and report. Photocopies (originals in ES - Reports). Appl, not signed, 21 May 1883. Shrivers and Cook to ES, Descr, nd. Wahl to Scott, Pres., ES, on Scott's Ltr (18 October) referring to appnt of Comm, 8 December 1883. Burk to Scott, on Shrieves and Cook report and Woodbury report (CSA-1281), 24 July 1884. Wahl to Scott, 11 April 1884. Descr. Pt.

1281 Woodbury, C. J. H. Testing Electric Light Mains. Scott Medal. Folder Missing.

1282 Doerr, John Henry, Camden, New Jersey, and Wigmore, William H. Philadelphia. Sleeping Car. William Barnet LeVan, Charles E. Ronaldson, George W. Wilson, Cyprien Chabot, Rufus Hill. The upper berth, when not in use, is lowered and secured in a groove in the wall so as to make it ornamental. The construction of the car permits easy cleaning. Scott Medal. 4 March 1885. Doerr to CSA, 29 April 1884. Doerr to CSA, May 1884. 4 Pt. 2 Descr.

1283 Anderson, A. and Anderson, F. S. Golt, Maryland. Rail Joint. Rufus Hill, George W. Wilson, Cyprien Chabot. The only feature is the rail being cut on an angle, while rails in use are cut square on ends. Not of sufficient novelty to recommend it to consideration. 6 May 1885. Appl, December 1884. Anderson and Anderson, International Lumber Co. to Wahl, 19 August 1884. Typed Dup.

1284 Goodall, A. B. Steam Engine. No Report. Folder Missing.

1285 Hogan, Timothy. Philadelphia. Axle Box. Rufus Hill. No Report. Appl Dismissed. 7 October 1885. Hogan to CSA, 7 May 1884, with note on Dismissal. Descr.

1286 Gibbons, Thomas H. Albany, New York. Rail Joint. Harold A. Freeman, Rufus Hill, Cyprien Chabot. The doubling of the joints, the impossibility of fitting the ends of the rails accurately to the "joint", and the looseness of the rails in the joint all tend to render this joint of no practical value. 4 March 1885. Gibbon to CSA 8 April 1884. Lengthy Descr with data. Typed Dup. Pr Booklet.

1287 d'Heureuse, Rudolph. New York. Trap. William B. Cooper. No Report. Comm Disc. 7 October 1885. d'Heureuse to CSA, 11 October 1884, with note on Dismissal. Descr. Pt.

1288 Anderson, A. Goltz, Maryland. Axle Nut for Carriages. William B. Eltonhead, Cyprien Chabot, John Server. While the inventor is to be complimented for the ingenuity and skill he has displayed in the invention and construction of this automatic nut, its liability to injury renders it an unsafe device. 4 February 1885. Anderson to CSA, May 1884. Anderson, Secy International Lumber Co., to Wahl, Descr, 20 May 1884.

1289 Eltonhead, William B. Philadelphia. Nut Locks. Rufus Hill, Harold A. Freeman, Cyprien Chabot. The two locking bars are provided with saw teeth for a short distance and, when in place, interlock to make a continuous whole. Nuts are provided with recess to retain interlocking device in position. This is simple, substantial and cheap. Certificate of Merit. 4 February 1885. Eltonhead to CSA, 8 November 1884. Pt. Typed Dup.

1290 Maginnis, James P. London, England. Drawing Instruments. William H. Thorne, Carl Barth, Victor Angerer. Most of the purposes of this universal sector can be better accomplished by other devices already in use. The Dead-Beat Section Liner lacks novelty and, while perhaps capable of a more delicate adjustment, is not an improvement on those already in use. Very few practical draughtsmen use section liners ad the disadvantages outweigh the advantages. Illus. 4 March 1885. Maginnis to CSA, October 1884. Descr with Illus, nd. 2 Illus, October 1884. Maginnis to Wahl, 9 October 1884. Descr, 3 June 1884. "Maginnis's Universal Sector" from Mechanical World, 7 September 1883. "Maginnis's Dead-Beat Sectioner", from Iron, 23 March 1883. "Maginnis's New Drawing Instruments", from The Railway Engineer, November 1883, with Pr Descr, Illus. Specimens of Ruling. Adv.

1291 Van Gestel, J. T. Philadelphia. Incandescent Electric Lamp. ES. Comm unable to report due to lack of lamp and absence of inventor. Comm Disc 3 March 1886. CSA referred this Appl to ES of FI for investigation and report. Van Gestel, with note on being represented by Gladding, to CSA, 20 January 1885. Haines, Secy ES to Wahl, Secy CSA, on inability to report, 15 January 1886.

1292 Wiegand, S. Lloyd. Philadelphia. Car Coupler. Rufus Hill, Cyprien Chabot. When the two hooks are interlocked, a coupling pin must complete the union to prevent disengagement. Making the coupling operative and interchangeable would necessitate a change in entire equipment of a railroad and all connecting roads. Device is impracticable. Comm Appnt 26 January 1885. Appl, 19 January 1885. Pt. Wiegand, Descr comparing Wiegand and Janney and Miller couplers, nd. Wahl to Wiegand, 26 May 1885. Wiegand to Wahl, on Comm asking him to withdraw Appl, 29 May 1885.

1293 Willis, Samuel. Camden, New Jersey. Bearing and Axle Box, Railway Car. C. Henry Roney, Cyprien Chabot, Rufus Hill. With one oil filling these bearings will generally outwear at least two sets of wheels. Scott Medal. 6 May 1885. Wills to CSA, January 1885. 2 Pt. Lister, Supt. El Ferrocarril Nacional Mexicano, to Wills, on use of Wills' bearing on Camden and Atlantic RR, Pr, 15 November 1883. Typed Dup.

1294 Miller, John H. Philadelphia. Engines for Pumping Liquids or Gases. S. Lloyd Wiegand, William Barnet LeVan. This arrangement of levers is not new and wastes power. In an Advisory Report, Comm advises that the invention is not worthy of prosecution. 4 March 1885. Miller to CSA, 13 January 1885. Miller, Descr, 13 January 1885.

1295 Siemens, William and Siemens, Frederick. Ronaldson, Charles E. (Applicant). Philadelphia. Gas Burner, Regenerative. Lemuel Stephens, Luther L. Cheney. The products of combustion are removed completely by ventilating pipes and the pure while light is absolutely steady. 3 June 1885. Amended to include award of Scott and Cresson Medals. Ronaldson, for Siemens' Regenerative Gas Lamp Co., to CSA, 16 January 1885. Descriptive Pamphlet. Adv. Pr Directions. Ronaldson, "Siemens' Regenerative Gas Burners," JFI, October 1884. See CSA-1298, Porter, Dept, of State, to Wahl, on forwarding award to Siemens in Europe, 1 February 1886.

1296 Clarke, Robert. Brooklyn, New York. Gas Trap. William B. Cooper, J. Sellers Pennock, Frank P. Brown. The form of this bottle-shaped trap is less desirable than the ordinary "S" trap. 1 April 1885. Clarke to CSA, December 1884. Pt. Adv. MacDonald to Clarke, T, 5 January 1885. Raymond, Commissioner (Brooklyn) Dept. of Health, to Clarke, approval of trap. 7 February 1885. Hanna to Secretary, FI, 11 February 1885.

1297 Delany, Patrick B. Houston, Edwin J. (Applicant). Berlin, Pressia. Synchronous Telegraphy. W. W. Griscom, Addison B. Burk, Alexander E. Outerbridge, Jr., Charles M. Cresson, W. J. Phillips, David Brooks, E. Alexander Scott (ex-officio). Delany's system is based on LaCour's Phonetic Wheel. The pratically perfect synchronism attained by Delany's invention is a most important advance in the art of telegraphy.Cresson Medal. CSA referred this Appl to ES of FI for examination and report. 4 March 1885. JFI April 1886. With note of Scott Medal awarded to Delany and his associate, E. A. Calahan, Illus. Houston to Wahl, 3 December 1883. Outerbridge to Wahl, on serving on Comm, 7 January 1884. Sellers, Secy, ES, referring to report, to Wahl, 10 January 1885. Porter, Dept. of State, to Wahl, on forwarding awards to LaCour and Siemens (CSA 1295) in Europe, 1 February 1886. Cheir, Dept, of State, to Secy, FI, on forwarding LaCour's receipt of Scott Medal and protesting award to Delany, 7 July 1886, with note from Anderson confirming parts of LaCour's lengthy Ltr. Delany to Wahl, offering to provide any further proof, 2 October 1886. Delany to FI, on impracticality of LaCour's system, 1 October 1886 (lengthy). LaCour to FI, forwarding T, 12 March 1887 with note from Wahl referred to Comm. T, Granet, Minestere des Postes et des Telegraphs, with history of telegraphy in French and trans., 26 February 1887. Granet, extracts from reports and trans., 4 January 1887. Hake, Kaiserlich Deutsches Reichs-Postamt, 11 February 1887 and trans. Fourts, Direction des Telegraphes d'Etat de Danemark, 9 February 1887 and trans. Pt., British, Wolff, Agent for LaCour. Scott, Houstin, Outerbridge, Wahl. LaCour's system was not sychronous. Full justice was done to him in the award of the Scott Medal for the invention of the Phonetic Wheel; but the credit for inventing and perfecting the synchronous system belongs to Delany. Written, 1 May 1887.

1298 Eldridge, G. Morgan. Philadelphia. Compensating Pendulum. Louis H. Spellier, Charles H. Shain, Cyprien Chabot. The essential idea was anticipated by several mechanics. This pendulum compensates for the effect of temperature and attains uncommonly favorable efficiency. 3 March 1886. Eldridge to CSA, 24 February 1885. Descr. Eldridge, note on location of a sample, 24 February 1885. Eldridge to CSA, with Descr and Descr of other pendulums, 23 April 1885. Copy of Pt specification and Illus.

1299 Harden Hand Grenade Fire Extinguisher Co. (Applicant). Chicago, Illinois. Fire Extinguisher. W. L. Boswell, William McDevitt, Cyprien Chabot. The mixture is superior to water. It must be thrown with accuracy to be effective and smoke may prevent this. The bottle holds about a pint. Comm recommends this as an auxiliary agent but emphasizes that nothing can take the place of a full supply of water readily accessible. 7 October 1885. Harden Hand Grenade Fire Extinguisher Co. to CSA, 27 February 1885. Adv. Pr. Booklet. 8 T: Liggett & Myers Tobacco Co.; Camden Horse Railroad Co (2); Lager Beer Brewer, B. Gage Berry & Co., Publishers of The Chennango Telegraph, Colonnade Hotel; Jordan, Marsh & Co., Advocate Printing Co.

1300 Chabot, Cyprien. Philadelphia. Sole Channeling Machine. Luther L. Cheney, L. Leech, John Shannon, Henry Lithgow. The object is to effect the automatic guiding of the sole as it is fed through the machine. The depth of the channel is automatically regulated, according to the thickness of the sole. These machines for channeling and beveling are admirably designed and are of superior workmanship. Scott Medal. 8 June 1885. Chabot to CSA, 4 February 1885. 2 Pt Typed Dup.

1301 Chabot, Cyprien. Philadelphia. Shoe Sewing Machine. Luther L. Cheney, L. Leech, John Shannon, Henry Lithgow. This sews with a straight needle on an ordinary last. It is noiseless and light running and does its work in the most substantial manner. Cresson Medal, 3 June 1885. Chabot to CSA, 19 February 1885. Pt. Typed Dup.

1302 Chabot, Cyprien. Philadelphia. Sole Edge Turning Machine. Luther L. Cheney, L. Leech, John Shannon, Henry Lithgow. The object of this automatic machine is the uniform turning down of the edge of the sole.

1303 Williamson, A. McIntosh. Philadelphia. Wheel. John Server, William B. Eltonhead, Cyprien Chabot. This combined spoke and felloe rubber cushioned carriage wheel does not prevent "chewing off of the tenon of the spoke." This improvement is an important one. Williamson to CSA, 1 March 1885. Pt. Adv. Descr.

1304 Williams, Samuel T. Newark, New Jersey. Metal Wheel. William B. Eltonhead, John Server, Cyprien Chabot. After testing, Comm feels safe in recommending this as one of the best; with improvements in proportion they will bring in direct use every ounce of metal in their construction. 7 October 1885. Williams to CSA, 5 March 1885. Williams, The Williams Tension Wheel Company, to CSA, 5 March 1885. 4 Pt. 14 pages typed test data. Typed Dup. 7 papers - Descr.

1305 Bear, Theophilous L. Camden, New Jersey. Watch Case Spring. Cyprien Chabot, Reese S. Peters, William B. Eltonhead. The two essential requirements of a good watch case spring are impossible in this invention, owing to its nature. 6 January 1886. Bear to CSA, March 1885.

1306 Lowe, Thaddeus S. C. Norristown, Pennsylvania. Water-Gas Process and Apparatus. Samuel P. Sadtler, George A. Kornig, Lewis M. Haupt, William H. Wahl, Otto C. Wolf, Henry Pemberton, Jr., Pedro G. Salon. Carbonaceous substances are heated by internal combustion to manufacture hydrocarbon and other fuel gases. Comm did not perform new tests as sufficient reliable data was available from the report of the Special Comm appointed by the Judges of the 'Novelties' Exhibition where the process was exhibited. As gaseous fuel will in the future displace solid fuel wherever the two really come into competition, this invention is of very great value. Cresson Medal. JFI February 1887. Lowe to CSA, 30 March 1885. "Report on Water-Gas" by Special Comm appnt by the Judges of the 'Novelties' Exhibition with historical view, 1886 (booklet).

1307 Hickman, Francis. Philadelphia. Hose Couplings. S. Lloyd Wiegand Cyprien Chabot, G. Morgan Eldridge, Herman V. Hetzel. This invention allows the user to unite pieces of rubber hose easily and securely. It is simple, cheap, convenient and effective. 1 July 1885. Ltr to CSA, 4 March 1885. 4 Pt. Typed Dup.

1308 Taylor, Enoch Lewis. Philadelphia. Metallic Railroad Tie. Rufus Hill. No Report. nd. Taylor to CSA, 11 February 1885. Baumgardner to CSA, 11 February 1885. Booklet. Pt and copy.

1309 Cook, Henry. Philadelphia. Anaesthetizer. N. A. Randolph, Andrew J. Parker, Francis K. Dercum. This device economizes the abaesthetic used and would probably lessen somewhat the dangers attending the administration of chloroform. 1 July 1885. Cook to CSA, December 1884. Adv. Pt. Cook, Dr. H. Cook and Co., Descr with Illus, December 1884.

1310 Finlay, Leonard. Little Rock, Arkansas. Center Bearing Car Truck. C. Henry Roney, Charles E. Ronaldson. The invention is meritorious in distributing the load of the freight car over three points in place of over two as heretofore usual, thus tending to increase the life of each rail passed over. 6 January 1885. Finlay, per W. H. Wahl, to CSA, 8 April 1885. Finlay, Hot Springs Railroad Co., to Wahl, asking Wahl to fill out the form application, 19 March 1885. Finlay to Wahl, on model, 26 March 1885. Finlay to Grimshaw, on Pr Descr, 17 April 1885. Finlay to Wahl, on Descr and Pt, 17 April 1885. Pt. Roney, Phila. Midland Railroad Co., to Wahl, 2 December 1885.

1311 Weber, Frederick. Philadelphia. Drawing Board. William H. Thorne, Victor Angerer, Carl Barth. With the improvements suggested by the Comm, the Weber board would probably be preferable to the old style panel board. With Illus. 2 September 1885. Weber to CSA, 31 March 1885. Pt. Adv.

1312 Ives, Frederick E. Isochromatic Photography. Coleman Sellers, John Sartain, Samuel Sartain, Joseph M. Wilson, John Bullock, W. Curtis Taylor. This processing, using chlorophyl, is the first working, practical process of photographing colors in their relative degree of light and shade as they impress the eye. Mr. Ives is entitled to high commendation for the complete publication in all its details of his process, as well as the high degree of perfection of the results obtained. Scott Medal. With Appendix: Descr and test data and note by Frederick Graff, Wilson and Bullock, on satisfactory results. 4 August 1886. JFI October 1886. Ives to CSA, 11 June 1885. 9 Photos.

1313 Himrod, William Gibson. Philadelphia. Submerged Water-Filter. G. Morgan Eldridge, Otto Luthy. This filter is easily cleaned and recharged, a feature modern investigations have demonstrated as necessary in order to prevent the filtering media from becoming a means of propagating bacterial life instead of suppressing it. It is heartily recommended to all consumers of ice-water. 1 September 1886. Himrod to CSA, 22 June 1885. Pt. 3 Adv. Sub-Merged Filter Co., (Limited).

1314 Bilgram, Hugo. Philadelphia. Bevel Gear Cutter. William H. Thorne, Wilfred Lewis, Carl Barth, Luther L. Cheney, Otto C. Wolf, Cyprien Chabot, Thomas Shaw. This is a remarkable example of an original machine for cutting theoretically perfect teeth in bevel gears. Cresson Medal. CSA amended it to award Scott Medal also. 8 June 1886. JFI August 1886. Bilgram to CSA, 6 May 1885. Pt. "Bilgram's Bevel Gear Cutter" American Machinist, 9 May 1885.

1315 Grant, George B. Boston, Massachusetts. Odontograph. C. C. Newton. No Report. Comm Disc 1 December 1886. Grant to CSA, 15 May 1885, with note, Wahl, on Dismissal. Grant, Descr, 12 May 1885.

1316 Johnson, Samuel B. Philadelphia. Hayward Hand Grenade Co. (Applicant). New York. Hand Grenade Fire Extinguisher. W. I. Boswell. No Report. Hayward Hand Grenade Co., per Lovering & Co., to CSA, 23 May 1885. Notarized identification of E. Francis Eldredge as Secy and Treas of Hayward Hand Grenade Co., 11 June 1885. Clark, Hayward Hand Grenade Co., is licensed to manufacture and supply Johnson's extinguishers, 6 February 1885. Johnson, Pt and Dup. Bartlett, P. 2 Adv. Pr Booklet. Comly, General Manager H. H. G. Co., to Secy, 'Novelties' Exhibition FI, 11 June 1885, with list of documents. Pr T: John Meigs, Hill School, 30 March 1885. Falkenau and Reese, State (Calif) Assay Office, 28 March 1885, Smith, 15 May 1885. Detwiller and Street, Excelsior Fireworks, 2 April 1885. Louis E. Ryder, 9 April 1885. Kohnfurchgott and Benedict, 1885. Dahlgren, Treas, National Mfg. Co., 13 April 1885.

1317 Griffiths, Amos E. Philadelphia. Crusher and Pulverizing Mill. George A. Koenig, Lewis M. Haupt, Lemuel Stephens. In the amended report finally adopted, the machine is highly commendable. The union of a grinding surface under the crushing parts is very happy. The earlier draft of the Supplementary Report describes the improvements the inventor made. These removed the objections of the first report

1317 (continued) containing a note by a Comm member who took exception to the original conclusions. With Illus. 5 January 1887. Griffiths to CSA, 19 May 1885. 2 Pt. Adv, with note on meeting. 2 Adv. Adv with explanatory note. Comparative Cost and Expense of Repairs. Comparative Purchasing Costs. Descr. Stephens to Wahl on comparative expense and work accomplished, 5 October 1886.

1318 Dutton, Chauncey N. Philadelphia. Fluid Meter. Hugo Bilgram. No Report. Comm Disc 1 December 1886. Dutton to CSA, 5 May 1885, with note on Dismissal. Dutton to Comm, Descr, nd.

1319 Mercer, David. McDevitt, William J. (Applicant). Bethlehem, Pennsylvania. Balanced Valve. Hugo Bilgram. No Report. Comm Disc 1 December 1886. McDevitt, per Bell, to CSA, 6 April 1885, with note on Dismissal. Pt.

1320 Cooper, William B. Philadelphia. Thermo-Magnetic Motor. Robert B. Haines, Jr., Murray Bacon, A. F. Fleischmann. Although the motors presented were very interesting and performed positive motion, they were too crude and unfinished to reach any conclusion. Comm feels compelled to say that it was appointed to examine a practical working machine and that the investigation of theories unsupported by conclusive experiments was beyond its province. 2 September 1885. CSA referred this Appl to ES of FI for examination and report. Cooper to CSA, 10 March 1884. Cooper, lengthy Descr with 3 Illus. 10 March 1884. Cooper to Comm, on model, 10 March 1884. Cooper to Comm, with lengthy Descr and 2 photos, 19 January 1885. Cooper, Descr of Improved Armature for Thermo-Magnetic Motor, Photo, nd. Griscom, Pres., The Electro-Dynamic Co., to Haines, forwarding 1885 corres from Cooper to Griscom, Chm, ES. These 17 Ltrs (26 June-2 May) include Descr, modifications in armature, experiments, discussion on specific heat of iron, literature in this field, with 2 Illus, 6-7 February 1885. Cooper to Haines, 8 Ltr (23 January - 11 July 1885) on experiments, asking for secrecy as regards details of his motor, comparison of his motor and steam engine, Descr. Haines, Secy, ES, to Wahl, Secy, CSA, forwarding report accepted by ES, 17 July 1885.

1321 Phelps, Lucius J. New York. Induction Telegraph. E. Alexander Scott, H. Fondersmith, Addison B. Burk, A. R. Kiefer, Alexander E. Outerbridge, Jr., James Wilson. This utilizes induction to maintain communication between moving train and the dispatcher's office. It is successfully accomplished by ingeniously constructed mechanism. CSA referred this Appl to ES of FI for examination and report. With note from Heyl on award of Scott Medal. 6 January 1886. JFI July 1886. Phelps to CSA, 25 July 1885. 2 Pt. Adv. Haines, Secy, ES, to Wahl, Secy, CSA, forwarding report accepted by ES, 17 November 1885. Partial Draft on FI paper. Hall, Secy, The Phelps Induction Tel. Co., to Secy, FI, inviting Comm to examine the system, 25 July 1885.

1322 Walter, William. Philadelphia. Underground Electrical Conduit. James Wilson, Edgar Croasdale, D. E. Crosby. This system has several novel features. The ventilation, however, is not sufficient and the drainage from the conduit to the sewer is not well provided for. 4 November 1885. CSA referred this Appl to ES of FI for examination and report. Walter to CSA, April 1885. Walter to Comm, Descr, nd. Descr. 2 Pt. Haines, Secy, ES, to Wahl, Secy, CSA, forwarding report accepted by ES, 30 September. Haines, Secy, ES, to Wilson, on Comm, 21 May 1885. Walter to Chm, CSA, protest against disparaging comments based on error in the report, 5 May 1886.

1323 Burk and McFetridge. Philadelphia. Map of Philadelphia. Lewis M. Haupt, Howard Murphy, Rudolph Hering. It is a very attractive and accurate representation of the Philadelphia of today. The natural boundries are represented approximately as they would appear in perspective. 4 November 1885. Burk and McFetridge, per Archer, to CSA, 15 October 1885. Burk to McFetridge, Letter-Press and Lithographic Printers, to FI, asking for prompt action, 28 October 1885.

1324 Greene, Francis Vincent. Philadelphia. Process for Extracting Oil and Albuminold Matter from Corn. Otto S. Luthy, J. N. Eastwick, H. W. Jayne. Comm had no chance to see the process carried out, yet they are under the impression that it should work to satisfaction. The drying of the precipitate will undoubtedly be somewhat difficult and expensive. As the process purifies the waste-waters of starch factories, its introduction should be encouraged even if it should fail to pay large profits as an enterprise of its own. With note on amendment to award Scott Medal. 6 January 1886. CSA referred this Appl to Chemical Section of FI for examination and report. Greene to CSA, 1 June 1885. Pt. Pemberton, Secy, Chemical Section, to Wahl, Secy FI, forwarding report, 11 November 1885. Brenneman, Phila. Vinegar Co. to Greene on satisfactory results from experiments, 23 November 1885. T: Brenneman, with data, 3 December 1885.

1325 Bilgram, Hugo. Philadelphia. Bevel Gear Cutter. See CSA-1314 (Appl Dup).

1326 Trout, George B. Black, Joseph H. (Applicant). Columbia, Lancaster County, Pennsylvania. Car Wheel. Rufus Hill, Luther L. Cheney, Cyprien Chabot. This construction of a loose wheel is claimed to admit of running over curves without friction. Comm considers the use of bolts an element of danger on steam roads. Comm cannot recommend loose wheels for any other purpose than street car traffic, where the element of speed is not taken into consideration. 5 May 1886. Black to CSA, 17 December 1884. Pt. Black, Descr, nd.

1327 Klee, James L. Milford, Delaware. Marine Signal Lights. John Haug. No Report. Comm Disc 2 June 1886. Klee to CSA, 12 March 1885. Haug, Mechanical Engineer and Marine Architect, to Wahl, on inability of Comm to proceed further, 27 May 1886. Klee to Wahl, on Comm's inability to form an opinion and why Klee did not provide a model in order to challenge FI's inventigation and scrutiny as to the underlying principles, 20 May 1886. Desc, showing the defects of the actual System of Marine Night Signals and the merits of Klee's Signal.

1328 Wasserman, A. Philadelphia. Regenerative Gas Burner. Lemuel Stephens, Luther L. Cheney, Thomas W. Jenkins. This is an Argand burner with a circular flame. Test results were favorable, being better than those of the standard Argand burner. 7 July 1886. Wasserman to CSA, Descr, 29 August 1885. Wasserman, The Wasserman Regenerative Gas Lamp Co., to Stephens, on corrections in Judges Report of the Novelties Exhibition, 4 June 1886.

1329 Allen, Horace R. Greene, J. N. (Applicant). Indianapolis, Indiana. Automatic Douche. Adam Trau, N. A. Randolph, Orville Horwitz. This is preferable to any other apparatus when used to inject fluids into the rectum. The nozzle apparatus is commended, with the suggestion that the orifice be made smaller and thus consistent with safety. The vaginal apparatus does not appear to contain any special advantage over similar instruments. Greene to CSA, 19 February 1886. 4 Pt. Draft.

1330 Patten, George. Gummey, Spering, Ingram & Co. (Applicant). Washington. Metallic Shingle. G. Morgan Eldridge, George H. Perkins. The lower edge is turned down to prevent the ingress of water by capillary attraction. It is an advance in the art of making shingles of metal. 6 October 1886. Gummey, Spering, Ingram & Co., to Wahl, forwarding Pt, 12 March 1886. Pt. Perkins to Wahl, declining chairmanship and on the value of the shingle as an example, 31 May 1886.

1331 Jackson, George F. Philadelphia. Car Coupling. C. Henry Roney, Cyprien Chabot. It will be difficult to make some of the parts of sufficient strength to be of use in practice. Its principal advantages seem to be its adaptability to couple with other couplers using links, together with its capability of coupling without danger to the train hands. 4 August 1886. Jackson to CSA, 11 January 1886. Pt. Descr of Special Features.

1332 Farra, Lorenzo D. Philadelphia. Mechanical Movement. S. Lloyd Wiegand, L. D'Auria, Charles J. Shain. Comm does not consider it usefully applicable to heavy and quick moving machinery and suggests that their report be advisory and not intended as a public criticism. 5 May 1886. Farra to CSA, 18 February 1886. Pt. Pr Circular. Wahl to Wiegand, note on envelope on the report being an advisory one, nd. Wiegand to Wahl, on Chm, 30 March 1886.

1333 Grau, Philip J. Philadelphia. Feed Water Purifier. S. Lloyd Wiegand, Luther L. Cheney, James Eccles, John Haug. Water is heated before entering the boiler and the impurities are precipitated and deposited on the bottom of the purifier. The apparatus in operation is simple and effective. Scott Medal. 5 May 1886. Grau to CSA, 12 February 1886. Pt. Adv. Pr Circular.

1334 Cowles, Eugene H. and Alfred H. Electric Furnace. Lyman B. Hall, Henry Pemberton, Jr., Henry Trimble. Intense heat is obtained by the passage of a powerful current of electricity through a conductor of great resistance. The Messrs. Cowles have furnished a distinctly new and important metallurgical process. JFI Fuly 1886.

1335 French, Cicero R. C. Providence, Rhode Island. Reamer and Screw-Tap. Murry Bacon, Israel H. Johnson, Jr., James Caldwell. These will no doubt perform faithful service where the work required of them is light. Comm feels that the ease with which they may be altered renders an evasion of standard sizes too tempting for the average workman. They are not sufficiently durable for reaming wrought iron or steel to warrant the increased cost. French, The French Adjustable Tool Co., to CSA, 1 March 1886. 2 Pr Circulars. 3 Pt.

1136 Ramsey, Robert Henry. Cobourg, Ontario, Canada and Philadelphia. Railway Car Transfer Apparatus. S. Lloyd Wiegand, Luther L. Cheney, John L. Gill, Jr., Edward Longstreth, Alexander E. Outerbridge, Jr., Rufus Hill. This has for its object the expeditious changing under the car body of the trucks adapted to run upon railways of one gauge for trucks adapted to other gauges. It is of utmost importance in connecting vast sections of the country with the commercial centers. With 3 appended statements. Cresson Medal. 7 July 1886. Ramsey, Ramsey's car transfer apparatus, to Wahl, 16 March 1886. Ramsey to CSA, April 1886. 3 Pt. 2 Adv. Pamphlet. Lists of: Narrow Gauge Railways controlled or owned by a few truck lines; number of breaks of Gauge in U. S. on 1 June 1885; Narrow Gauge Railways now under construction or on which construction will begin in 1886, 1 May 1886; Narrow Gauge Railways constructed in 1885. Narrow Gauge Railway companies, incorporated in 1886 up to May 1 and not including those listed as under construction. Appendix: List of Railways in U. S. that cannot interchange freight in bulk with standard gauge roads without changing trucks and Narrow Gauge Railways under construction. Narrow Gauge Railways in I. S. with mileage and number of Breaks of Gauge; Broad Gauge Railways in U. S. with Mileage and number of Breaks of Gauge. Ramsey to Hill, on lists, 22 June 1886, with postcard W & H W to Hill, asking him to sign report, 21 June.

1337 Tatham, Henry B., Jr. Philadelphia. Electro-Hydraulic Regulating Apparatus. Rich W. Davids, James Wilson. With a constant supply of water the apparatus would fulfill the conditions for which it was designed, although some parts are rather complicated and liable to derangement. 7 July 1886. CSA referred this Appl to ES of FI for examination and report. Tatham to CSA, 31 March 1886. 3 Pt. Haines, Secy ES, to Wahl, Secy CSA, forwarding report accepted by ES, 10 June 1886.

1338 Chabot, Cyprien. Philadelphia. Bevelled Rims on Watch Cases. S. Lloyd Wiegand, Joseph Zentmayer, Luther L. Cheney. The work resulting from this method is accurately uniform and durable. The apparatus is simple and readily adjusted to different sizes. Scott Medal. 8 June 1886. Chabot to CSA, 15 March 1886. 2 Pt.

1339 Given, J. L. Cincinnati, Ohio. Skidway. Raphael Estrada. No Report. Comm Disc 1 December 1886. Given to CSA with Adv, 1 November 1888. Given to CSA, with Illus, Adv, 30 March 1886, with note on dismissal, 1 December 1886.

1340 Land, Silas and Rathien, John H. Philadelphia. Sash Cord Fastening. Warner Walter, G. Morgan Eldridge, George W. Wilson. It is simple, neat and readily applied to new or old sash. It is worthy of the attention of architects, builders, and others. Amended to award Certificate of Merit. 7 July 1886. Land to CSA, 27 March 1886. Adv. Circular with Dup of Pt.

1341 Sohemann, Frederich. Philadelphia. Elevated Railroad and Bridge. John Haug, C. Albert Evans, John C. Trautwine, Jr. The proposed construction is faulty, chiefly because the members are subjected to transverse as well as longitudinal strains. The complicated design renders preparation of the pieces expensive and erection of the bridge difficult. Sohemann to CSA, 25 June 1885. Pt. Sohemann, Descr, 29 June 1885. Evans to Comm, his opinion of Sohemann's system, 16 June 1886.

1342 Kingsley, George. Leavenworth, Kansas. Board of Judges. 'Novelties' Exhibition (Applicant). Steam Boiler. S. Lloyd Wiegand. Inventor will make further tests and re-apply. Comm Disc 6 October 1886. Referred by Board of Judges, 'Novelties" Exhibition January 1886.

1343 Board of Judges, 'Novelties' Exhibition (Applicant). 1343: Dickin-
1345 son Mfg. Co. Scranton, Pennsylvania. Refrigerating Machine. S. Lloyd
1346 Wiegand. No Report. 1345: I. C. Morris Co. Hutchinson Ice Machine. S. Lloyd Wiegand. No Report. 1346: De La Vergne Refrigerating Machine Co. Refrigerating Machine. S. Lloyd Wiegand. No Report. All three referred by Board of Judges, January 1886.

1344 Phoenix Iron Co. Trenton, New Jersey. Board of Judges, 'Novelties' Exhibition (Applicant). Automatic Cut-Off Steam Engine. S. Lloyd Wiegand. This demonstrates a complete capacity for automatic regulation of speed under great and sudden variations of load. Scott Medal. 3 November 1886. Referred by Board of Judges, 'Novelties' Exhibition, January 1886.

1347 Ott and Brewer. Trenton, New Jersey. Board of Judges, 'Novelties' Exhibition (Applicant). Pottery Wares. S. Lloyd Wiegand, Samuel Sartain. Comm unhesitatingly commend their adaption of American clays to the production of the finest porcelains of excellent quality and artistic design. With note on awarding Cresson Medal. 3 November 1886. Referred by Board of Judges, 'Novelties' Exhibition, January 1886.

1348 Celluloid Mfg. Co. Newark, New Jersey. Board of Judges, 'Novelties' Exhibition (Applicant). Celluloid Products. Samuel P. Sadtler, William C. Head, Horace W. Sellers, William H. Wahl. Celluloid, as a substitute for ivory, is superior in its perfect uniformity and density and freedom from tendency to crack. This invention of the Hya Brothers is a new raw material of great possible value. Cresson Medal. 1 December 1886. JFI, February 1887. Referred by Board of Judges, January 1886. Sadtler to Wahl, on having Draft typed, 18 October 1886.

1349 Moser, Ludwig. Carlsbad, Germany. Board of Judges, 'Novelties' Exhibition (Applicant). Glassware. L. W. Miller, Samuel Sartain. Moser's chemical and mechanical processes to produce the effects of antique glass is entitled to consideration from the artistic point of view as well as the scientific. Scott Medal. 6 October 1886. Referred by Board of Judges, 'Novelties' Exhibition, January 1886. ?? for Moser, to Chm, Judges of Glass, Descr, 20 October 1885. Miller, Pa. Museum and School of Industrial Art, to Wahl, on report, 10 August 1886.

1350 Yaryan, Homer T. Toledo, Ohio. Board of Judges, 'Novelties' Exhibition (Applicant). Vacuum Distillation Apparatus. William H. Greene, Bruno Terne. This is less costly and occupies less space than the ordinary vacuum pan and its operation is entirely continuous. Scott Medal. 1 September 1886. Referred by Board of Judges, 'Novelties' Exhibition, January 1886. Yaryan to CSA, Descr, 30 June 1886. Pt. Yaryan, Lengthy Descr with Illus, nd. Yaryan to Commissioner of Pt, specification with Illus, nd. Pt. Andrew Wehrie, Process of Treating Wine. "A Great Invention," 23 April 1886. Adv. Booklet.

1351 McNab, James. Camden, New Jersey. Sulphuric Acid. J. H. Eastwick, E. H. Keiser. The proposed apparatus is not necessary in a well regulated acid works. Comm suggests that McNab institute daily examinations and thus prevent his chambers becoming "sick". With note on report being an advisory one. 5 January 1887. With note 'Novelties' Exhibition 1885. CSA referred this Appl to Chemical Section of FI for examination and report. McNab, Supt., U. S. Chemical Co., to Wahl, 20 July 1886. McNab to Wahl, on meeting, 18 October 1886. 2 Pt.

1352 Crandall. Board of Judges, 'Novelties' Exhibition (Applicant). Typewriter. E. Alexander Scott, G. Morgan Eldridge, Cyprien Chabot. The Pa. School Supply Co. did not provide one of their machines for the Comm to examine. Comm Disc 7 July 1886. Referred by Board of Judges, 'Novelties' Exhibition, January 1886.

1353 Phoenix Oil Co. Board of Judges, 'Novelties' Exhibition (Applicant). Belt Oil. Henry Trimble, Samuel P. Sadtler, Lyman B. Hall. Comm cannot give an opinion as no idea of the chemical composition has been given. 5 January 1887. With 'Novelties' Exhibition on cover.

1354 Hall, Milan Woodburn. Brooklyn, New York. Board of Judges, 'Novelties' Exhibition (Applicant). Steam Pump. S. Lloyd Wiegand. It contains a feature of novelty and great utility in effecting the motion of the values for admitting and exhausting steam. Scott Medal. Referred by Board of Judges, 'Novelties' Exhibition, January 1886, with note on Comm. Hall, Engineer, Hall Steam Pump Co. to Wahl, 3 July 1886. Illus. Pr Illus. Pt.

1355 Hall, Hayden H. New Hamburg, New York. Board of Judges, 'Novelties' Exhibition (Applicant). Construction of Subaqueous Tunnels. Lewis M. Haupt, William H. Wahl. In the absence of any complete structure and of data derived from actual experience Comm can see difficulties which they think are not insuperable. The system has merits as to economy and rapidity of construction when the soil conditions are favorable to its use. Illus. 4 May 1887. Referred by Board of Judges, 'Novelties' Exhibition, June 1886. 3 Pt. Hall to Editor, Engineering News, 8 March 1887 in E. N. 26 March 1887.

1356 Lungren, Charles M. Philadelphia. Board of Judges, 'Novelties' Exhibition (Applicant). Regenerative Gas Lamp. (Siemens Lungren Co.). Lemuel Stephens. No Report. Referred by Board of Judges, 'Novelties' Exhibition, January 1886, with note on dismissal.

1357 Crump, John and Brerston, Richard. Philadelphia. Board of Judges, 'Novelties' Exhibition (Applicant). Stone Quarrying Machine. J. E. Mitchell. No Report. Comm Appnt. 1 June 1886. Appl referred to CSA by Board of Judges, 'Novelties' Exhibition, January 1886. Crump to Wahl, 3 September 1886. 2 Crump and Brereton Pt. Illus. Np, The New York Scientific Times and Mercantile Register, 17 October 1885.

1358 Walkup, Liberty and Peeler, Abner. Rockford, Illinois and Fort Didge, Iowa. Board of Judges, 'Novelties' Exhibition (Applicant). Air-Brush. John Sartain, John Carbutt, Charles M. Cresson. In the hands of an accomplished draughtsman, this is an acquisition of rare value. It is more durable than crayon or pastel and looks equally well in any light. Amended to award Cresson Medal. 3 November 1886. Referred by Board of Judges, 'Novelties' Exhibition, January 1886. Np Descr from Lithographer and Printer. Walkup, Secy, The Air Brush Mfg. Co. to Wahl, Descr, 15 July 1886. Wahl to Sartain, on August meeting of CSA, 27 July 1886. Walkup, Explanation of Invention Assignment, 15 July 1886 Pt Abner Peeler. 2 Pt Walkup. Instruction book. Booklet.

1359 Cottrell, C. B. & Sons. Board of Judges, 'Novelties' Exhibition (Applicant). Printing Press. Samuel Long, C. W. Howard. After careful consideration, Comm deems the award made by the Board of Judges adequate. 4 January 1886. Howard to Wahl, 2 August 1886.

1360 Stambach and Love. Philadelphia. Board of Judges, 'Novelties' Exhibition (Applicant). Float Valve. S. Lloyd Wiegand. No Report. Comm Appnt. 16 April 1887. Referred by Board ofJudges, 'Novelties' Exhibition, January 1886.

1361 G. F. Uber & Co. Board of Judges, 'Novelties' Exhibition (Applicant). Water Filter. S. Lloyd Wiegand. No Report. Comm Appnt 16 April 1887. Referred by Board of Judges, 'Novelties' Exhibition, January 1886.

1362 Riehle Brothers. Board of Judges, 'Novelties' Exhibition (Applicant). Track Scale. DeWitt M. Smith. No Report. Comm Appnt 16 April 1887. Referred by Board of Judges, 'Novelties' Exhibition, January 1886.

1363 Albert, Charles F. Board of Judges, 'Novelties' Exhibition (Applicant). Violins and Bows. Jules Viennot, William Stoll, Jr., Martinier Van Gelder, Charles R. Herring. The violin, a copy of a Stradivarius instrument, has a rich, powerful tone. The bow is of fine quality. Cresson Medal. 5 January 1887. Referred by Board of Judges, 'Novelties' Exhibition, January 1886.

1364 Hamilton, James Baillie. Board of Judges, 'Novelties' Exhibition (Applicant). Vocalion Organ. Jules Viennot. No Report. Comm Appnt. 1 June 1886. Referred by Board of Judges, 'Novelties' Exhibition, January 1886, with note by Hamilton.

1365 Jones, John B. Brooklyn, New York. Board of Judges, 'Novelties' Exhibition (Applicant). Sheet Iron. Henry Pemberton, Jr., Alexander E. Outerbridge, Jr. There is no evidence on a practical working scale that substantiates the claims made for Kalameined Iron regarding its resistance to corrosive gases. While the iron may be equal to tin, there has been no proof given. 5 January 1887. CSA referred this Appl to Chemical Section of FI for examination and report. Referred by Board of Judges, 'Novelties' Exhibition, January 1886. Wahl to Secy, CS, referring Appl to CS. 25 June 1886. Keiser, Secy, CS to Pemberton, on Comm, 14 October 1886. Dempster, Civil and Mining Engineer to Converse, Manager, National Tube Works, on wrought iron, 4 April 1885. Dickson to Converse, on tests, 3 January 1885. Pt. Banks, Engineer and Chemist to Mathias, Agent, Republic Iron Works, Ltd., with test data, 22 July 1886. 2 Pr Circulars - Republic Kalameined Sheet Iron. Extracts from chemists' report. Test data. Hall, Hall & Carpenter, to Wahl, with note on Pt and Agent, 8 August 1886. Hall to Pemberton, on T, 29 October 1886. Draft.

1366 James, Henry B. Philadelphia. Balance and Springs, Watch. Louis H. Spellier, Luther L. Cheney, Cyprien Chabot. As James declined to provide models, Comm cannot form any judicious opinion and asks to be discharged. 6 October 1886. James to CSA, May 1886, requesting advisory report. Speillier to Wahl, on James being requested to submit specimens, 14 September 1886.

1367 Prunty, John E. Baltimore, Maryland. Shut-Off Cock. Robert Grinshaw, William McDevitt. This worked satisfactorily under working fire pressure of cold water; the motion was gradual and easy and the full closing effectual. With note of copies of specifications. Prunty to CSA, 29 April 1886. Pt. Prunty to Wall (Wahl), Secy, FI, 12 May 1886. Circular. Grimshaw, Editor, Mechanics, to McDevitt, on Draft, 30 October 1886, with note from McDevitt. Draft.

1368 Hallock, David. New York. American Machine Co. (Applicant). Weighing Scales. John Hall, Cyprien Chabot, Luther L, Cheney. The working parts in the specimens are well protected from dust and accidental injury. The inventor is eminently successful in the production of an automatic scale although the automatic feature is not a new principle. Scott Medal. 5 January 1887. Albrecht, Pres., Am. Machine Co., to CSA, 15 March 1886. 3 Descr. 3 Adv. 3 Pt. 2 Catalogues, Am. Machine Co.

1369 Fletcher, George. Brooklyn, New York. Car Brake. Rufus Hill. No Report. Comm Disc 3 November 1886. Flecther to CSA, 1886, with note on dismissal. Kinsy, for Fletcher, to Secy, FI, 22 May 1886. Lengthy Descr.

1370 Marcy, Lorenzo J. Philadelphia. Magic Lanterns. Edward F. Moody, D. Shepherd Holman, Samuel Sartain. The form of the lantern permits great convenience changing slides during exhibition. Provision is made for using either an oil lamp or an oxy-hydrogen lamp. Amended to award Scott Medal. 5 January 1887. Marcy to CSA, 17 June 1886. Desc with Illus. Catalogue. Draft.

1371 Taylor, W. Curtis. Philadelphia. Composite Photography. John Sartain. No Report. Comm Appnt. 14 April 1886. Advisory Report recommended 1 December 1886 (Minute Book IV). Taylor to Chm, Descr and Appl, 12 October 1885, with note on Comm. Taylor, "Three New Portraits of Washington," JFI October 1885.

1372 Bircher, John Jacob. Philadelphia. Pump. Thomas P. Conard, George Canby, Frank P. Brown. While this may be useful as a barrel or cistern pump, it is not well adapted to general use as a well pump. 1 December 1886, with note that it was made advisory. Bircher to CSA, 1 June 1886. Pt.

1373 Scheeman. System of Bridge Construction. No Report. Folder Missing.

1374 Haupt, Lewis M. Philadelphia. System of Current Deflectors. L. d'Auria. No Report. Comm Appnt August 1886. Haupt to CSA, 24 July 1886. Circular.

1375 White, Joseph J. New Lisbon, New Jersey. Metallic Fillet. Thomas P. Conard, Luther L. Cheney, Cyprien Chabot. This is admirably well adapted for filleting angles and corners in patterns, for moldings in architectural and cabinet work, and for glazing the weather-stripping in exposed situations. 5 January 1887. White to CSA, 5 August 1886. Pt. Circular. White, Mgr., H. B. Smith Machine Co., to CSA requesting medal, 17 November 1887, with note on award of Certificate of Merit.

1376 Spellier, Louis H. Electric Clock. George H. Perkins, Joseph Zentmayer, Henry Pemberton. Comm considers it worthy of Scott Medal 5 January 1887. With note on referral from 'Novelties' Exhibition.

1377 Shaw, Thomas. Philadelphia. Automatic Device for Testing Mine Gases and System of Mine Signalling. William D. Marks, George A. Koenig, William H. Greene, Lewis M. Haupt, Samuel P. Sadtler. The principle is of extreme simplicity and the working parts are few and of simple construction. The signal code is capable of improvement. Amended to award Cresson Medal. 6 April 1887. Shaw to CSA, 17 November 1886. Shaw to CSA, 30 December 1886. Pt and copy. Signal specimen.

1378 Hyatt, Isaiah Smith. Morristown, New Jersey. Blake, David (Applicant). Water Filter. H. Wiley Thomas, H. Pemberton, Jr., E. H. Keiser. The filter is easily cleaned and works rapidly. The system is adaptable to the purification of the water supply of cities. Scott Medal. 4 January 1888. JFI July 1888. CSA referred this Appl to Chemical Section of FI for examination and report. Protest by Leeds dismissed 6 June 1888. Blake, Treas. The Newark Filtering Co., to CSA, 2 April 1887. McBride, The Newark Filtering Co., to Secy, FI, 2 April 1887. McBride to Wahl, forwarding report of Austin and Wilber, 8 April 1887. Austin and Wilber, Report to the Board of Health of Newark, N. J. on the Hyatt System. Circular, Hyatt Pure Water System. Hyatt Pure Water Co. to Pemberton on Pt claims, 29 September 1887. Palmer, Secy, CS, to Wahl, forwarding accepted report, 12 October 1887. Adv, Loomis Filter, R. A. Hutchinson & Co. Hyatt, Pres, Hyatt Pure Water Co. to Wahl, on Leeds, 6 April 1888. T: Richmond to Thomas, 28 June 1887. Nixon to Pemberton, 28 September 1887. Leeds to Wahl, Protest against award to Hyatt, 24 March 1888. Richmond to Wahl, Protest against award to Hyatt, 24 March 1888. Leeds to Eastwick, President, CS, Protest, 11 May 1888. Wahl, to Pres CS, to Wahl, Secy CSA, 4 May 1888, on Protest. Circular, National Water Purifying Co. Palmer, Secy, CS, to Wahl, Secy, CSA, Evidence submitted with Protest does not warrant reopening the question, 5 June 1888, with note on CSA action. Brush, "Aeration and Filteration of Water,". "Remarks on the Aeration of Water."

1379 Waldron, Edward. Philadelphia. Rotary Engine. William Barnet LeVan, John Haug, Charles J. Shain. It has the elements of a good and reliable machine and can be instantly reversible, working well in either direction. Waldron to CSA, February 1887, with note on withdrawal of Appl, Waldron, Waldron Mfg. Co. to Wahl, withdrawing one model to be replaced by a later model, 4 May 1888. Waldron, Morse, Williams & Co., to CSA, on firms using machine, 17 February 1887. 2 Booklets. Pt.

1380 Hexamer, Charles John. Philadelphia. Fire Prevention in Grinding Mills. William McDevitt, Samuel H. Dudles, J. M. Emmanuel. This uses steam under pressure as a fire extinguishing agent. Any explosion in the mill box activates the mechanism which releases steam. Scott Medal. 5 October 1887. Hexamer to CSA, January 1887. 4 Pt. National Automatic Mill Fire Preventative Co., with T, 10 November 1886. Hexamer, "Finely Divided Organic Substances and Their Fire Hazard."

1381 Outerbridge, Alexander E., Jr. Philadelphia. Carbonizing Fabrics. Charles M. Cresson, William P. Tatham, H. R. Heyl, Cyprien Chabot, Isaac Norris. Material which has been subjected to this process becomes capable of resisting the action of the heat from molten cast-iron and may be used as part of the surface of a mould for producing an "intaglio" impression of the material in cast iron. Amended to award Scott Medal. 5 October 1887. JFI, November 1887. Outerbridge, FI to CSA, 25 April 1887. Outerbridge, "A New Process of Casting Iron and Other Metals upon Lace, Embroideries, Fern Leaves and Other Combustible Materials," JFI June 1887. Samples, Desc of Process Stages.

1382 Gestetner, David (London, England) and Klaber, Augustus D. (New York). Cyclostyle Co. (Applicant). Duplicating Apparatus. E. Alexander Scott, Fred E. Ives, H. R. Heyl, W. M. McAllister. The cyclostyle is a species of stylus which perforates a specially-prepared paper, and makes of it a stencil. It is a simpler implement than the Edison Electric Pen. Amended to award Scott Medal. 4 January 1888. JFI April 1888. Cyclostyle Co. to CSA, 21 April 1886. 2 Gestetner Pt. Klaber Pt. Liddle, U. S. Treas. Dept., to Wahl, on Gieseler not meeting with Comm, 9 June 1887. Samples: Descr, Illus, Adv T. "The Loyal March". War Dept. Weather Map, 20 May 1887.

1383 Bache, R. Meade. Philadelphia. Safety Car Heater. Charles J. Shain, Charles A. Rutter, Rufus Hill. This is distinctly superior to the car stoves in general use, in respect to safety, and it appears to be admirably designed and constructed. 4 April 1888. JFI August 1888. Bache to CSA, 10 May 1887. Pt. Descr. Circular, The Bache Safety Car Heater Co.

1384 Lovegrove, Thomas J. Philadelphia. Equipollent Arches. Lewis M. Haupt, I. M. Emmanuel, Hugo Bilgram, Benjamin Franklin. From the results of Mr. Franklin's investigation Comm is of the opinion that the curve is but an approximation to the arch of equilibrium. Appendix - Benjamin Franklin's Report, with data. Illus. 3 October 1888. Lovegrove to CSA, 20 June 1887. 2 Adv. Lovegrove to Wahl, 20 June 1887. Blueprints. Lovegrove to Wahl, lengthy Descr, Reply to Criticisms, data, nd. Lovegrove to Koenig, on the formula for the arch, 29 May 1889. Lovegrove ? to Chm, Descr.

1385 Clamer, Francis J. and Hendrickson, Joseph G. Philadelphia. Coating with Metal. J. H. Eastwick, Charles A. Rutter, William H. Wahl, S. Lloyd Wiegand. The greater cost involved in the preliminary cleansing operation excellent. 4 April 1888. JFI July 1888. Hendrickson and Clamer to CSA, 20 May 1887. Hendrickson, Ajax Metal Co., to Secy, FI, Descr, 20 May 1887.

1386 Elbers, Alexander D. Hoboken, New Jersey. Treating Blast Furnace Slag. George A. Koenig. No Report. Comm Disc 1 February 1888. Elbers to CSA, 19 October 1887. Pt. E.Willets, Treas., The Willets Mfg. Co., to Koenig, 17 January 1888. 3 notices in The Engineering and Mining Journal. Elbers, "The Use of Refined Slag in the Manufacture of Glass," Engineering and Mining Journal. Elbers, "The Manufacture of Refined Slag," Engineering and Mining Journal. Elbers to Koenig, Lengthy Descr, 30 November 1887. Elbers to Koenig, 20 December 1887. Elbers to Koenig, test data, 5 January 1888. Memo, Wahl - Applicant was unwilling to offer proper facilities for test, Comm asked to be disc 1 February 1888.

1387 Lance, William L. Philadelphia. Utilizing Oil Cloth Wastes. T. C. Search, Louis H. Spellier, William McDevitt, H. W. Spangler. Lance has diversified manufacturing interests and gave commercial value to that which has hitherto been valueless. The fabric must eventually find its place in the ordinary household economy, its cheapness and durability being in its favor. Amended to award Certificate of Merit. 4 April 1888. JFI October 1888. Pt. Comm note on correction.

1388 Henderson, William M. Morton, Pennsylvania. Triple Expansion Engine. Charles E. Ronaldson, Philip Piston, Francis Leclere, I. M. Emmanuel, Charles A. Rutter. Inventor did not provide model and he removed his drawings. Comm can take no action. Comm Disc 7 December 1887. Henderson to CSA, 5 August 1887. Henderson to CSA, brief Descr, 5 August 1887. 2 Pt. Circular and Dup.

1389 Gates, John. Portland, Oregon. Seibert Cylinder Oil Cup Co. (Applicant). Lubricator. S. Lloyd Wiegand, H. W. Spangler, Thomas Shaw, H. R. Heyl, Cyprien Chabot. The invention deserves the recommendation of the Scott Medal for its ingenuity and usefulness. Gates deserves the award as inventor. Scott Medal. 2 April 1888. Siebert Cylinder Oil Cup Co. to CSA, 18 August 1887. Sherburne, Treas., Siebert Cylinder Oil Cup Co., to Wahl, forwarding Pt, 2 February 1888. Circular. Spangler to Wiegand, on Pt, 4 March 1888. Sherburne, to Viennot on location of cup, 19 December 1887. Wahl to Wiegand, on his being Chm, 31 January 1888. Litigation (76 pages).

1390 Depuy, Augustus B. Camden, New Jersey. Lightning Arrester. Carl Hering, Francis Leclere, H. W. Spangler. The apparatus is simple and appears to contain no parts which are liable to fail or which are perishable. From some tests made, Comm believes it will perform effectually. With Illus. 25 April 1888. Depuy to CSA, 24 September 1887, with note: introduced by Edward J. Paxson. Pt. Circular. Paxson, Mgr. Depuy Lightning Arrester, to Chm, CSA, typed Descr, 26 September 1887. Adv. Paxson, Mgr., Depuy Lightning Arrester, to Chm, CSA, Descr, 24 September 1887. Illus.

1391 Dougherty, Edward D. Philadelphia. Automatic Railroad Signal. Rufus Hill, Luther L. Cheney, William Barnet LeVan, Cyprien Chabot, Charles E. Ronaldson. A train passing sets the signal and only a train operator can return the signal of its normal position. Should the office be vacant or operator off his guard, an alarm is given which halts following trains until the signal is changed. The principle is good. Dougherty, Dougherty Railway Equipment Co., Ltd., to CSA, 6 October 1887. Pt. Circular.

1392 Stern, Edward. Philadelphia. Plans for Propelling Steering, and Stopping of Vessels. H. W. Spangler, L. d'Auria, John Haug. Comm met Mr. Stern and gave him their advice. 2 May 1888. Stern to CSA, requesting Advisory Comm, 14 February 1888.

1393 Cosgrove, Lawrence (Baltimore, Maryland). Pedrick and Ayer (Applicant). Universal Milling Machine. Hugo Bilgram, G. Morgan Eldridge, William Barnet LeVan. The machine is adaptable for various operations and can be used both for general use and special work. 6 June 1888. Pedrick and Ayer to CSA, 15 December 1887. Pt. Pedrick and Ayer. Mfgrs., to Wahl, on two machines, 15 December 1887. 4 Adv. Bilgram, Brehmer Bros., Engineers and Machinists, to Wahl, forwarding report, 11 May 1888. T for Shrinkage Gauge.

1394 Small, Henry J. and McNaughton, James (Brainerd, Minnesota). Pedrick and Ayer (Applicant). Shrinkage Gauge. Philip Piston, Luther L. Cheney, Thomas Shaw. With this simple instrument, the boring of locomotive wheel tires and other annular bands of metal may be accurately and uniformly regulated to desired and determined degree of allowance for shrinkage. It is highly useful. 3 October 1888. Pedrick and Ayer to CSA, 15 December 1887. Pt. For T, see CSA 1393.

1395 Candee, Charles E. (New York). Lance, W. L. (Applicant). Car Truck and Journal Bearings. Charles E. Ronaldson, Thomas Shaw, Rufus Hill, Robert Grimshaw. There is a great deal of ingenuity and originality to be observed in Mr. Candee's inventions. Amended to award Certificate of Merit. 5 October 1887. Lance to CSA, 21 December 1887. Candee to CSA, Appl and Descr, 1 March 1887. 5 Pt and 1 Dup. 8 Pgs, T, data, 1 Dup. 4 Photos. Copies of 4 Pt claims, with Illus. Grimshaw to Candee, on Pt nd. Draft. Candee to Lance, forwarding photos and claims, 13 January 1887. Candee to Lance, on claims, 14 January 1887. Grimshaw, Pres., Polytechnic Section, American Institute, to Shaw, 15 February 1887.

1396 North, William F. Philadelphia. Water Closet. Wharton. No Report. Comm Appnt 1 February 1888. North to CSA, 5 September 1887, note on folder: Withdrawn.

1397 Lewis, Samuel T. Philadelphia. Plans for Preventing Railway Collisions. Rufus Hill, William Barnet LeVan, Charles E. Ronaldson, Luther L. Cheney. Comm met with Lewis who was fully satisfied with advice given him. 7 December 1887. Lewis to CSA, requesting Advisory Report, 16 April 1887. Lewis, Descr. Lewis to Wahl, on Comm not having to take any further action, 1 December 1887. Wahl to Hill, forwarding Lewis' ltr and on how Comm should report, 3 December 1887. Illus.

1398 Zeigler, George W. Washington, D. C. Trestles and Scaffolding System. S. Lloyd Wiegand, H. R. Heyl, George W. Wilson, Frank P. Brown. This system economizes material; only the clamps are made from patterns in special factories. It offers an effective means of diminishing the waste of lumber that has prevailed in building operations, with Illus, list of Pt. Scott Medal. 4 June 1888. JFI August 1888. Some Dup pages. Zeigler to CSA, 31 March 1888. 11 Pt. 3 Descr with 3 Illus.

1399 Haupt, Lewis M. Philadelphia. System for Improving Rivers and Harbors. H. W. Spangler, C. A. Gieseler, John Haug. Professor Haupt's claims are not sustained by the facts. Appl withdrawn 3 December 1888. L d'Auria. Minority Report. Prof. Haupt's special dikes are based upon a theory found to be untenable. There is nothing of real practical or scientific value to recommend. Haupt to CSA, 10 January 1888. Haupt to Spangler, 29 March 1888. Extract: Davis, "The Law of Deposit of the Flood Tide, Its Dynamic Action and Office." Smithsonian Contributions to Knowledge, Vol III, 1857. Spangler to CSA, Comm sees no reason to modify report, with note to Gieseler and d'Auria, asking their asset, 14 May 1888. Gieseler, "Remarks upon Professor L. M. Haupt's paper, 'The Physical Phenomena of Harbor Entrances,'" 16 March 1888. Gieseler to Spangler, on Haupt's Ltr of 29 March, 3 April 1888. Haupt, Course of Civil Engineering, U. Penn, to Koenig, complying to request to withdraw Appl 3 December 1888. Pt. Spangler to Wahl, 25 September 1888. Chief of Engineers, U. S. Army, to Wahl, on Report of Board of Engineers, 28 April 1888. Report of Board of Engineers, U. S. Army, 16 March, 1888. Haupt, Reply to the Report of the Board of Engineers. Haupt, Discussion of the Dynamic Action of the Ocean in Building Bars. d'Auria to Spangler, 17 March 1888. Haupt to Spangler, February 1888. d'Auria's criticism. Haupt to Spangler, on "Physical Phenomena," 28 January 1888. Minutes of Engineers Club of Phila., 21 January 1888 meeting. Papers on Jetties. Haupt to Wahl, 29 February 1888. Haupt to Spangler, on APS 3 March 1888.

1400 Beckers Sons (Rotterdam). Wanamaker, John and Wilson, James (Applicants). Analytical Balances. William H. Greene. These balances are excellent, but there is nothing peculiar or new in the construction of any of them. With test data. 5 October 1887. CSA referred this Appl to CS of FI for examination and report. Wanamaker, per Wilson, American Agent, to CSA, 15 September 1886. Greene to Wahl, 7 July 1887.

1401 Woodruff, William N. Hartford, Connecticut. System of Keying for Machinery. Hugo Bilgram, Rufus Hill, Luther L. Cheney, Cyprien Chabot. This reduces the cost of keying and increases the strength of the union. The key, a segmental disc, reaches deeper into the shaft than keys of the ordinary construction and are more firmly imbedded. Scott Medal. 4 April 1888. Woodruff to CSA, 16 January 1888. Pt. Adv. Woodruff, Woodruff's Keying System Co., to Wahl, forwarding specimens, 12 January 1888. Lengthy Description, 18 January 1888. Typed Lengthy Descr. Illus.

1402 Teal, Charles A. Philadelphia. Teal Hoist Co., Ltd. (Applicant). Portable Hoist. Moses G. Wilder, Francis Leclere. The sprocket wheels are on separate shafts, are the same size, and are connected to the pinion by different sized gears. This hoist has increased capacity and speed in overhauling. With test data. Scott Medal. 1 May 1889. JFI October 1889. Maris, Secy, Teal Hoist Co., Ltd., to CSA, 21 May 1888. Maris to CSA, on points to be considered, 21 May 1888. Pt.

1403 Simonds, George Frederick. Fitchburg, Massachusetts. Universal Rolling Machine. Hugo Bilgram, S. Lloyd Wiegand, J. Sellers Bancroft John H. Cooper, Luther L. Cheney. The object is the economical and accurate production from duchle or malleable metal articles of circular form, other than simple cylinders. Bolts are produced at the rate of 5 per minute with great accuracy. Simonds has brought this new art to a high degree of perfection in facilitating production and in improving the product. With Illus, Photos and test data. Cresson Medal. 3 October 1888. Simonds to CSA, 21 June 1888, with note on Comm. 5 Pt. Repr. "Anti-Friction Ball-Bearings and Their Manufacture," JFI, July 1888. Corrections of Report.

1404 Castner, Hamilton Young. London, England. Sodium Process. Edward H. Keiser, T. Chalkley Palmer. This uses a carbide of a metal to reduce the hydrate or carbonate of an alkali, when in a final state. A much lower temperature is employed than in the older process, consequently, the fuel consumed is greatly reduced. The more rapid distillation provides more perfect condensation and greater yield of sodium. Closely connected as the aluminum magnesium and sodium industries are, it is evident that any reduction in the cost of making sodium must necessarily also reduce the cost of making aluminum and magnesium. Amended to award Scott Medal. 5 September 1888. CSA referred this Appl to CS of FI for examination and report. Castner to Wahl, 24 June 1886. Pt. Palmer, Secy, C.S., to Wahl, forwarding report adopted by CS, 5 June 1888. Castner to Wahl, Descr, nd. Report, Roscoe to Aluminum Co., Ltd., 6 June 1888. 5 Ltrs, Castner to Wahl, forwarding data, 19 March - 8 October 1888. Report, Castner to Aluminum Co., Ltd., October 1887. Pt - P. M. Jushce. Report, Roscoe to Aluminum Co., Ltd., 24 July 1888. Prospectus, Aluminum Co., Ltd., 1862-1886. Appl for shares, Aluminum Co., Ltd. Circular. Illus. Photo repro., "Castner's Sodium Process," 1887. "Aluminum and Its Alloys," 1868. "The Aluminum Co., Ltd.", 1887.

1405 Gesner, George W. New York. Treatment of Metals. William C. Day, Louis J. Matos. Articles are exposed to superheated steam and hydrocarbon vapors. A fixing agent is applied and the articles are then rendered, it is claimed, non-corrodible without impairing ductility, toughness, and tensile strength. Data provided is insufficient to justify a discussion of the theoretical consequences. 3 October 1888. CSA referred this appl to CS of FI for examination and report. Pt. Matos, Chief Chemist, Falls of Schuylkill Carpet Mills to Wahl, 9 June 1888.

1406 Foster. Electric Protector. No Report. Folder Missing.

1407 Robertson, James J. (Brooklyn, New York) and Cowper, Edward Alfred (England). Writing Telegraph Co. (Applicant). Writing Telegraph. E. Alexander Scott, Samuel Sartain, W. M. McAllister, Carl Hering, Louis H. Spellier, C. John Hexamer, H. W. Spangler. The two inventors, working independently, arrived at the same results by similar means, Cowper about 7 years before Robinson. Comm has regarded system as a whole. Written with metallic ink on a non-conducting surface, or with non-conducting ink on a metallic surface, this writing acts as a circuit breaker. No skilled operator is required. Amended to award Cresson Medal. 6 February 1889 with note on approval by all of Comm. 2 Pt, Cowper. 6 Pt Robinson. Writing Telegraph Co. to Wahl, forwarding Pt, 27 September 1888. Corres: 4 Ltrs, Gamp, Treas & Gen. Mgr. Writing Telegraph Co., to Scott, forwarding 5 samples, on instruments in use, and Robertson's receiving "Keith Medal" from Royal Scottish Society of Arts, 13 October - November 6, 1888. Writing Telegraph Co. to Wahl, claiming medal, 7 February 1890. Cowper to Wahl, acknowledging honor and requesting a cuplicate medal, 27 January 1891. Circular. Envelope with 5 samples.

1408 Lockwood, William E. Communication: "The Hammer-Blow in Locomotive Engines." Cites investigations on the counter-balancing of locomotive driving wheels since 1872. See also CSA 1129. Includes Resolution passed by FI and the Am. Railway Master Mechanics' Assoc., June 1885, calling for a joing Comm. See Minute Book IV, 5 December 1888 for Resolution of FI.

1409 Sanderson, Frederick. Chicago, Ill. Door Bells. G. Morgan Eldridge, Samuel Sartain, Francis Leclere, Louis H. Spellier. When the button is pushed, a bell hammer is vibrated and the bell is rung with an effect similar to that of a vibrating electric bell. The instrument is simple, compact, effective and durable. First reading 5 December 1888. Sanderson to CSA, 1 October 1888. 2 Pt. Circular.

1410 Edison, Thomas Alva. Menlo Park, New Jersey. Maguire, F. Z. (Applicant). Mimeograph Duplicating System. W. R. Wharton, John R. McFetridge, William McDevitt. Stencils can be made either with a steel stylus or a typewriter. The method employed of puncturing the stencil sheet from below by pressing it upon a slab covered with numerous small points is original and worthy of special commendation.

1410 (continued) Scott Medal. 6 February 1889. JFI May 1889. Maguire, Genl Agent, Penn & the Southern States, to CSA, 15 August 1888. Maguire, The Edison Phonograph, The Edison Mimeograph, to Wahl, 15 August 1888 on Pt. Maguire to Wahl, on exhibitions, 21 July 1888. Maguire to Wahl, Edison is working day and night to get the Phonograph out, 14 July 1888. 2 Pt. Maguire to Wahl, appl for Scott Legacy Medal, 22 November 1888. 2 Circulars with 2 Dup. Circular. Circular with Dup.

1411 Thomson, Elihu. Lynn, Massachusetts. Electric Welding. Murray Bacon, Alexander E. Outerbridge, Jr., E. Alexander Scott, Charles H. Richardson. Prof. Thomson has reduced a well known scientific principle to an art which seems to have many practical applications. Comm feels the criticism made in regard to the want of novelty is not sustained by the facts. This process consists essentially in developing heat at the point where it is desired to weld the metal by means of a powerful electric current. An alternating current dynamo is used with a "converter." Amended to award Scott Medal. 4 April 1888. CSA referred this Appl to ES for examination and report. With note by Perkins, Pres., ES. Thomson to Wahl, forwarding Pt, 26 April 1887. Descr. 3 Pt. Thomson, "Electric Welding," JFI May 1887. Harries, Secy, ES, to Wahl. 5 June 1888. Note from Wahl, May 1887.

1412 Woodruff, Theodore T. Philadelphia. Mid-Ship Propeller. John Haug, William Barnet LeVan, Philip Piston, H. W. Spangler, Luigi d'Auria. There have not been any actual experiments with this mid-ship buoyant screw flange propeller. Comm feels that the peculiar shape of such a vessel would certainly require greater weight and expense. 1 May 1889. Woodruff to CSA, 21 September 1888. Pt. 2 Circulars. Woodruff to Pres., FI, 6 February 1889. Woodruff to CSA on report, with extracts from test data and on fish, nd. Heyl to Wahl, on report, nd. Woodruff to CSA, 6 March 1889.

1413 Clark, Nathan B. Washington, D. C. and King, Frank B., Baltimore, Maryland. Hot Air Feeder. No Comm. Appl withdrawn. Clark to Wahl, 20 October 1888, with note withdrawn. Clark to Wahl, Descr, 1 November 1888. Pt. 6 Illus.

1414 Fales, Edward. Cleveland, Ohio. Furnace and Stove. G. Morgan Eldridge, H. W. Spangler, John E. Codman, Luther L. Cheney, Lino F. Rondinella, Samuel R. Marshall, Thomas P. Conard, J. H. Eastwick, William McDevitt, T. J. Lovegrove. Comm considered the tests Fales proposed unsuitable. He refused the tests the Comm proposed. With Appendix. Comm Disc 5 June 1889. Fales to CSA, 27 October 1888. Appendix contains minutes of the proceedings of Comm with all corres. Fales to Comm, on experiments, 7 March 1889, Exhibit "A". Spangler, on tests, Report disapproving of Fales; proposed test, to Eldridge, 18 March 1889 - "B". Conard, minority report, to Eldridge, 23 March 1889 - "C". Eldridge to Fales, 21 March 1889 - "D". Fales to Eldridge, conditions for comparative test, 23 March 1889 - "E". Fales, Steinmeth, Blodget to CSA, on tests, nd - "F". Wahl to Eldridge, on CSA resolution that evaporation test be made, 6 April 1889 - "G".

1414 (continued) Eldridge to Fales, on evaporation test, 4 April 1889 - "H". Fales to Eldridge, 6 April 1889 - "I". Draft of ltr to be sent to Fales, nd - "K". Fales to Wahl, on charges made by Comm, 11 April 1889 - "L". Draft ltr to Fales, on test and requesting specific information on fraud charges allegedly made 18 April 1889 - "M". Steinmeth to Wahl, 4 May 1889. Luther to Wahl, on tests on hard and soft coal, 18 December 1894. 5 Luther, Secy, Fales Cumbustion Co., to FI, 4 May - 14 July 1894.

1415 Waterhouse Electric & Mfg. Co. (Applicant). Hartford, Connecticut. Electric Regulator. No Comm. Chapin, Secy, Waterhouse Electric & Mfg. Co., to Wahl, forwarding catalogue, 3 May 1888. Chapin to Wahl, requesting Appl be postponed until Pt are issued, 24 May 1888. Chapin to JFI, requesting Descr be published, 18 September 1888. Descr, Catalogue. Wahl to Waterhouse Electric & Mfg. Co., inquiring if invention is to be investigated. 1 July 1889.

1416 White, Otis C. Worcester, Massachusetts. Adjustable Extension Movement in Ball and Socket Joints. William H. Thorne, Thomas P. Conard, D. E. Crosby, William M. McAllister, Louis H. Spellier, Cyprien Chabot. The joint is superior in the convenience and rapidity of its adjustments and the firmness of its grip. It can be more cheaply manufactured than any other device which will accomplish the same purposes. Scott Medal. 3 April 1889. JFI August 1889. In reply to Protest of Eli T. Starr, Comm reports that White's Pt is such an improvement over the earlier Pt of Starr as to warrant the award. 4 December 1889. White to CSA, 21 November 1888. White to Secy, FI, 21 November 1888. White to Secy, FI, 24 November 1888. 4 Pt. T and Dup. 2 Circulars with Illus (2 Dup of 1, 1 Dup of 2nd). 1 Circular with Dup. White to CSA, Descr, nd. White to Wahl, amendments to report, 29 March 1889. Envelope - White's Adjustable Extension Movement in Ball and Socket Joints, with award from Photographers Association of America. Starr to Secy, FI, Protest after reading report in JFI which must have been based on a very superficial examination of the prior state of the Art. The value of the award is apt to be belittled by such lack of care and consideration in its bestowal. 1 October 1889 with Pt, copy of JFI report. Illus.

1417 Hayes, George. New York. Metallic Lathing. Hayes to CSA, nd, with note 'Withdrawn' on folder. Hayes, The Hayes Skylights & Co., to Wahl, on his standing as an inventor, 19 November 1888, with Adv.

1418 Shaw, Thomas. Philadelphia. Instrument for Testing Ignitable Gases in Mines. George A. Koenig, Lewis M. Haupt. This is not generally applicable but is admirable for the testing of mine gases which do not vary qualitatively. It is wonderfully sensitive. Its manipulation may be taught to an illiterate person in an hour. Amended to award Scott Medal. 6 March 1889. Shaw to CSA, 3 November 1888. Shaw to Wahl, 21 November 1888. Shaw, lengthy Descr, nd. Amendments to Report. Illus, Gawthorp, H. Gawthorp & Co., to Secy, FI, on House

1418 (continued) Bill No. 242, which has been inaugurated to introduce the Shaw Indicator. Petitions for its passage refer to FI and men are signing on the strength of FI's name. Protests against the use of FI's name for such a purpose. 21 March 1889. Gawthorp to Wahl, forwarding remonstrance against passage, 23 March 1889. Wilson, Pres, FI, to Wahl, approving Wahl's reply, 22 March 1889.

1419 Chenoweth, Alexander Crawford. New York. Electric Conduits. Carl Hering, Richard W. Gilprin, Charles H. Richardson, G. Betton Massey. Plastic material is packed around a removable core consisting of a ribbon of galvanized iron wound spirally forming a tube. The tube is rendered rigid either by being wound around a split wooden core, or by having paper glued around the outside. When the hydraulic cement and sand hardens the core is removed. This is ingenious, simple, effective and inexpensive. The results are unquestionably of value. Scott Medal. 5 June 1889. JFI Spetember 1889. Chenoweth to CSA, 14 November 1889. Pt. Descr, with Illus. 18 December 1888, read before CSA, "The Chenoweth Conduit for Electrical Wires," Electrical Review, 10 December 1887.

1420 Ridgway, William H. Coatesville, Pennsylvania. Crane. Philip Pistor, Cyprien Chabot. The arrangement promises durability and dispatch in handling loads. Scott Medal. 4 September 1889. Ridgway to CSA, 23 November 1888. Pt. Ridgway to CSA, lengthy Descr, 23 November 1888. 3 Circulars, 1 Photo, Craig Ridgeway & Son. Ridgway, Craig Ridgway & Son, to Wahl, asking for information, 13 February 1890. Ridgway to Wahl, 13 September 1889.

1421 Koyl, C. Herschel. Swarthmore, Pennsylvania. Wahl, William H. (Applicant). Parabolic Semaphore. Coleman Sellers, G. Morgan Eldridge, Lino F. Rondinella, Bernard Ramke, Thomas Shaw. The arm has a band of corrugated glass more perfect in reflecting the red lantern at night and daylight than is the case with numerous small mirrors at many angles on the ordinary plane arm. It can be used without any great change in devices already in use and there is nothing new to be learned by the trainmen. Scott Medal. 3 April 1889. JFI August 1889. Wahl to CSA, 21 November 1888. Pt. Descr. "The Parabolic Semaphore," read at November meeting of FI, with note. Draft. Secy, FI, to Koyl, on publication in JFI, 6 June 1889.

1422 Felt, Dorr E. Chicago, Illinois. Comptometer. Luigi d'Auria, Edwin S. Crawley. This is essentially an adding machine furnished with a horizontal board of depressible keys. Except by comparative test, the Comm is unable to state precisely the superiority of Felt's comptometer with regard to its efficiency, although it seems hardly possible that it could be excelled, owing to the facility of its manipulation. Amended to award Scott Medal. 5 June 1889. Felt, Felt & Tarrant, to Secy, FI, requesting Appl after reading enclosed article in N. Y. Power, 14 November 1888. 2 Pt. Photograph. Felt, Descr. 2 T. Adv. Felt to CSA, 20 November 1888. Circular. Secy, FI, to Moody, on Comm, 19 March 1889.

1423 Pemberton, Henry Jr. Philadelphia. Dehydration of Sodium Sulfate. George A. Koenig, Bruno Terne, Conrad Semper, Otto Leithy, Henry Bowers. This process differs from the older one in applying heat and in the manner of removing the anhydrous sulphate. The new process is very superior to the one new practiced in Wyoming Territory. The product is nearly chemically pure, which is desirable in the manufacture of glass. 1 May 1889. Pemberton to CSA, 24 November 1888. Pt. Wahl to Pemberton, 21 June 1889.

1424 Dill, Thomas Clark. Philadelphia. Disconnecting Device. John L. Gill, Jr., William M. McAllister, D. C. Crosby. While unquestionably useful, it does not involve any invention but rather belongs to that class of well-known mechanical devices from which mechanics ordinarily select without making any claim to invention. Comm does not consider that it requires further notice. 2 October 1889. Dill to CSA, 17 November 1888. Pt. Dill to Wahl, asking for directions in applying, 9 November 1888. Repro from American Machinist. J. C. Dill Machine Co. Illus. Circular. Dill to Gill, cannot present model, 24 April 1889. Wahl to Dill, 14 October 1889.

1425 Hellings, John. Philadelphia. Mail Bag Fastener. S. Lloyd Wiegand, Luther L. Cheney. This entire device appears to be very useful and well adapted to perform all of its intended functions with reliable certainty. It is novel and original with Hellings. 6 February 1889. Hellings to CSA, 17 November 1888. Pt. Ethridge Pt and Wilhelm Pt for Fasteners. Dup of Report to Hellings on Pt search; Hellings' claims do not appear to be anticipated.

1426 Haswell, Charles H. New York. Combined Arch. John L. Gill, Jr., Addison Hutton, John T. Windrim. Comm does not think the plan is to be commended for any properties of improved strength or durability as compared with other structures involving less work and no more materials. Structures such as this combined arch and girder roof for subways should be thoroughly tested in a situation where no one would be exposed to injury by its failure. 4 September 1889. Haswell to CSA, 3 December 1888. Haswell, Am. Soc. C. E. and Ins. C. E., to Wahl, 17 November 1888. Telegram, Haswell to FI, 17 December 1888. Haswell, Consulting and Superintending Engineer, City Surveyor, to Wahl, with note, 'W' to Gill, 12 December 1888. 2 Illus.

1427 Hanley, James F. Charleston, South Carolina. Mechanical Movement. Cyprien Chabot. No Report. Comm Appnt 6 December 1888. Hanley to Wahl, read of CSA and medals in Engineering and Mining Journal and requests appl, nd. Pt. 2 Circulars, one with note "12 decl."

1428 Burton, W. Leigh. Richmond, Virginia. Electric Heater. Carl Hering, James Wilson, Richard O. Heinrich, N. H. Edgerton, Hermann S. Hering. This invention consists essentially of packing loose, pulverized fire clay around the wires which are heated. This acts as a heat reservoir. At the normal rate of current the wire was not perceptible oxidized by the heat. The fire clay will protect the wire

1428 (continued) from damage by an excess of current. Scott Medal. 4 September 1889. Burton to CSA, nd. Pt. Burton, Superintendent, Burton Electric Co., to Wahl, with Np on Medal, 10 August 1889. Trafford, Electrical Engineer, Va. Electric Light and Power Co., Report on Burton Electric Heater, 8 June 1889. "Opinion" of Lt. Greene, Electrician, Sprague Electric Railway and Motor Co., 11 May 1888, with Np. Corres: 5, Burton to Wahl, on Appl, Descr, actual use, 3 November 1888 - 23 January 1889. Burton to CSA, Descr, 7 November 1888. Burton to Hering, Descr, 24 January 1889. Rep. "The Burton System of Electrical Forging," Industrial World, 17 August 1893.

1429 Plimsoll, Henry Davidson. New York. Woven Iron. Samuel R. Marshall. No Report. Comm Appnt 6 December 1888. Plimsoll to CSA, nd. Pt. Illus, Plimsoll, "The Manufacturer and Builder." Plimsoll, nd. Plimsoll to Wahl, 5 March 1889.

1430 Marks, Amasa A. New York, and Marks, George E., Sound Beach, Connecticut. Artificial Limbs. S. Lloyd Wiegand, Luther L. Cheney, N. H. Edgerton. More than 9000 persons use this invention in preference to those of other constructions, a fact which, to the Comm, is a most conclusive proof of merit from the best qualified judges. The extreme simplicity of construction has reduced the cost. Scott Medal. 6 February 1889. JFI May 1889. A. A. Marks to CSA, nd. Dolley to Wiegand on examining limbs, 14 December 1888. Pt: 4 - A. A. Marks; 2 - G. E. Marks. 4 Photos.

1431 Kirksey, J. R. Car Coupling. No Report. 1889. Rufus Hill, Chm Comm. Appl missing. See CSA 1496.

1432 Atkinson, James. London, England. Gas Engine. S. Lloyd Wiegand, Luther L. Cheney, Samuel R. Marshall, Arthur Beardsley, William H. Thorne, Coleman Sellers, Moses G. Wilder. Its economical performance impresses Comm with its importance as a competitor with the steam engine as a generator of motive power in the arts. Air and gas are mixed as they enter and the ignition of the mixture is effected by a tube, heated at one end by an external flame. The 6-horse engine under examination developed a remarkable uniformity of speed. This engine surpasses all preceding gas engines in simplicity, economy, perfect regulation, and uniform steadiness of power, with test data. Scott Medal. 9 May 1889. JFI June 1889. Atkinson to CSA, 10 December 1888, with note on Warden. 2 Photos. 2 Blueprints. Pt. 2 Circulars. Np, Engineering, 28 December 1888. British Gas Engine and Engineering Co., Ltd., Report on Atkinson's Pt Cycle Gas Engine, 1888. Sellers to Wahl, 26 December 1888. Atkinson to Wiegand, 16 February 1889. Warden to Wahl, 23 April 1889. Wahl to Atkinson, on award, 1 October 1889. Thorne to Wiegand, 28 December 1888.

1433 O'Hara, Michael Joseph. New Orleans, Louisiana. Anti-Friction Journal Bearing. Philip Piston, Victor Angerer, Arthur Beardsley, John Hall. The sliding friction in this roller bearing is still retained. The individual features are not new and the combination is not so original as to deserve special mention. 1 May 1889. O'Hara to CSA, nd. Pt.

1434 McIntire, Charles. Newark, New Jersey. Electric Wire Connectors. E. Alexander Scott, Edgar Croasdale, Murry Bacon, N. H. Edgerton. The ends of 2 wires are joined, without soldering, by means of 2 thin metal tubes which are joined together. The wires are inserted from opposite directions into the tubes which are then twisted together. Oxidation proceeds at a very slow rate as air and moisture are practically excluded by the torsion of the tubes and wires. Scott Medal. 5 June 1889. McIntire to CSA, 11 December 1888. Pt. McIntire & Co. to Wahl, 12 December 1888. Circular.

1435 Merchant & Co. (Applicant). Philadelphia. Anti-Friction Metal. H. W. Spangler. The coefficient of friction is about the same as for the average white metal boxes. 24 February 1892. Ltr to CSA, 12 December 1888. Descr. Circular. 11 T.

1436 Abt, Roman. Bunzen, Switzerland. Railways for Steep Inclines. Lewis M. Haupt, Henry R. Heyl, Samuel Rea, C. Henry Roney, Arthur Beardsley. This well developed system has been in successful operation for several years and represents a marked improvement over former plans for overcoming steep gradients by means of rack-rails. Historical summary of railway construction. Scott Medal 6 March 1889. Abt to "M. le President," FI, 20 November 1888. Photo. 3 Pt. Circular with Report from The Engineer. Hildenbrand, forwarding Circular, to Wahl, 10 May 1889.

1437 Love, John B. Philadelphia. Water Purifying Apparatus. G. Morgan Eldridge, Frank L. Brown, William Hartness, Jr., George Canby. The lower connection of this circulating range boiler is several inches above the bottom of the cylinder, not a usual practice, but good. As the applicant did not accept the proposed test, it is impracticable to determine positively the efficiency of the mud drum or the completeness of the separation of solid matter from the water. 7 March 1889. Love to CSA, 4 January 1888. Love, Self-Cleaning Boiler and Tank Co., to Wahl, 5 January 1889. Appl for Letters Pt. Allowance of Appl. Circular and Illus. 2 Dup. Draft. Eldridge to Love, proposed test, with Draft, 22 January 1889.

1438 Shinn, John. Philadelphia. Construction of Large Metallic Masses. John L. Gill, Jr., J. Sellers Bancroft, Henry G. Morris. This plan does not appear to have been reduced to practice. This scheme is at best merely something desired but without any mode of achieving it being indicated. Comm feels report should be considered advisory. 4 September 1889. Shinn to CSA, nd. Shinn, list of Pt, to CSA, nd - to show state of the art. Pt. Specification. 6 Pt: DeBenardos (2), Ries (2), Tufts, Shinn. 4 Photo.

1439 Shaw, John F. and O'Toole, James. Girardville, Pennsylvania. Gauge Cock. Francis Leclere. No Report. Comm notified 13 January 1889. Ltr to CSA, 23 November 1888. Shaw and O'Toole, "The Improved Perfect Gauge Cock," to Wahl, requesting Appl, 10 November 1888. Pt. Shaw & O'Toole, Descr to CSA, 29 November 1888. Circular. The Locomotive, April 1886.

1440 Riess, Frederick W. Philadelphia. Brake for Controlling Rotary Motion. C. A. Rutter. No Report. Comm Disc 16 September 1889. Appl, 1 December 1888. Copy Pt and Illus. Wahl to Riess, CSA is not sufficiently impressed with merits of invention and asks to dismiss Appl from books, 16 September 1889.

1441 Burton Stock Car Co. Stock Car. No Report. Appl missing. Rufus Hill. See CSA 1496.

1442 Rollason, Edwin. Coventry, England. Triple Ship. John Haug, Philip Piston, William Barnet LeVan. This consists of 3 ship hulls built as one, having 3 keels and subdivided by numerous bulkheads. The claims of superiority in strength, stability and safety have not been established sufficiently to draw any logical conclusions. 1 May 1889. Rollason to Wahl, applying after reading ltr in The Engineer, with Descr, nd. Circular.

1443 Sperry, Charles. Port Washington, New York. Logometer. H. W. Spangler, W. P. Conway, T. F. Townsend. Although Comm is unable to report on the practical utility of this apparatus to indicate the speed of and distance run by a vessel, the inventor deserves commendation for the ingenious and thorough manner in which the details are worked out. 2 October 1889. Sperry to CSA, nd. 3 Pt. Sperry to Wahl, Appl with Descr, 10 December 1888. Spangler to Wahl, questions to forward to Sperry, 16 April 1889. Sperry to Wahl, 3 August 1889. Wahl to Sperry, 14 October.

1444 Wagener, Nic. Camden, New Jersey. Propeller. Luther L. Cheney. A communication was made to the applicant, containing such information and advice as was deemed suitable. 5 January 1889. Wagener, Descr, 31 December 1888. Cheney to Wagener, design is in the Imperial Cyclopedia of Machinery, 1852, with Dup, nd.

1445 Markee, Renel T. Philadelphia. Combined Sills and Sides for Freight Cars. Henry R. Heyl, George W. Wilson. An advisory report is impossible with such a meager descr. 2 October 1889. Appl, nd. Markee, 2 Illus with Descr. "W.H.W., Secy, FI, to Markee, 14 October 1889.

1446 Riehel Brothers. Philadelphia. Testing Machine. John L. Gill, Jr. No Report. Comm Appnt. 16 February 1889. Riehle Bros to CSA, 11 January 1889. Riehle Bros. to Wahl, 5 January 1889. 2 Pt: Henry B. Riehle, C. Ernest Buzby. Descr. 5 Circulars. Extracts from Board of Engineers of U. S. Navy Report, 21 July 1888 and from Report of Board of Engineers, U. S. Army, 20 December 1888. Photo Frederick A. Riehle, Pres., Riehle Bros. Testing Machine Co.

1447 Riehle Brothers. Philadelphia. Track Scale. John L. Gill, Jr. No Report. Comm Appnt 16 February 1889. Riehle Bros. to CSA, 14 January 1889. 3 Circulars.

1448 McClellan, Ezra Spencer. Paterson. New Jersey. Anti-Siphon Trap Vent. John L. Gill, Jr., William Harkness, Jr., Frank P. Brown, John J. Weaver. While it will effectually prevent any siphoning action in the trap, its use is inconsistent with the legally prescribed regulations for ventilating traps. The legally prescribed arrangement is simpler, safer and more certain of action, although in some situations more expensive. Comm suggests these views be communicated to applicant as advisory suggestions. 4 September 1889. McClellan to CSA, 23 January 1889. (McClellan), DuBois Mfg Co., to Wahl, 3 July 1889. 2 Pt. 2 Circulars. Blueprints. Descr. Note on Comm Mtg. See CSA 1672.

1449 Auge, Henry. Chestnut Hill, Pennsylvania. Heating and Ventilating System. G. Morgan Eldridge, Luther L. Cheney, William McDevitt. Comm met with the inventor and gave him advice. 6 March 1889. Auge to CSA, with card, 14 February 1889.

1450 Durham, Caleb W. New York. System of House Drainage. Philip Pistor, C. John Hexamer, William Harkness, Jr., Charles A. Rutter, Addison Hutton, William L. Price, Henry Pemberton, Jr., John Hall. Durham has adopted a very good system as regards its mechanical construction. The workmanship was very good. The invention is hardly more than the use of wrought iron pipe and of the screwed joint. Comm reconsidered the report after corres from inventor on 30 November, and found no cause to modify original report. S. Lloyd Wiegand, Luther L. Cheney, C. John Hexamer. The system is not claimed to be a new invention but is a selection of best features. It is manifestly superior in strength and durability to all preceding systems. 3 December 1890. Durham to CSA, 30 January 1889. 2 Pt. Dup. 2 Drafts. Descr. Illus. 2 Circulars. Pamphlet. 1889 Durham System of House Drainage. Corres: to Wahl, 9 T, 23 January to 4 April 1890. To Pistor, 4 T, 22-26 November 1889. 6 Durham to Wahl, 7 April 1889 - 15 March 1890, on Enemies of the company and on report, with Np. 4 Wahl to Durham, 22 May - 5 October 1889. Wahl to Pistor, 28 June.

1451 Maddox, Richard Leach. Substitution of Gelatine for Collodion in Photography. Charles F. Himes, John C. Brown, John Carbutt, Samuel Sartain, John G. Bullock, F. E. Ives. Although gelatine has been employed photographically prior to Dr. Maddox's publication of his invention, the successful emulsification by him of silver haloids with gelatine and the perfecting of a working process merits recognition for painstaking experimentation and a departure from old methods. This method has had a marked influence on the process of photography. Scott Medal, 1 May 1889. Appl, nd. Mercer to FI, 5 February 1889. 2 Maddox to Wahl: 19 January - 6 February 1889. Copy: Maddox to Harrison, Descr, 19 August 1887. Photo. Mercer, The Indebtedness of Photography to Microscopy (NY: Styles & Cash, 1887).

1452 Johnston, William T. Cincinnati, Ohio. Cut-off Valve. Robert Grimshaw. No Report. Johnston to Wahl, 6 February 1889. Appl, nd. Pt. Circular. Wahl to Grimshaw, 1 March 1889, with note, R.G. 2 Wahl to Johnston, 23 May, 16 September 1889.

1453 Little, Christopher James. London, England. Railway Signal. C. Herschel Koyl, Rufus Hill. This system of 2 blocks and 2 signals would give greater security against collision in case of a fog but Comm does not find, within the 23 years since its proposal, any advantage sufficient to balance its obstruction to traffic, 1 May 1889. Little to CSA, nd. 2 Circulars. Np, Railway Supplies Jour, 6 August 1887. 5 Np. Extracts from the Engineer, 1865-86. Little to Wahl, 17 December 1888. Koyl to Wahl, Comm procedure, 21 March 1889. List of improvements. 13 Corres, 2 July 1865 - 30 August 1887.

1454 Little, James H. New York. Rock Breaker. Charles E. Ronaldson, Luther L. Cheney, George A. Koenig. These machines are excellent but without a series of tests their efficiency cannot be proved. 1 May 1889. Tests were later conducted and described in a supplementary report, 15 October 1889. A novel and efficient machine, its parts are interchangeable and self-oiling. Lancaster to CSA, 31 January 1889. Lancaster to Secy, FI, 30 January 1889. Pt. 8 Circulars. Corres: 4 Lancaster to Wahl, 22 May - 5 October 1889, on a 2nd report. 2 Ronaldson to Wahl, on 2nd report, 5 and 17 October 1889.

1455 Root, John B. Port Chester, New York. Crane, Thomas S.; Green, George R.; Bayles, James C. East Orange, New Jersey. Wahl, William H., Secy, FI (Applicant). Spiral Welded Tubes. Coleman Sellers, Theodore D. Rand, Henry G. Morris, S. Lloyd Wiegand, Luther L. Cheney, F. Lynwood Garrison, Charles E. Ronaldson. The product is good for the purposes to which such tubes have been applied and is likely to open up many new uses for light metal tubing. Amended by CSA to award Scott Medal to Root. 1 May 1889. Following protest, the Special Comm (Chabot, Cheney, Wahl) did not modify the recommendation and, after examining the facts in the Protest, recommend Scott Medal, jointly to Crane, Green, Bayles, for making possible the commercial success of spirally welded tubes. Protest rejected 2 October 1889. Wahl to CSA, nd., tubes were referred by resolution of FI, 16 January 1889. 4 Pt. Root. Pt. Crane. Corres: 3 Bayles, Pres., The Spiral Weld Tube Co. to Wahl, 25 December 1888 - 25 January 1889. Green, Supt., Spiral Weld Tube Co. to Wahl, 26 February 1889, with note from Morris, 1 March 1889. 3 Mrs. Root to Wahl 9 - 26 June 1889. Protest of the Spiral Weld Tube Co. against the Award of the John Scott Legacy Premium and Medal to Root, 30 May 1889, with certified copy.

1456 Van Kannel, Theophilus. Philadelphia. Door. G. Morgan Eldridge, W. L. Boswell, William McDevitt, George W. Wilson, D. E. Crosby. A turnstile with 3 arms are extended vertically downward to the floor and upward to a covering somewhat over head high. There is no draft. Scott Medal 3 April 1889. Van Kannel to CSA, 15 January 1889. Pt. 2 Circular. Draft.

1457 Bundy, Warren. Minnesota City, Minnesota. Kohler, G. A., Chicago, Illinois (Applicant). Saw. Henry R. Heyl, Cyprien Chabot. This has 2 distinct varieties of teeth, arranged in groups of 3. Comm gave the saw a practical test on a variety of woods both hard and soft, cutting with the grain and across it. The saw worked with ease and rapidity in both kinds of work, seeming to be well adapted to all woods except resinous yellow pine. 5 June 1889. Kohler, Secy, Montague-Woodrough Saw Co. to CSA, 12 January 1889. 3 Bundy Pt. 2 Circulars, The Montague-Woodrough Saw Co. Kohler to Wahl, 22 January 1889. Kohler to Wahl, 28 May 1889. Secy, FI to Kohler, 31 May 1889.

1458 Hollerith, Herman. Washington, D. C. Electric Tabulating System. Luigi d'Auria, Francis LeClerc, L. F. Rondinella, Edwin S. Crawley. Data is recorded by punching holes in strips of non-conducting paper and then counting these by mechanical counter operated by electro-magnets. The system is invaluable wherever large numbers of facts are to be tabulated. Cresson Medal. 5 February 1890. JFI April 1890. Appl, nd. 3 Pt. 2 Np Electrical Review, 26 January 1889; Frank Leslie's Illustrated Newspaper. 12 October 1889. Sample Forms (38), cards (11), lists of abbreviations (2). Dup. - Preliminary Report. Dup - note from Wahl. Dup - Corrections. Corres: 2 Wahl to d'Auria, 26 October 1889 - 18 January 1890. 2 Ltr (copies) to Hollerith, 20-23 September 1889. Johns, for Hollerith to Wahl, 23 April 1889. 6 Hollerith to Wahl, 9 March 1889 - January 1890. Report of a Commission appnt by the Hon. Supt. of Census. 3 Photos.

1459 Schimper, Rudolf I. United States Fuel Co. (Applicant). New York. Artificial Fuel. H. Pemberton, Jr. Mr. Frank did not send desired information. Comm does not feel warranted in taking any further action. Comm Disc 1 May 1889. Frank, Mgr, U. S. Fuel Co. to CSA, 8 February 1889. Descr. 3 Frank to Wahl, 8 February, 21 April, 22 May 1889. Frank to Wahl, on appl being reinstated, 15 July 1889. 2 Frank to Wahl, 12 - 17 September 1890. Wahl to Frank, 23 May - 23 September 1889. Taylor to Sestalit Fuel Co., 11 September 1890. "The Marvelous Fuel".

1460 MacDonald, William R. Allegheny City, Pennsylvania. Heating Device. Charles E. Ronaldson. No Report. Note on folder. Rejected December 1889. Appl, with note Rejected, nd. Pt. with Illus. 4 Adv and Dup. 2 Illus. Photo. T. Ltr to Ronaldson, 24 September 1889. 5 MacDonald to Wahl, with Descr, T, 1 February 1888, 2 March 1889 - 4 September 1889.

1461 Bagshaw, Walter. Batley, England. Diagram Meter. H. W. Spangler, G. Morgan Eldridge, John E. Codman, Lino F. Rondinella, Luigi d'Auria, Luther L. Cheney. The apparatus gives evidence of original thought but Comm does not find any saving of time or labor in its operation over the plan generally in use in U. S. 5 June 1889. Bagshaw to CSA, nd. Bagshaw, 17 December 1888. 5 April 1889, with note on Meeting and Illus. 28 June 1889. Adv. Pt - Br. Wahl to Spangler, 20 March 1889.

1462 Mason, John Willis. Edinburgh, Scotland. Movable Diagrams of the Seasons. H. Pemberton, Jr., George Smart. These may be used advantageously as accessories to any existing means of teaching the changing length of the day and night caused by changes in the Sun's declination. 5 June 1889. 2 Mason to CSA, 1 Descr, 15 February 1889. 3 Mason to Wahl, 14 January - 18 February 1889. Illus. Adv and Dup.

1463 King, H. O. Railway-Signal Carrier. Rufus Hill. Folder Missing. See CSA 1496.

1464 Warne, Elijah. Easton, Pennsylvania. Separating Ore. George A. Koenig. No Report. Comm Disc 2 October 1889. Warne to CSA, 28 February 1889. Pt. Np. 4 samples. Corres: 4 Warne to Wahl, 11 February - 9 April 1889, on Appl, Desc, not being ready. Dup Wahl to Koenig, 1 June 1889. Dup 2 Wahl to Kent, 1 June 1889. Koenig to Wahl, 17 September 1889.

1465 Drown, Frederick Eugene. Pawtucket, Rhode Island. Bleaching Process. R. L. Chase, Otto Luthy, Thomas G. Hunter. Testing showed the fabric to have been weakened by the process. 7 May 1890, with note on other samples and supplementary report. Drown to CSA, 23 February 1889. Pt. Drown to Wahl, 21 February 1889, 16 March 1889, and 20 June 1890, on Appl being "very carelessly examined and acted upon, almost criminally so," 23 June, 3 July 1890, with dup. Rusden to Drown, 4 April 1889 and Case to Drown, 14 August 1889. Drown to Chase, 24 June 1889. Wahl to Chase, 4 January 1890 and 23 June 1890. Chase to Wahl, 1 June 1889; Luthy, 31 December 1889. Chase, Luthy, test data, 31 December 1889. Luthy to Wahl, 3 January 1890. Draft. Wahl to Drown, 30 June 1890 and 25 June 1890. MacFarlane to Wahl, 26 September 1889.

1466 Hyde, James P. Hydromaze Mfg Co. (Applicant). New York. Gas Trap Seal. John L. Gill. Applicant has not yet prepared a model of the invention which seems to have merit. Comm Disc. 5 June 1889. Koones, Secy, Hydromaze Mfg. Co., to CSA, 14 March 1889. 2 Pt. 4 Adv with Illus.

1466½ Lovegrove, Thomas J. Philadelphia. Arches. S. Lloyd Wiegand, H. H. Suplee, Luther L. Cheney. A traveling center on which men can work enables the construction to proceed rapidly and continuously. 5 June 1889. Lovegrove to CSA, March 1889. Pt. Illus.

1467 Lee, Julius Thomas. Mattoon, Illinios. Slide Valve. Thomas Shaw. No Report. Pt. and circular. Dup, Secy 1526 for Appl, with note on postponement.

1468 Olsen, Tinius. Philadelphia. Testing Machine. No Comm. Appl Withdrawn. Olsen to CSA, 27 Match 1889, with note from Wahl. See 1580 (Appl renewed.)

1469 Ritter. O. C. Springfield, Missouri. Roller Mill. Robert Grimshaw. No Report. Comm Disc. Dup Wahl to Grimshaw, 23 May 1889. Secy, FI, on Ritter corres, 5 July 1889. Wahl to Grimshaw, 1 July 1889. Wahl to Ritter, 16 September 1889.

1470 Palmer, Henry J. Brooklyn, New York. Railway Signalling Apparatus, Electric. E. Alexander Scott, N. H. Edgerton, Louis H. Spellier, C. John Hexamer. The system is applicable only to double-track-railroads, on which the trains always run in the same direction. 6 November 1889. Palmer to CSA, 15 April 1889.

1471 Townsend, Theodore F. Philadelphia. Oil Distributor. H. W. Spangler, Washington Jones, W. P. Conway. Comm is satisfied from an examination of this that it will do all that the inventor claims for it. 4 September 1889. Townsend to CSA, 10 April 1889, with list of 11 CSA members. Copy of Pt. Np. JFI July 1887. Np. Townsend to CSA, 3 June 1889. 2 Illus. Weaver to Wahl, suggesting inventigation, 1 April 1889.

1472 Straub, Ambrose W. Philadelphia. Tunnel, Sub-Aqueous. Lewis M. Haupt, Arthur Beardsley, Benjamin Franklin, George A. Koenig. The great cost and uncertainty of operation of the mechanical details render the plans of doubtful practicality. 2 October 1889. Straub to CSA, 12 April 1889, with note on Comm. Pt. Straub to FI, 16 October 1889. Wahl to Straub, 14 October 1889. Straub to FI, on Report, August 1889, with circular. Haupt to CSA, replying to Straub's criticisms. 12 September 1889.

1473 Birch, John. Gillespie, H. (Applicant). Dayton, Ohio. Coupling. Louis H. Spellier, Luther L. Cheney, Francis Leclere. Comm considers this to be of an exceedingly crude character. Results from a test would be unfavorable and not warrant the laborious task. Report submitted 7 May 1889. Pt - Birch. Wahl to Gillespie, 5 October 1889.

1474 Campbell, William. Newcastle-on-Tyne, England. Girder for Bridges. James Christie, William H. Barr, Arthur Beardsley. The assertions are not well founded and the claims are not substantiated. CSA made this advisory. 5 February 1890. Appl, nd. Campbell to Wahl, further verified report with calculations, 24 January 1890. Dup. Wahl to Campbell, 22 May and 26 June 1889. Wahl to Evans, 26 October 1889.

1475 Walsh, James, Jr. Philadelphia. Valve. John E. Codman, William H. Thorne, Luther L. Cheney. Comm considers the additional complications in construction and management, and in cost unwarranted by results. 2 October 1889. Walsh to CSA, nd with Adv. Descr with list of Pt. Illus. Draft. Wahl to Walsh, 14 October 1889. Walsh to Pres., FI, 21 October 1889. Wahl to Cheney, 29 October 1889. Wahl to Codman, 22 October 1889, with envelope. 5 T with envelope. Codman to Wahl, will not modify report, 18 November 1889. 5 Brown to "Jim", 8 January 1888 - 12 October 1889.

1476 Wilkes, Moses. Trenton, New Jersey. Slide Valve. H. W. Spangler, William Barnet LeVan, John E. Codman. The economy of the automatic cut-off is much greater than with the plain slide. Certificate of Merit. With cards and Illus from tests. 4 December 1889. Wilkes and Boggs to CSA, 19 April 1889. Wilkes, Pres., and Boggs, Secy, Wilkes Automatic Machine Co., 18 April 1889. Pt. Wilkes to Wahl, 28 December 1889.

1477 Edgerton, N. H. Philadelphia. Piston Engine. H. W. Spangler. No Report. Comm Appnt, May 1889. Edgerton to CSA, 5 April 1889. 2 Adv. Edgerton to Wiegand, 26 April 1889. 2 Descr and Claims.

1478 MacCoy, James S. New York. FI Applicant. Pneumatic Tool. Luther L. Cheney, S. Lloyd Wiegand, N. H. Edgerton, John Hall, Eli T. Starr, William H. Thorne, Cyprien Chabot, William C. Head. The novelty lies in the perfection of its details and proportions and particularly in the bold conception of its possible applications. With Descr of state of the art. Scott Medal. 5 June 1889. JFI July 1889. Wahl to CSA, on FI resolution referring tools of American Pneumatic Tool Co., 16 May 1889. Descr, Pneumatic Tool. Descr, Repousse Machine. MacCoy, Pres., American Pneumatic Tool Co. to Wiegand, 1 June 1889. MacCoy - 4 Pt. 15 Pt.

1479 Ives, Frederick E. Philadelphia. Projecting Lantern. Edward F. Moody, Samuel Sartain, N. H. Edgerton, H. Pemberton, Jr., H. R. Heyl. Ives has greatly improved this educational apparatus, adding materially to its portability and general hardness, without sacrificing efficiency. Scott Medal. 6 November 1889. JFI March 1890. Wahl to CSA, 16 May 1889. Claims of Inventor. 3 Pt. Np - The Exhibitor. Adv. Ives, "The Japanese Mirror," JFI, January 1888. Anthony to Ives, 30 June 1880. Draft and certified Dup. Ives to Comm, 7 October 1889. Moody to Wahl, 8 October 1889.

1480 Rimmer, Harold. County of Lancaster, England. Stewart & Mattson Mfg. Co. (Applicant). Philadelphia. Water Purifier. Reuben Haines, Charles M. Cresson, H. Pemberton, Jr. The Rimmer Oxydizer will not prove superior to other filtering media used, although under some conditions, it may be equal. 5 November 1890. Stewart & Mattson Mfg. Co. to CSA, 28 May 1890. Pt. Adv. Pemberton, Census Office, Statistics of the Chemical Industry, to Haines, 16 January 1890. Spence, Gen. Mgr., the Rimmer Water Purifying Co. to Haines, 15 August 1899. Spence to Pemberton, nd (rec'd 24 April 1890). Haines to Spence, 24 June 1890. Wahl to Haines, on Comm, 14 June 1889. Cresson to Secy, FI, 15 June 1889. Haines to Secy, FI, 15 June 1889. Circular.

1481 Newell, Azariah D. New Brunswick, New Jersey. Life Line Carrier. L. d'Auria, Francis Leclere, T. T. Townsend, M. B. Snyder. The carrier is too cumbersome in its present form, although it may be considerably improved by careful analysis and experiments in the future. Advisory. 2 October 1889. Appl. 25 June 1889. Newell to Secy, FI, 18 June 1889. Pt. 4 Newell to Wahl, 24 June, 26 June, 16 August, 19 October 1889. T. 2 Adv. 2 Wahl to Newell, 26 June, 21 October 1889.

1482 Mullins, John W. London, Kentucky. Prison Doors. Thomas P. Conard, H. R. Heyl, John Hall, Luther L. Cheney. This will permit passage of air but will practically exclude light. It does not possess novelty or special merit. First reading 4 June 1890. Mullins to CSA, nd. Pt. Hayes to Conard, 28 May 1890. 2 Wahl to Mullins, 31 May and 26 June 1889. List of Comm.

1483 Hobson, Arthur E. Hartford, Connecticut. Hydraulic Shaping Press. Hugo Bilgram, Cyprien Chabot, Luther L. Cheney, John Hall. This process involves no difficulties which the inventor has successfully mastered. Scott Medal. 10 December 1889. Appl, 15 May 1889. Hobson to Secy, FI, 15 May 1889. 3 Pt. Secy to Hobson, 21 May. 4 Hobson, L. J. Steane & Co., to Wahl, 2 May 1889 - 11 January 1890.

1484 Ryan, Matthew. Washington, D. C. Axle. John Hall, Luther L. Cheney, Philip Piston. This has been anticipated in much better form by the old system and superseded by the newer form of bearings. 10 December 1889. Ryan to Wahl, 3 April 1888. Pt with note, Cheney to Piston, and copy Pt. 'J.H.' to Wahl, on Comm, 16 September 1889. Hall to Wahl, 19 August 1889.

1485 Johnson, Esward H. New York. Interior Conduit & Insulation Co. (Applicant). Conduit. Carl Hering. T. Carpenter Smith, Richard W. Davids, E. Alexander Scott, William McDevitt. These insulated tubes and fireproof; they are laid in the building while it is being built. The wires are drawn through later. Scott Medal. 4 February 1891. Johnson, Pres., to CSA, 1 June 1889. Waller & Kipler, Johnson's Agents, to CSA, 1 June 1889. Pt with claims, 4 Illus. 2 B. F. Johnson, Sales Agent, I. C. & I. Co. to Wahl, 19 November 1890. 3 Little, Gen Mgr, I. C. &. I. Co. to Wahl, 20 November and 4 December 1890. 16 Pt. Prospectus, I. C. &. I. Co. Little to Wahl, 19 February 1891.

1486 Hafner, John A. Pittsburgh. Mechanical Movement. L. H. Spellier. Appl Rejected. Hafner to CSA, 22 June 1889. Pt. 3 Adv and 2 Dup. 3 Illus. Wahl to Hafner, 25 June 1889.

1487 Hafner, John A. Pittsburgh. Anti-Friction Driving Belt. L. H. Spellier. Appl Rejected. Hafner to CSA, 22 June 1889. 3 Hafner to Wahl, 6 April, 10 May, 2 June 1889. 2 Adv with 2 copies. 2 Pt. Circular.

1488 Kelly, P. J. Bellefonte, Pennsylvania. Radiator. Luther L. Cheney. Kelly, Kelly, and O'Hara Mfg. Co. to Secy, FI, 7 August 1889. Appl, 19 August 1889. Pt. Illus. Adv.

1489 Lowe, James. Philadelphia. Spinning Mules. T. C. Search, George C. Klenk, Samuel Wood, Henry Grant, Michael Lafferty, Stockton Bates, Francis LeClerc. The yarn is more evenly spun than is possible by the old process. This improvement has great industrial and commercial value. Amended to award Scott Medal. 5 February 1890. Lowe to CSA, 27 August 1889. Pt. 2 Search to Wahl, 25 October and 3 December 1889, with envelope with Illus.

1490 Knudson, Adolphus. Brooklyn, New York. Acoustic Telephone. Samuel Sartain, James Wilson. This fills a position between the speaking tube and the electrical telephone. It is well adapted for use from office to warehouse. Certificate of Honorable Mention. 3 December 1890. Appl, 19 June 1889, referred by order of FI. 2 Pt. 2 Adv. Circular. Ellsworth to Wahl, 16 October 1889. Note on Miller's and Shaver Corp, "The Shaver Molecular Telephone." W.H.W. to Sartain, 26 October 1889. W.H.W. to Ellsworth, 11 October 1889.

1491-1 Thomas, Almer and Merket, Luzerne. Northeast, Pennsylvania. Eureka Tempered Copper Co. (Applicant). Copper. H. Pemberton, Jr., Luther L. Cheney, Nathan H. Edgerton, C. Hanford Henderson, Richard D. Baker, F. Lynwood Garrison. As the processes in question have not been described to Comm, the examination has been confined to the products of the applicants. Chemical analyses and physical tests were made and circulars were sent to over 100 establishments using tempered copper. Comm believes Eureka Tempered Copper Co. has made a decided step in advance in the preparation of copper for many industrial uses. Scott Medal to Thomas and Merket. 5 November 1890. JFI December 1890. Short, Pres. Eureka Tempered Copper Co., to CSA, 21 April 1890, note see ltr 7 August 1890. Short to Pemberton, 7 August 1890. Draft: Garrison, Comm cannot consider the process an improvement in the arts, 10 January 1890. Booklet, The Phosphor-Bronze Smelting Co., Ltd. Short to Pemberton, 10 October and 29 September, on inventors. 3 Circulars, Eureka Tempered Copper Co. Wahl to Garrison, 24 September 1889. Short, Anti-Friction Metal Co., to CSA, note - Appl cancelled, see Appl 21 April 1890. Short, Anti-Friction Metal Co., to Wahl, with data, circular, Np, 17 August 1889. Short to Wahl, on Medal, 16 April 1891.

1491-2 Thomas and Merket. Copper. Short, Pres., & Gen. Mgr., Eureka Tempered Copper Co., to Wahl, 12 October 1889. Short to Garrison, 15 ltr, 18 October 1889 - 16 April 1890, with request for postponement (24 January), list of purchases, and Greenman's data. Greenman to Pemberton, 5 August 1890, on tests. Note, Wiegand, 16 June 1890. Short to Cheney, 16 April 1890. Short to Pemberton, 8 ltr, 16 April to 31 July 1890, with report of U. of Penn. Dept. of Dynamical Engineering, 10 June 1890. Test data. Short to Wahl, 22 July, 5 October 1889. Garrison to Wahl, 26 September 1889.

1491-3 Thomas and Merket. Copper. T: to Eureka Tempered Copper Co.; to Garrison, early 1890; to Pemberton, late 1890. Pemberton, 19 August 1890, circular letter. List of those who replied to the FI.

1492 Hayes, Mayer & Co. (Applicant). Philadelphia. Files. Luther L. Cheney, S. Lloyd Wiegand, John Hall, Francis Leclere. The perfection attained is preeminently the result of superior skill and that they have established the manufacture in this country. Cresson Medal. 4 December 1889. Hayes, Mayer & Co., to CSA, 13 August 1889. 3 Hayes, Mayer & Co. to Wahl, 13 August, 4 September, 27 November 1889. W.H.W. to Cheney, 26 October 1889. Wahl to Cheney, 9 October 1889.

1493 Bailey, Henry C. Edinburgh, Indiana. Pulley Hub. Luther L. Cheney, Cyprien Chabot, S. Lloyd Wiegand, John L. Gill, Jr., John Hall. This fails to show anything other than good workmanship in the construction of the wooden part of the pulley. Cast metal pulleys are now in general use. 2 October 1889. Bailey to CSA, 24 May 1889. Descr. Np. W.H.W. to Bailey, 14 October 1889. Ltr to Grimshaw, 23 January 1890.

1494 Eldridge, G. Morgan, Chm of Special Comm. Disposition of Scott Legacy Surplus. Samuel R. Marshall. The City of Phila should be authorized to give with the medal a series of graded premiums. Luther L. Cheney, Samuel R. Marshall, Samuel Sartain. It does not appear proper that any suggestion departing from the declared will should be voluntarily made by the FI to the city. With a copy of the document under which Scott legacy fund is established. 2 October 1889. Extract from Minutes of CSA, 5 June 1889. Extracts from Minutes of CSA relating to Disposition of the Scott Legacy Surplus, 5 June 1889 - 5 February 1890, with capital list. A. D. Bache, James P. Espy, Paul B. Goddard. Report of Comm Appnt to draft regulation relating to Scott Legacy. Adopted 8 May 1834. Wahl to Eldridge, on Comm, 10 March 1890. Beardsley to Wahl, 18 March 1890. Cresson to Wahl, 19 March 1890. Koenig, Secy, Minutes of Comm, 18 March 1890. Draft, Koenig, Minutes of Comm, each member would prepare plan. 12 March 1890. Rand to Wahl, 31 March 1890. Theodore D. Rand, Coleman Sellers, Arthur Beardsley, Charles M. Cresson, CSA is not empowered to formulate a plan to present to the Board of City Trusts on disbursement of surplus trust fund income. Comm should be disc. Resolution, 2 April 1890, to bring subject before Board of Managers.

1495 Rondinella, Lino F. Philadelphia. Tetrangle. William H. Thorne, George W. Irons, William Pagerson, James M. Cox, Jr., John Rowland, Jr., George S. Cullen. The only result of this invention is the ruin of a very useful took in order to obtain one with ostensibly more functions, one of which is too inconvenient to be employed. Rej. 4 December 1889. John H. Cooper, W. W. Suplee. The tetrangle will find many places well suited for its use as a special instrument which Comm may not be present forsee. While it possesses undoubted merit as an additional instrument for special work, it will not replace the 2 triangles commonly used for general work. With Illus. 4 June 1890. Rondinella to CSA, 1 October 1889. Pt. Adv. Rondinella to CSA Chm, on Report, 2 December 1889. Exercises. Rondinella to Wahl, 3 June 1890. Rondinella to CSA, 7 May 1890. Thorne to CSA, on motive for rejecting report being personal consideration for the inventor and not a desire to get at the intrinsic merits of the invention and on Comm procedure. nd. Read 10 December 1889.

1496 Palmer, John H. Philadelphia. Horse Car Starter. Louis H. Spellier. The principle is not new, yet is superior in point of simplicity. Comm appnt. 14 October 1889. Palmer to CSA, 12 October 1889. 2 Pt. "Palmer Car Starter." 4 Np The Car. Wahl to Hill, on Comm, 26 October 1889. Palmer, Palmer Car Starter Mfg. Co. to Wahl, 27 December 1889.

1497 Mergenthaler, Ottmar. Baltimore, Maryland. Wahl, William H. (Applicant). Linotype. Luther L. Cheney, William H. Wahl, S. Lloyd Wiegand. The perfection of work accomplished by it, and the rapidity of the work to be done has been repeatedly reported in various publications. As a quick means for preparing forms for printing, Comm believes these inventions deserving of highest commendation. Cresson Medal. 4 December 1889. JFI January 1890. Wahl to CSA, 1 October 1889. 13 Pt. For Protest, see CSA 1571. See also CSA 1588.

1498 Thorne, Joseph. Port Richmond, New York. Type-Setting and Distributing Machine. S. Lloyd Wiegand, Luther L. Cheney, William H. Wahl. Procuring the best perfection of typography most expeditiously at the least cost, this machine appears to have surpassed all others in quality of work. Amended to award Cresson Medal. 5 February 1890. JFI May 1890. 5 Circulars. 8 Pt. 2 Illus. Copy: Wahl to Thorne Type-Setting Machine Co., on misleading quotation, 8 May. Mergenthaler Printing Co. to Wahl, on "Thorne" ad, 4 May 1891.

1499 Eastman Dry Plate and Film Co. System of Film Photography. Comm unknown. Report discusses Leon Warnerke's priority in using the principle of charging a camera with a roll of sensitive tissue, nd. Draft.

1500 Bristol, William H. Hoboken, New Jersey. Recording Gauge. John E. Codman, H.W. Spangler, John H. Cooper, John Hall. This is commendable for simplicity, cheapness, and accuracy. Scott Medal, 5 March 1890. Bristol to CSA, 13 December 1889. Pt. Draft. Bristol, Stevens Institute of Technology, to Wahl, 19 February 1890.

1501 Hadfield, Robert A. Sheffield, York County, England. Steel, Manufacture of. C. B. Dudley, William H. Wahl, S. Lloyd Wiegand, F. Lynwood Garrison. The invention adds manganese in large quantities to ordinary melted steel. Manganese steel has higher tensile strength and gives slower wear. Amended to award Scott Medal, 7 July 1891. 4 Hadfield, Hadfield's Steel Foundry Co., Ltd., to Wahl, 12 June 1890. 12 January 1889, 27 January 1891, 22 May 1891. Hadfield to Wahl, 19 November 1890. Pt. Np. 2 Dudley, Pa. Railroad Co., to Wahl, 18 November and 8 December 1890. Hadfield, note.

1502 Meyers, John G. Washington, D. C. MacCoy, James S., Applicant. Madison Square, New York. Mausoleum. S. Lloyd Wiegand, Richard D. Baker, Luther L. Cheney, William H. Wahl, Rudolph Hering. This system defends the living effectually from contamination from the dead and secures the dead from theft. Scott Medal. 5 March 1890. JFI April 1890. MacCoy, Pres., The New Mausoleum Co., to CSA, 18 October 1889. 4 MacCoy to Wahl, 9 October 1889 - 19 February 1890. List of suggested amendments. Draft. 2 Hering to Wahl 24 January - 14 February 1890. 7 Np. 2 Circulars. Peacocke, "The Disposal of the Dead," Report, Brooklyn Medical Journal, "The New Mausoleum". Davis to Wahl, Pr Protest, 2 June 1890.

1503 Harper, John. Duncannon, Pennsylvania. Fire Escape. No Report. Pt with Illus.

1504 Schwartz, Theodore. Motive Power. L. d'Auria. No Report. Schwartz to CSA, 8 April 1886. Schwartz, notarized Descr, 31 March 1886.

1505 Miller, Thomas S. Philadelphia. Water Treatment. Appl Rej. Miller to CSA, 11 August 1886. 2 Miller to Wahl, 10 August 1886 and 1 April 1887. Miller, Descr, 11 August 1886. 2 Illus.

1506 Tabony, Joseph H. New York. Telephone. Appl Rej. Tabony to CSA, 27 October 1886. Tabony, Descr with Illus.

1507 Williams, Charles D. Philadelphia. Show Window. Appl Rej. Williams to CSA, January 1887. Pt. 3 Photos. 2 Circulars. See CSA 1629.

1508 Ogden, John. Philadelphia. Mihlbauer, Charles H. Philadelphia. Steam Radiators. Appl Rej 23 April 1887. Ogden and Mihlbauer to CSA 25 February 1887 with note, Wahl, on rej., 23 April 1887.

1509 Badia, Joseph L. Philadelphia. Life Saving Apparatus. H. W. Spangler. Appl withdrawn. Comm appnt. 4 November 1887. Badia to CSA, 29 August 1887, with note on withdrawal.

1510 Haenichen, Frederick and Otto. Philadelphia. Electric Clocks. No Report. CSA referred this appl to ES of FI for examination and report. 16 April 1887. Haenichen Bros. to CSA, 9 November 1886. Pt. Haenichen to Wahl, 9 November 1886.

1511 Wittenstrom, Carl Gustaf (Stockholm, Sweden), Backlund, Johan F. (Stockholm) and Nobel, Ludvig (St. Petersburg, Russia). Iron Manufacture. Appl Rej, 4 May 1887. Durfee, Gen Mgr., U. S. Mitis Co., to CSA, 5 November 1886, with note on dismissal. 2 Durfee to Wahl, 25 October 1886 and 5 November 1886. 3 Wittenstrohm Pt. Backlund Pt. Nobel Pt.

1512 Brown, Walter Morton. Albany, New York. Steam Boilers. Appl Rej. Brown to CSA, nd. 6 Pt. Lengthy Descr with 6 pages Illus. Brown to Secy, FI, 22 January 1889. Illus.

1513 Estabrook, Harry F. Worcester, Massachusetts. Estabrook, Mrs. D. F. (Sarah B.) (Applicant). Bird Food Holder. No Report. Pt. Wahl to Estabrook, on advice, 3 November 1888. Mrs. D. F. Estabrook to Wahl, 12 November and 31 October 1888, with Np.

1514 Rice, E. Bayonet. No Report. Rice, 19 November 1888. Circular. (Pencilled in - "No appl. form.")

1515 Peckover, James. Philadelphia. Stone Cutting. Appl Rej. Peckover to CSA, nd with "no". Peckover to Wahl, 31 October 1888.

1516 Hendley, William. Washington, D. C. Fire Escapes. S. Lloyd Wiegand. No Report. Hendley to Wahl, 12 November 1888. Hendley, Descr, 3 December 1888. 2 Illus. Np. Hendley to Wiegand, 14 June 1889. Wahl to Hendley, 10 April 1889.

1517 Royle. Teapot. Appl Rej. Application, 23 November 1888. Circular.

1518 Ross, William Stuart. Madisonville, Kentucky. Sanitary Furnace. Appl Rej. Ross to CSA, nd. Pt. Ross to Secy, FI, 10 December 1888.

1519 Dannmeyer, Martin F. D. C. San Francisco, California. Washing Machine. Dannmeyer, The Dannmeyer Mfg. Co., to Wahl, 5 February 1889. Appl, nd. 3 Descr. 2 Adv with 2 Illus. Adv. Pt. T. Envelope with note, "S.L.W.".

1520 Nowak, Emil Anton (Applicant). Leipzig, Germany. Technical Papers in "Maschinenbauer" and "Skizzenbuch." Appl Rej. Appl, nd. Nowak to Wahl, 26 November 1888 (in German). Nowak, 7 January 1889.

1521 Gentzen, Herman. Fort Ringgold, Texas. Tent. Appl Rej. Gentzen to CSA, 28 January 1889. 2 Gentzen to Secy, FI, 4 January 1889, 28 January 1889. Pt. Np.

1522 MacDonald, William R. Allegheny, Pennsylvania. Heater and Ventilator, Combined. Appl Rej. Pt. Photo. Adv with Dup. See CSA 1460 for Appl (1 February 1889).

1523 Shunk, Thomas W. Bucyrus, Ohio. Plow. Appl Rej. (note: "Refer to some Agricultural Society.") Shunk to CSA, 9 February 1889. Shunk, Shunk Plow Co., to CSA, 9 February 1889.

1524 Ianke, Leopold. Louisville, Kentucky. Iron Converter. Appl Rej. Ianke to FI, 26 February 1889. Ianke, Office of Mechanic Expert Advertiser of Patents, to FI. 13 May 1889. Pt. Adv. with Np. Wahl to Ianke, 10 May 1889.

1525 Lee, Julius Thomas. Mattoon, Illinois. Feed Water Heater. Investigation Postponed. Descr. Pt. Adv, with Illus, 3 Dup. Adv. 1 Dup. Circular, 4 Dup. For Appl, see CSA 1526.

1526 Lee, Julius Thomas. Mattoon, Illinois. Exhaust Nozzle. Investigation Postponed. No Report. Lee to Secy, FI, 2 March 1889. Pt. Circular. 3 Dup, with notes. Adv, 2 Dup. 3 Lee to Wahl, 20 March 1889, 22 March, 12 April 1889. Envelope with Illus, note.

1527 Lee, Julius Thomas. Mattoon, Illinois. Bolting-Chest. Investigation Postponed. Pt. For Appl, See CSA 1526.

1528 Murtha, Philip. Philadelphia. Shoemaker's Anvils. Luther L. Cheney. Appl Rej. Murtha to CSA, 7 March 1889.

1529 Segur, J. M. Adrian, Michigan. Corn Planter. Appl Rej. Segur to CSA, 21 March 1889. 2 Segur to FI, 24 May, 4 June 1889. Secy to Segur, recommending referring Appl to some agricultural society, 31 May 1889.

1530 Bonwill, W. G. Philadelphia. Reducing Pain. Appl Rej. Bonwill to CSA, 25 March 1889. Wahl to Bonwill, 18 October 1889.

1531 Bonwill, W. G. Philadelphia. Surgical and Dental Engines. Appl Rej. Bonwill to CSA, 25 March 1889.

1532 Bonwill, W. G. Philadelphia. Dental Mallet. Appl Rej. Bonwill to CSA, 25 March 1889.

1533 McKenna, Robert. White, Tennessee. Centrifugal Speed-Governor. Appl Rej. McKenna to CSA, nd, with "NG". McKenna to FI Secy, 13 May 1889. 3 Descr with Np. Pt, Dup. Adv, 2 Dup. McKenna to FI, 30 May, 9 August 1889. Wahl to McKenna, 18 September, 5 October 1889.

1534 Post, Emeline C. (Mrs.). Yorktown, Virginia. Therapeutic Bottle. Appl Rej. Appl, 7 May 1889. 2 Mrs. Post to FI, nd and 28 May 1889. Adv. Illus. Copy, Secy, to Mrs. Post, 13 May 1889, suggesting it be referred to some medical society.

1535 Campbell. Cotton Compress. Appl Rej. Lengthy Descr. Note: Appl rec'd May 1889.

1536 James, John Jr. Cold Spring Harbor, Suffolk Co., L. I., New York. Electrical Method for Detecting Leaking Capsules. Appl Rej. James to CSA, 2 July 1889, with note, Chm made Advisory Report. James to CSA. Descr, 2 July 1889. Wahl to James, 5 July 1889.

1537 Schaedler, Jacob. Bridgeport, Connecticut. Joining Metal Plates. Luther L. Cheney, Thomas P. Conard. Its use in the majority of cases would be attended with so much difficulties and expense that the object would be defeated. 6 September 1893. Appl, 21 June 1889. Pt. Illus. Schaedler, Descr, 21 June 1889. Schaedler to Wahl, 21 June 1889. Secy, FI, to Schaedler, 21 May 1889. Schaedler to Wahl, 31 May 1891. Schaedler to Cheney, 3 December 1892. Wahl to Cheney, 16 September 1889. Wiegand to Wahl, 2 June 1891. Wahl to Cheney, 2 June 1891. Draft, Wahl to Schaedler, 2 June 1891.

1538 James, John Jr. Cold Spring Harbor, Suffolk Co., L. I., New York. Artificial Wood. Appl Rej. Note on Advisory Report made by Chm. 2 James to CSA, 20 June 1889. James to Wahl, 20 June 1889.

1539 James, John Jr. Cold Spring Harbor, Suffolk Co., L. I., New York. Candle Power of Electric Lights. Appl Rej. James to CSA, Descr, 10 July 1889. Ltr to James, 20 September 1889.

1540 Moon, George Washington. Sparta, Louisiana. Planter. Appl Rej. Moon to Secy, FI, 12 June 1889. Appl, 12 June 1889. Pt. Adv. "Excelsior Planter." Wahl to Moon, 26 June 1889.

1541 Henning, William B. Waterloo, DeKalb Co., Indiana. Railway Construction. Appl Rej. Henning to CSA, 18 July 1887. Henning to Wahl, 18 July 1887, Descr. Illus.

1542 Peacock, Edward F. Philadelphia. Piston Packing. Appl Rej. 18 September 1889. Peacock to CSA, 29 July 1889. Pt. Copy, Secy to Peacock, 19 September. Peacock to Wahl, 2 October 1889.

1543 Moore, Emma R. (Mrs.). Philadelphia. Fire Extinguisher. Appl Rej. Moore to CSA, 1 August 1889. Moore to Cahill, with envelope, 1 August 1889.

1544 Lang, Craddock, T. F. (Agent - Wakefield, England). Wire Rope. Appl Rej. Appl 20 September 1889. Haupt to Wahl, 20 September 1889. Adv. Colam to Craddock & Co., 12 August 1889. Letterhead, George Craddock & Co., 21 August 1889. Pamphlet, George Craddock & Co. Haupt to Wahl, 23 September 1889.

1545 Roberts, Edw. C. Saltville, Smythe Co., Virginia. Wheel Hub. Henry F. Colvin, John H. Cooper, Spencer Fullerton, W. M. McAllister, John E. Codman. The ideas embodied in this are good, but it is too expensive to manufacture and will be difficult to keep tight. 1 June 1892. Appl. Draft. 3 Illus. and Pt. 4 Roberts to Wahl, 12 October 1889 - 8 July 1892. Roberts to Wahl, with objections to Report, 11 June 1892. Roberts to Colvin, 12 April 1892. Colvin to Wahl, 25 April 1892. Roberts to Wahl, 13 May 1890. Copies Wahl to Roberts, 18 October 1889 and 23 September. See CSA 1546, Roberts to Secy, FI, 27 January 1892.

1546 Roberts, Edw. C. Saltville, Smythe Co., Virginia. Tilting Drawer. Henry R. Heyl, G. Morgan Eldridge, John H. Cooper. While offering ease of opening and closing, it has greatly limited usefulness. 7 December 1892. Appl, Roberts to Secy, FI, 27 January 1892. Pt. Illus. Roberts to Wahl, on Report, 19 September 1892. See CSA 1545 - Roberts to Wahl, 13 May 1890 and Wahl to Roberts, 18 October 1889.

1547 Stern, Edward. Philadelphia. Dynamite Projectiles. Appl Withdrawn. 24 March 1890. Stern to CSA, 16 October 1889.

1548 Fell, Ambrose G. New York. White Lead. H. Pemberton, Jr. No Report. Fell to CSA, 15 January 1889. 5 Pt: Fell, Cobley, Draper, Harris, Dale and Milner. Copy: Wahl to Editor of Iron, requesting references on white lead editorial, 1 July 1889.

1549 James, John Jr. Cold Spring Harbor, Suffolk Co., L.I., New York. Amplifying Apparatus. S. Lloyd Wiegand. Advisory Report. Appl, nd. James to CSA, 3 May 1889 with Descr of lecture. "Caveat" - Pt Office. T. Copy: Wiegand to James, advice on working on 1 topic, 7 January 1890. James, American Society of Mechanical Engineers, to Wiegand, 19 December 1889. Np. Electrical World, and Ltr, James, 30 June 1886, 19 May 1888. 3 James to Wahl, 25 February - 6 May 1889. 3 Wahl to James, 11 May - 18 June 1889.

1550 de Haro y Farrate, Antonio Lopez. Gijon, Spain. Electric Sea Compass and Log Line. H. W. Spangler, N. H. Edgerton, E. Alexander Scott, Francis Leclere, F. Lynwood Garrison. The compass is of less value than the well-known magnetic compass now obtainable. The recording box of the electric automatic log line can be placed in any convenient position on board ship. Scott Medal, 2 April 1890. de Haro y Farrate to CSA, 24 November 1889. de Haro y Farrate to Secy, FI, 24 November 1889, with translation. Descr in Revista General de Marina, March and April 1889. 2 Illus. Blueprint of Navy Compass.

1551 Kalbough, John W. Philadelphia. Shorthand. E. Alwxander Scott. No Report. Comm Appnt 11 February 1890. Kalbough to CSA, 14 January 1890.

1552 Ehbets, Carl J. Hartford, Connecticut. Hall, John (Applicant). Revolver. F. Lynwood Garrison, Edwin C. Crawley, James H. Carpenter, Luther L. Cheney, W. A. Cheney. As a purely military firearm, its scope will probably be large as it is vastly superior to any other arm of the kind. Scott Medal. 2 April 1890. JFI May 1890, with Appendix and Illus. Hall, General Manager, Colt's Patent Fire-Arms Mfg. Co., to CSA, 1 February 1890. 2 Ehbets Pt. Ehbets to Garrison, 8 February 1890. Hall to Garrison, 5 February 1890. 2 Illus. Adv: John P. Lovell Arms Co., Forehand and Wadsworth, Smith & Wesson, Colt's Patent Fire-Arms Mfg. Co., with directions for loading.

1553 Menlo Park Ceramic Works (Applicant). New York. Tile Productions. Samuel Sartain, Thomas Hockley, L. W. Miller. The management deserves distinct recognition for its efforts to furnish tiles of a high order of excellence and of a great variety of styles. Longstreth Medal. 7 January 1891. Ronaldson, Menlo Park Ceramic Works, to Wahl, 7 February 1890. Prospectus.

1554 Bates, Stockton; Shaw, Edwin F.; Von Culin, George M. Philadelphia. Spindle Support. Francis Leclere. Philip H. Fowler, Luther L. Cheney, John Hall, S. Lloyd Wiegand, Samuel Webber, W. B. LeVan, Stanley Lees. This furnishes a support in which spinning spindles revolve, increasing the capacity of the machinery and securing a uniform spinning and winding by reason of its accuracy of motion, achieving the best possible quality as well as the greatest quantity without requiring additional labor. Cresson Medal. With appended test data, by Webber. 20 June 1890. JFI August 1890. Bates, Shaw, Von Culin to CSA, 20 June 1890. Bates Pt. Bates, Shaw, Von Culin Pt. Dup with Minutes of Comm Meetings. Certified Copy. 2 copies Appendix. Wm. F. Draper, George Draper & Sons, to Wahl, on incomplete knowledge of the state of the art in Report, 1 May 1891. Draper, "The Development of Spindles," 1891. Leclere, Fowler, Cheney, Hall, Wiegand. Have read publication but will not qualify Report. 2 September 1891 with Dup.

1555 Hammond, J. B. Typewriter. S. Lloyd Wiegand, John L. Gill, Jr., Luther L. Cheney, N. H. Edgerton, Edward F. Moody, Edwin S. Crawley, William Barnet LeVan, L. d'Auria, William C. Head, John Hall, L. F. Rondinella, J. W. Eastwick. There is no restriction upon the speed the operator may acquire. The perfection of alignment and certainty of operation commend it. Cresson Medal. 3 September 1890. JFI November 1890. Moody, on Report. 2 Drafts.

1556 Clegg, David. Philadelphia. Furnace. John E. Codman, H. W. Spangler. Advisory Report. Comm Disc. 2 April 1890. Clegg to CSA, 12 February 1890, note on Comm and Report. Pt. Clegg, Merits of the Device, 11 September 1891. Wm. Connery, The Connery Boiler Co., T, 9 September 1891. 2 Illus.

1557 Brandon, James. New York. Piston Packing. John H. Cooper, D. E. Crosby, L d'Auria, Arthur Beardsley. This provides a piston which will reduce friction to a minimum and be self-packing against pressure. His points are well taken and amply proven, not original. but a re-invention. 7 January 1891. Cooper, d'Auria, Crosby, Beardsley on the existence of pressure in a joint and its measure, and the literature cited. 26 September 1890. Adv and Dup. Pt: 3 Brandon, 1 Cooper, 1 Buck, 1 Cooper and Emory. 4 Brandon to Wahl, 28 January 1890 to 17 February 1891.

1558 McLaughlin E. Philadelphia. Substituting Driving Wheels for Crank Pins. John E. Codman. Advisory Report. Comm Disc 2 April 1890. McLaughlin to Wahl, 28 January 1890. McLaughlin to CSA, Descr, 28 January 1890, with note on Comm.

1559 Hamer, John. Hooversville, Pennsylvania. Aerial Navigation. S. Lloyd Wiegand, Luther L. Cheney, William C. Head. Neither he nor others should feel any confidence in the plan. It is almost needless to add that Comm would advise him to make tests privately. Advisory Report. 2 April 1890. 2 Hamer to CSA, 27 March 1890. Hamer to Secy, FI, 27 March 1890. Wahl, on Report, 28 March. Descr, Hamer to Secy, 28 December 1889. 3 Illus. Hamer to Secy, FI, 27 December 1889.

1560 Parks, Nathaniel. Norwich, New York. Parks, Fred N. (Applicant). Vibratory Electricity. Appl Rej. F. Parks to CSA, 8 February 1890 with note Rejected, HWS. 2 Parks to Wahl, 8-15 February 1890. Parks to Comm, 8 February 1890. Houston to Wahl, 19 February 1890, on Park's Descr. Descr.

1561 Barras, Samuel Thompson. Philadelphia. Cheney, W. M. (Applicant). Cutting Machine. H. R. Heyl, Charles R. Rutter, Philip Pistor. As the machine is quite simple, it may be operated by unskilled labor. For cutting sheet metal forms in great variety, it will be both useful and reliable. 3 December 1890. Cheney to CSA, 1 March 1890. Pt. Draft. Wahl to Heyl, 7 October 1890.

1562 Gordon, Adolphus. Chester, Pennsylvania. Anti-Friction Metal. H. W. Spangler. Under conditions of testing, the friction of boxes made of this metal was less than that of the standard boxes. Material of the quality submitted will make good boxes. 2 September 1891. Gordon to CSA, 30 January 1890. Appl form, with Comm, 30 January 1890. Dup. Spangler to Wahl, with analysis of metal, nd. Adv, Excelsior Brass Co. Pr Report. Asbury, Pres., Enterprise Manufacturing Co. of Pa., to CSA, T, 30 January 1890.

1563 Shedlock, Alfred. New York. Hanney, James B. Glasgow, Scotland. Spray Lamp. Charles M. Cresson, T. Henry Asbury, Richard D. Baker, William H. Greene, F. Lynwood Garrison. This peculiar adjustment to the air and oil valves ensures a degree of economy and safety not attainable in any of the other devices brought to the notice of Comm. Amended to award Scott Medal. 3 December 1890. Shedlock, Secy, Industrial Light Co., to CSA, nd. Shedlock to Wahl, 28 February 1890. Industrial Light Co., to Wahl, 10 July 1890, with note from Wahl, Pt: 2 Hannay, Shedlock, Lyle. List of Pt. claims. List of Pt relating to Oil Spray Burners. 3 Illus. 8 Photo.

1564 Hamer, John. Hooversville, Pennsylvania. Closed Well. Appl Rej. Hamer to CSA, 28 December 1889. Pt. Adv.

1565 Wootten, John E. Wilson, S. W. (Applicant). Locomotive. S. Lloyd Wiegand, Samuel F. Prince, Jr., Luther L. Cheney, John E. Codman. The effect of a continuous line of gradual development is to produce a most efficient and serviceable boiler, capable of economically burning cheap grades of fuel inadmissible in other kinds of locomotive boilers. Test data sustain its claims. Scott Medal. 3 December 1890. JFI September 1891. Wilson, Wharton R. R. Switch Co., to CSA, 1 March 1890. 2 Drafts.

1566 Richards, Theron A. Brooklyn, New York. Ruling Machine. Luther L. Cheney, S. Lloyd Wiegand, Charles E. Maas, William H. Wahl. This automatically controls the lateral motion of the engraver's cutting tool, the depth of the cut and other adjustments. By means of this machine converging lines for perspective effects are easily and accurately made. Scott Medal. 5 March 1890. Pt. 3 pages, Photo of samples.

1567 Ivins, Ellwood. Philadelphia. Wahl, William H. (Applicant). Aluminum Tubing. Thomas P. Conard, W. M. McAllister, Luther L. Cheney, Fritz Mink. Producing tubing in lengths of 30 feet or more is of dubious practical value to the consumer, yet it employs a new and perhaps superior process of manufacture. Ivins is the first to produce aluminum tubing in commercial quantities anywhere. 4 June 1890. Wahl to CSA, 21 February 1890, with sample. Pittsburgh Reduction Co. to Parvin & Co. on aluminum tubing, 19 March 1890, with Illus. Wilmot & Hobbs Mfg. Co. to Conard, 31 March 1890, Adv. Ivins to Board of Managers, FI, Appl and Descr, 14 February 1890. Wahl to Conard, on Comm, 11 March 1890. Corres: 2 Ivins, Spring Garden Metal Works, to Wahl, 14 March 1890 - 5 September 1891. 4 Ivins to Conard, 24 March 1890 - 17 April 1890. 3 Mathews to Conard, 26 - 16 April 1890. 3 Clark to Conard, with Adv, 26 March - 15 April 1890, 2 samples in Snellenburg envelope. Clark to Pres, FI, 31 March 1890. Copy, Wahl to Clark, 7 April. List of manufacturers of tubing. Adv, Parry A. Reger & Bro. Price list, Philip S. Justice & Co.

1568 Cruikshank, William Y. Danville, Pennsylvania. Carriage to Run on Wire Cables. L. d'Auria, Philip Pistor, William H. Thorne, John H. Cooper. A car suspended on a wire cable stretched between 2 elevated points is provided with pulleys or drums around which endless chains are wound. The model does not achieve results sought for. 5 November 1890. G. Morgan Eldridge, Charles A. Rutter, Thomas A. Conard, Spencer Fullerton, For ingenious construction and for its easy application to fixed cables, recommended Scott Medal. 3 Photos of model. Read 14 April 1890. Cruikshank to CSA, March 1890. Descr. Trenton Iron Co. to Fullerton, 4 April 1890. 4 Cruikshank, Iron Works Supply Co. to FI, 5 March - 26 March 1890. 4 Cruikshank to Wahl, 15 July 1890 - 31 August 1891. Illus - pencil sketch. Pt.

1569 Earle, William. Philadelphia. Ventilator. Edward F. Moody. The idea of using a rapidly revolving fan in a chimney to create an artificial draft is not new and has the disadvantage of being an obstruction when the wind ceases. Earle to CSA, 18 March 1890. Pt. Moody to Wahl, 21 October.

1570 Koch, William. Philadelphia. Safety Lamp. F. Lynwood Garrison. The lamp seems to contain several original points yet his ideas are crude. Advised him to prepare a model. Koch to CSA, 21 March 1890. Descr. Garrison to Wahl, 18 April 1890, the Report.

1571 Electric Typographic Co. of Phila. Protest Against Award of Cresson Medal to Ottmar Mergenthaler. Hugo Bilgram, C. John Hexamer. E. Alexander Scott. Protest should be dismissed. 3 September 1890. Redfield, Pres., Electric Typographic Co., to Wahl, Protest, and on Schuckers' priority, 13 March 1890. Dodge to Wahl, on reply to protest, 2 June 1890. Dodge, Atty for Mergenthaler, to Wahl, data on Pt priority, 2 June 1890. Appl, 13 March 1890. Np. - 3 The Financial News, 29 July - 1 August 1889. Memorandum of Association of the Linotype Co., Ltd., with copy. Hine, Pres., to Wahl, 9 April 1890 on Schucker and Dodge. Wiegand to Spangler, 17 March 1890. See CSA 1497.

1572 Straughn, Charles R. Philadelphia. Brake. William Barnet LeVan. No Report. Comm Appnt 5 April 1890. Straughn to CSA, 31 March 1890.

1573 Hart, Walter. East Orange, New Jersey. Hoisting Machine. H. R. Heyl, D. E. Crosby, Herman Dock, Thomas P. Conard, Arthur L. Church. Its simplicity reduces its liability to derangement to a minimum. Its usefulness is extended far beyond the limit of the drum hoists. Scott Medal. 3 September 1890. JFI November 1890. Hart to CSA, 31 March 1890. Hart to Wahl, 31 March 1890. Descr. Pt and Dup. Pamphlet. Certified Dup. Hart to Wahl, 25 June 1890. List of symbols.

1574 Dodge, Wallace H. Mishawaka, Indiana. Rope Transmission. John H. Cooper, John L. Gill, H. R. Heyl, T. Carpenter Smith. The employment of an automatic tension apparatus secures increased grip of the ropes in the wheel grooves. The system can run in either direction. This system of transmitting power by ropes is a contribution to practical engineering worthy of special consideration. Amended to award Scott Medal. 4 February 1891. Dodge, Pres. Dodge Mfg. Co. to CSA, 17 March 1890. 4 Pt. Descr. List of firms in Phila area using the system. 2 Suplee to Wahl, 10 April 1891, 19 February 1891. Smith to Wahl, 7 April 1891. 2 Dodge to Wahl, 9 February - 9 March 1891. Suplee to Spangler, 12 May 1890. 2 Suplee to Cooper, data for report, 1 - 7 November 1890.

1575 Dodge, Wallace H. Mishawaka, Indiana. Wood Split Pulley. John H. Cooper, John L. Gill, Jr., H. R. Heyl, T. Carpenter Smith. These are ingenious as well as efficient, insuring greatest strength and lessening the cost. They are much lighter and present superior grip surface to the belts than iron pulleys. Longstreth Medal, 4 April 1891. Dodge, Pres. Dodge Mfg, Co., to CSA, 17 March 1890. Pamphlet. 6 Pt.

1576 Stahlberg, Charles. New York. Time Stamp. S. Lloyd Wiegand, Luther L. Cheney, W. M. McAllister, William C. Head, Edwin S. Crawley. A series of moveable type wheels are operated by a clock movement. The actuating force is two large springs coiled in barrels similar to the usual propelling springs of marine and carriage clocks. Scott Medal, 4 June 1890. Stahlbert to CSA, 7 April 1890. 1 Pt. Hinchman Pt.

1577 Byrne, Michael. New York. Boiling Apparatus. C. John Hexamer, Charles A. Rutter, W. Barnet LeVan, Reubin Haines, G. Morgan Eldridge. This applies a well known steam-jacket to the discharge pipe of 'gate' which causes the liquid in the gate to be more effectually boiled. This is a valuable addition to any industry where so much depends on minutiae for improvement of the final products. 22 October 1890. Appl, 4 April 1890. Pt. with Np. Hexamer to Wahl, 7 August 1890. Byrne, Shook & Everards Brewery, to Wahl, 4 April 1890.

1578 Anderson, William. Westminster, England. Devonshire, Easton (Applicant). London, England. Water Purification. H. Pemberton, Jr., Uselma C. Smith, John E. Codman, Reuben Haines, Charles M. Cresson, L. d'Auria, C. John Hexamer. Water to be purified flows through a horizontal wrought iron cylinder, containing punchings of iron. A portion of the iron is dissolved and coagulates with the suspended matter of the water, forming comparatively large flakes which do not choke the sand filter so rapidly as the finer deposits do. The process is not applicable to all waters alike and the filter beds require considerable area. Scott Medal. 4 February 1891. Devonshire to CSA, 12 April 1890. Adv. Pt. Descr. Blueprints. Draft. Reprint, Devonshire, "The Purification of Water by Means of Metallic Iron," JFI, June 1890.

1578 (continued) 2 Devonshire to Pemberton, 28 November - 29 December 1890. Kenna to Devonshire, 2 December 1890, with Manager's Report, Antwerp Water Works. Haines to Pemberton, test data, 11 December 1890. 3 T. 2 Devonshire to Wahl, 4-5 March 1891. Cresson to Wahl, 10 May 1890. 2 Hyatt Pure Water Co. to Wahl, on data for Comm, not a protest, 6-9 April 1891. 4 Corres between City of Phila, and FI, on Scott Medal, 3-6 August 1891. Anderson to Mayor, Philadelphia, 24 July 1891. Wahl to Pemberton, 5 March 1891.

1579 Davis, Miles L. Lancaster, Pennsylvania. Phila. Cremation Society (Applicant). System of Cremation. William H. Wahl, Luther L. Cheney, S. Lloyd Wiegand. Comm approves of this system on sanitary, economic, and aesthetic grounds. The society is introducing a most desirable reform in prevailing custom. Longstreth Medal. 24 February 1892. Trautman, Pres., Phila. Cremation Society, to CSA, 10 April 1890. Pt. 3 Pamphlets. Annual Report, 1892. Frazer to Wahl, on cremation, 22 August 1890.

1580 Olsen, Tinius. Philadelphia. Testing Machines. George A. Koenig, L. d'Auria, John L. Gill, Jr., H. W. Spangler, H. R. Heyl. The increased complexity of this machine over others requires a more careful handling. Its graphic record shows at a single glance the variations in the strains of a number of specimens. This is a step toward making such machines thorough instruments of precision. Cresson Medal. 3 December 1890. JFI, February 1891. Olsen to CSA, 24 April 1890. 3 Adv. Descr. 7 Illus. 3 graph samples. 4 Pt.

1581 Rittenhouse, Frank. Norristown, Pennsylvania. Guide Table for Shearing Curved Metal Plates. John H. Cooper. No Report. Comm Appnt, 28 May 1890. Rittenhouse to CSA, 16 April 1890. 2 Rittenhouse to Wahl, 4 August 1890 - 22 October 1891. 4 Blueprints. Pt. Adv.

1582 Vauclain, Samuel M. Philadelphia. Compound Locomotive. S. Lloyd Wiegand, Luther L. Cheney, William L. Simpson, John E. Codman. The difference between the Vauclain engine and the standard engine is entirely in the cylinders and pistons, cross-heads and valves. It is the most marked departure from the usual construction of engines that has elicited general satisfaction. Amendments added. Cresson Medal. 3 June 1891. Vauclain to CSA, 31 May 1890. Descr. Baldwin Locomotive Works, Compound Locomotive. 2 Pt. Vauclain, Baldwin Locomotive Works, nd. Test data. Vauclain to CSA, 31 May 1890. Dr. with history of the Compound Locomotive. Np. American Journal of Railway Appliances, November 1800. Photo, Vauclain. Wiegand to Hobart, 25 February 1891. Wiegand to Editor, Am. Jour. of Railway Appliances, 9 November 1890, with copy. Hobart to Wiegand, 24 February 1891. Report on Np.

1583 Remington. Wyckoff, Seamans and Benedict (Applicant). New York. Typewriter. S. Lloyd Wiegand. No Report. Comm Appnt, 20 September 1890. 3 Wyckoff, Seamans and Benedict to CSA, 27 June - 2 September 1890. Brief.

1584 Robie, Henry W. Portsmouth, Virginia. Riehle Bros. (Applicant). Philadelphia. Screw Jack. H. R. Heyl, D. E. Crosby, Thomas P. Conard. As the screw does not turn, but is raised and lowered by turning the nut, the cap remains firmly attached to the screw. This very superior tool is of good proportions and excellent workmanship. Amended to award Longstreth Medal. 4 February 1891. Riehl Bros. to CSA, 27 May 1890. Pt. Adv. Riehle Bros. to Wahl, 9 February 1891. Robie to Chm, CSA, 2 May 1891. 2 Robie to Wahl, 18-24 May 1891.

1585 McDonald, Marshall. Washington, D. C. Filter. Charles M. Cresson. No Report. Comm Appnt, 20 September 1890. McDonald to CSA, 4 June 1890. 2 McDonald, Commissioner, U. S. Commission of Fish and Fisheries, to Wahl, 4 June 1890. Pt.

1586-1 Chase, Isaac McKim. Washington, D. C. Steam Generator. Thomas P. Conard, Charles A. Rutter, William Barnet LeVan, Philip Pistor. The corrosion that will occur in the network of crevices in this sectional generator will make the early destruction of the whole structure inevitable. The facilities for cleaning are inadequate and troublesom. Chase to Secy, FI, 18 September 1890. 5 Wells, for Chase, to Wahl, 25 September 1890 - 24 November 1891. Wells to Wahl, with Np, nd. Chase to Wiegand, 3 August 1891. Conard to Wahl, 13 February 1891. Pistor to Conard, on not modifying Report after applicant's criticism, 18 February 1891. Photo.

1586-2 Chase. Adv. Np. 3 oversized blueprints.

1587-1 The Metal Worker (Applicant). New York. Tests of Hot Water Heating Apparatus. H. W. Spangler, S. Lloyd Wiegand, T. Carpenter Smith, Charles A. Rutter, William Barnet LeVan, Arthur L. Church, Arthus Beardsley, F. Lynwood Garrison. The total number of Appl on file is three; this is entirely too few to warrant any further steps being taken. Comm recommends that the matter be indefinitely postponed. Comm Disc 7 December 1892. Kittredge, Ed. Metal Worker, to Wahl, suggesting FI conduct test of heating boilers, 15 July 1890. Spangler to CSA, recommending Kittredge's suggestion, 30 July 1890. 3 Kittredge to Wahl, 30 November 1891 - 2 September 1892. Spangler to Wahl, 28 June 1892. Comm Report, 18 March 1892. 3 Appl. 2 Postals. 11 Corres from 9 interested companies, 24 November 1891 - 22 September 1892. Church to Wahl, 14 March 1892.

1587-2 The Metal Worker. Tests of Hot Water Heating Apparatus. List of companies, 8 pages. Rules, Measurements, Conduct, and Drafts. Draft of Appl.

1588 Mergenthaler, Ottmar. Baltimore, Maryland. Linotype. S. Lloyd Wiegand, Luther L. Cheney, William H. Wahl. This contains a series of type matrices and expansible spaces controlled by finger operated keys. By performing all of its functions concurrently the new linotype surpasses the earlier machine in celerity and capacity for work. Scott Medal. 7 January 1891. Dodge to Wahl, 1 November 1890. Descr. 2 Pt. See CSA 1497, JFI, January 1890.

1589 Heyl, H. R. Chm of Special Comm. Preparation of Rules to Govern Longstreth Medal. H. R. Heyl. Edward Longstreth, machinist, deposited one thousand dollars with the FI, in May 1890, for the founding and perpetuation of the Edward Longstreth Silver Medal. This may be awarded for useful invention, important discovery and meritorious work in science or the industrial arts, as contained in a report by the CSA. Wahl to Heyl, 10 November 1890.

1590 Vallo, W. A. Philadelphia. Marine Engine. L. d'Auria. Comm Appnt. 18 October 1890. Vallo to CSA, requesting Advisory Report, 1 October 1890.

1591 Dolman, William H. St. Helen, Oregon. Fire Proof Construction. C. J. Hexamer. No Report. Dolman to Wahl, 22 June 1890. Illus. Descr.

1592 Booth, John Lister. Cedar Rapids, Iowa. Lubricating Device. John H. Cooper. No Report. Appl, 7 August 1890. Booth to Wahl, 7 August 1890. Booth, Dept. of the Interior, to Secy, FI, 16 April 1891. Descr, 29 July 1884. Pt. Wiegand to Wahl, 13 March 1893.

1593 Williams, William John. Camden, New Jersey. Water Purifier. Reuben Haines, W. Barnet LeVan. This tri-sodium phosphate is to prevent boiler incrustation. It is superior to ordinary phosphate in neutralizing free acid. Although its sales have been largely increasing, there have been instances of failure to effect its purpose. It does not seem to possess much practical advantage over carbonate of soda. 4 March 1891, with appended data. Williams to CSA, 29 October 1890. Pt. Williams, Keystone Chemical Co., to d'Auria, 30 October 1890. 2 Williams to Wahl, 26 September - 13 November 1891. Handbook, Worth Knowing, Keystone Chemical Co., with Agent's card. Williams to Haines, 24 September 1891, Protest. Haines to CSA, reply: The use of tri-sodium phosphate merely ensures the presence of an excess of alkali to check any acidity resulting from the possible decomposition of other salts, 6 October 1891.

1594 Pentz, Albert D. Elizabeth, New Jersey. The States Machine Co. (Applicant). Newark, New Jersey. Boring and Milling Engine. S. Lloyd Wiegand, William C. Head, Luther L. Cheney, Spencer Fullerton, John Hall. The general purposes are to hold work firmly and accurately in different positions. It appears capable of ready adaptation to a great variety of work and of accurate and expeditious action. Scott Medal. 5 March 1891. The States Machine Co. to CSA, 14 November 1890. Pt. The States Mchine Co. to Wahl, 14 November 1890. 1891 Catalogue.

1595 Pentz, Albert D. Elizabeth, New Jersey. Coupling. Report combined in CSA 1594, Boring and Milling Engine. Wahl to CSA, 14 November 1890. Pt. Np, The Iron Age, 18 December 1890. The State Machine Co. to Wiegand, 6 January 1891, with 7 page memo to CSA. The States Mchine Co. to Wahl, on legal complications, 6 August 1891. Minor City Trusts, Phila., to Wahl, on awarding Scott Medals in September or later, 10 July 1891. Wahl to Wiegand, 22 December 1890. Wiegand to Wahl, on awarding medal to inventor, not assignee, 8 August 1891. The States Machine Co. to Wahl, 11 May 1891. See CSA 1594.

1596 Schermerhorn, George W. Philadelphia. Folding Boat. George A. Koenig, G. Morgan Eldridge. Two or more flexible boards are hinged together; outriggers fore and aft increase its stability. With two men in it, this rowed easily against the tide in the Delaware, showing itself stiff, not cranky. Longstreth Medal. 4 March 1891. Schermerhorn to CSA, 21 October 1890. Pt. Smith to Wahl, not recommending investigating this, 30 October 1890.

1597 Rogers, John Raphael. Cleveland, Ohio. Typograph. Appl Rej. Starring to Wahl, 4 November 1890. Starring, with Appl for share in The New York Typograph Co., 27 October 1890. 6 Adv. 3 Pt. Np, The World, set up by Rogers Typograph. Pamphlet.

1598 Koch, William. Philadelphia. Water Power Apparatus. Advisory Report. Koch to CSA, 27 June 1890. Specifications. 2 Illus. Descr, with Illus.

1599 Davis, Miles L. Lancaster, Pennsylvania. Hospital for Contagious Diseases. No Report. Davis to Secy, FI, 11 December 1890.

1600 Geise, Henry. Philadelphia. Hose Conduit. William McDevitt. The device would not prove in practice what is claimed for it. An overhead system has lately been introduced which answers the desired purpose much more satisfactorily. 6 January 1891. Pt. Wahl to McDevitt, with McDevitt's Draft, 2 January 1890.

1601 Almond, Thomas R. New York. Coupling. H. R. Heyl, Hugo Bilgram, William H. Thorne, D. E. Crosby. Comm conducted tests and asked Stevens Institute to make a synamometer test; data is included. It has already been under practical test for more than 8 years. We cannot overlook the testimony of many eminent mechanics, under whose supervision it has been in constant use, as to its unfailing efficiency. Scott Medal. 2 September 1891. Appl. Almond to Wahl, 24 November 1890. 2 Pt. Illus. T. Adv. 11 Almond to Wahl, 4 February 1891 - 3 February 1892. Telegrams: Almond to Wahl, 25 May 1891, 18 October 1890; Denton to Wahl, 25 May 1891. 2 Denton to Wahl, 15-27 May 1891. 2 Denton to Almond, 11 April - 19 March 1891. Wahl to Heyl 29 May 1891. Heyl to Wahl, 31 May 1891. List of Comm, 8 December 1891. Heyl to Wahl, 10 June 1891, on Reports.

1602 McCarthy, William. Drinker, Pennsylvania. Lock. John L. Gill, Jr. No Report. Comm Appnt, 6 December 1890. McCarthy to CSA, 31 October 1890. Pt. Blueprint. 2 McCarthy to Wahl, 30 October 1890, with Descr.

1603 Fyfe, Paul P. Philadelphia. Railway Car Brake. S. Lloyd Wiegand. Advisory Report. Comm Appnt. 6 December 1890. Fyfe to CSA, 22 November 1890.

1604 Widener, John. Method of Raising Water. Appl Rej. Appl. Descr. Np.

1605 Warrell, Frederick G. Philadelphia. Fuse Block. Carl Hering. Advisory Report. 3 February 1891. Warrell to CSA, 25 November 1890. Adv - National Electric Co. Wilson to Wahl, on Comm, 13 December 1890.

1606 Briggs, Frank. Philadelphia. Air Brake and Spring Motor. Appl Rej. 8 December 1890. Briggs to CSA, 24 November 1890. 2 Pt. Spangler to Wahl, on Rej. 8 December 1890.

1607-1 Mannesmann Process. George A. Koenig. The unanimous vote by FI to refer this to CSA constitutes a memorable event in FI annals. The Mannesmann Brothers have discovered a new property of steel: that the ccrystals of steel may be forcibly separated and rejoined to considerably increase the tensile strength. FI should honor the men who have done this work in making our century memorable as the Age of Invention. Cresson Medal. 8 October 1891.

S. Lloyd Wiegand, F. Lynwood Garrison, Henry G. Morris, Luther L. Cheney. There has not been any manufacture under this process as yet in this country. In the absence of adequate information as to cost and commercial practicability, Comm suggests the reference to the subject be withdrawn. 7 December 1892. Abstract of 2nd Report. Koenig to Wahl, 30 August 1891. Koenig to Wiegand, resigning, 28 December 1891. Wahl to Wiegand, 29 December 1891. Morris to Wahl, declining to sign first report, 26 October 1891. Wiegand to Wahl, will revise report if Koenig requests it, 28 November 1891.

1607-2 Mannesmann Process. 12 Np. (some in German). 14 Pt. 2 Adv. (German).

1607-3 Mannesmann Process. 14 Journals, Np, Reprints (some in German).

1608 Garsed, Robert P. Norristown, Pennsylvania. Annunciator. H. H. Edgerton, Edward F. Moody, G. Morgan Eldridge, W. M. McAllister, William C. Head. This pneumatic apparatus is useful for distances. Scott Medal. 1 April 1891. Garsed to CSA, 22 December 1890. 2 Pt. Adv. Garsed to Edgerton, 6 February 1891.

1609 Harvey, John L. Philadelphia. Safety Switch. Appl Rej. Harvey to CSA, 10 December 1890. Harvey to Secy, FI, 10 December 1890.

1610-1 Batchelor, Clifford. Rhode Island Locomotive Works (Applicant). Compound Locomotive. S. Lloyd Wiegand, Luther L. Cheney, John E. Codman, William L. Simpson. The reports of tests supplied indicate good proportioning of parts and all the resultant economy which can be reasonably expected. No invention appears to have been made or claimed by applicants. Read 9 June 1891. Referred to larger Comm. 4 November 1891.

John H. Cooper, John E. Codman, Luther L. Cheney, Henry F. Colvin. The object of this invention is to provide means, whereby the engine may be started and run continuously with steam, directly from the boiler in both cylinders. The engine may be changed from the compound system to the simplest at the will of the engineer. The improvements can be

1610-1 (continued) applied to existing simple locomotives. Cresson Medal. 24 February 1892.

Appendix to Report. Appl., 20 December 1890. Pt. Pamphlet, Rhode Island Locomotive Works.

Heyl, Cooper, Colvin to CSA, brief statement of history of 1610, on "Abuses". 14 October 1892, with Wiegand's amendment to Report. LeVan to Heyl, 30 June 1892. Wiegand to Conard, on protest and meeting, 1 June 1893. Wiegand to Batchelor, 27 April 1892. Masoro, V. P., R. I. L. Works, to Wiegand, 16 May 1892. Report on tests made. Wiegand to Mason, 17 May 1892. Lythgoe, Agent, R. I. L. W. to Colvin, 27 June 1892, with T. Lythgoe to Cooper, 26 July 1892.

Protest, Wiegand, Cheney, Church, Sellers, Edgerton, Sartain, Longstreth, Bancroft, Head, Codman, 24 February 1893. Wiegand to Wahl, Supplement to Protest, 7 September 1892. Protest dismissed, 2 November 1892. Heyl, Precedents relative to the matters complained of by Wiegand, et al, nd. Cooper, Reply to Wiegand, et al, 18 August 1892. Secy, Special Comm, to Wiegand, asking for information on alleged matters, 29 June 1892, with copy of reply, 21 July 1892, referring protest to Comm. Wiegand to Wahl, 29 October 1892. Information paper. Wiegand to Wahl, 21 July 1892, original reply. Wiegand to Wahl, February 2-3, 1893.

1610-2 Compound Locomotive. 5 Rhode Island Locomotive Works to Wahl, 25 November 1891 - 9 November 1892. 4 Wiegand to Wahl, 28 September 1892 - 13 February 1893. 2 Wiegand to Beardsley, 2-9 May 1892. Copies of Protest. Corres relating to Protest. Reprints relating to Protest and handling of CSA 1610. For final action, see CSA 1713.

1611 Speidel, John George. Reading, Pennsylvania. Hoist. Philip Pistor, Charles A. Rutter, Henry R. Heyl, Arthur Beardsley. The application of the friction lock by means of the rollers on the incline is new in connection with these hoists and very ingenious. Scott Medal. Speidel to CSA, nd. Speidel to Wahl, 15 December 1890, with Comm list. 2 Pt. Adv. Pistor to Wahl, 4 May 1891, on not changing Report. Wahl to Pistor, 26 March 1891. 4 Speidel to Wahl, 29 December 1890 - 12 October 1891. Postcard, Wahl. 2 Blueprints.

1612 Rittenhouse, D. S. Philadelphia. Ceiling Plan. Carl Hering. Although the instrument is an improvement, Comm does not recommend Applicant apply for patent. Comm Appnt, 26 December 1890. Rittenhouse to CSA, requesting Advisory Report, 24 November 1890. Hering to Wahl, 26 January 1891.

1613 Lambdin, James L. Philadelphia. Chimney Stack. W. Barnet LeVan. The operation of the device would not be beneficial. 4 February 1891. Lambdin to CSA, requesting Advisory Report, 15 January 1891.

1614 Hart, Edward. Easton, Pennsylvania. Container for Acid. H. Pemberton, Jr., Edward H. Keiser, George Brinton Phillips. The bottles are made of either animal wax, paraffin or ceresine and yield no impurity to the acid. Scott Medal. 1 April 1891. Hart to CSA, 30 January 1891. Hart, Editor, The Journal of Analytical and Applied Chemistry, to Wahl, 22 January 1891. Pt. Keiser to Pemberton, test data, 21 February 1891.

1615 Leclere, Francis. Philadelphia. Gear Wheels. Luther L. Cheney, S. Lloyd Wiegand, Philip H. Fowler, William C. Head, John Hall. This is to propel the winding and travelling mechanisms in weaving. The capacity of the winding frame is increased with a diminution of attention and labor. Scott Medal. 1 April 1891. Leclere to CSA, 1 February 1891. Pt. Illus. J. H. Crowley, Tp.

1616 Pitkin, Albert J. Schenectady, New York. Compound Locomotive. S. Lloyd Wiegand, William L. Simpson, John E. Codman, Luther L. Cheney. Upon comparing the reported result and examining into its construction, Comm is of the opinion that it is equal in its effect with others. Longstreth Medal. 2 September 1891. Pitkin, Schenectady Locomotive Works, to CSA, 2 February 1891. 2 Drafts. Pt. Copy, Thomas to Pitkin, test data, 26 January 1891. Pitkin to CSA, 14 February 1891. Pitkin to Wahl, 8 September 1891. Copy, Smart, Michigan Central Railroad Co. to Pitkin, 3 February 1891. Descriptive Pamphlet.

1617 Moore, Emma R. and John R. Philadelphia. Fire Extinguisher. Appl Rej. 31 October 1890. Moore to CSA, nd, note on referral to W. McDevitt. Pt. McDevitt to Wahl, "Hardly worthwhile," 31 October 1890.

1618 Mason, Amor J. Norristown, Pennsylvania. Washer Punching Machine. Thomas P. Conard, Tinius Olsen, John Hall, Francis Leclere, Luther L. Cheney. The novel use of dies in gauges for the manufacture of washers consists here in so arranging them that the spaces intervening shall be exactly equal to the diameter of the washers being cut. The highest possible economy of material and accuracy are attained. Scott Medal. 1 April 1891. Mason to CSA, 9 January 1891. Statement of a supposed washer plant, with data. Pt: Light, Dunham, P. Mason and Wiegand, A.J. Mason, Shimer, S. Light, Lebanon Rolling Mills, to FI, 24 February 1891.

1619 Marks, William D. (Applicant). Philadelphia. Investigation of Boiler Explosions. Appl Rej. 4 March 1891. 3 Marks, Supr. Engr. & Gen'l Mgr., the Edison Electric Light Co., to Wahl, 23 January - 2 February 1891, requesting Comm to determine cause of 24 explosions (from boiler breakage) since February 1890. Copy: Wahl to Marks, 5 March 1891.

1620 Vauclain, Samuel M. Philadelphia. Wrought Iron Wheel Centers. Luther L. Cheney, John L. Gill, Jr., Coleman Sellers, Jr., John Hall, S. Lloyd Wiegand, W. L. Simpson. The wheels as forged are soundly welded throughout and have all the desirable features of shape and convenience of adjustment. Scott Medal. 6 May 1891. JFI, July 1891. Nauclain to CSA, 10 February 1889, with Comm Appnt, 11 February 1891. 2 Pt. Prout, Editor, Railroad Gazette, to Wahl, 16 June 1891. Vauclain to Wahl, 10 June 1891.

1621-1 Springer, Alfred, Roeder, Frederick A. New York. Springer Torsion Balance Co. (Applicant, New York). Torsion Balance. Theodore D. Rand, William H. Greene, John L. Gill, Jr., Samuel P. Sadtler, Spencer Fullerton, Edward F. Moody, John Hall, Francis Leclere. The knife edge is replaced by thin steel springs. This novel adaptation is accurate, sensitive, and less liable to accidental derangement than the knife edge balance. Scott Medal. 3 June 1891. Springer Torsion Blanace Co. to CSA, 20 March 1891. 4 Fries, Manager, to Wahl, 21 March 1891 to 10 June 1891. 3 Adv. 2 Pamphlets. Reprint, Trans. ASME. 2 Kent to Moody, Descr, 24 April 1891 - 2 May 1891. 20 Pt: Springer, Roeder and Kent. Draft. Corres between Moody and Rand, 4, 27 April - 1 May 1891. 2 Rand to Wahl, 6 April - 5 May 1891. Pemberton to Wahl, 9 October 1890. Fullerton to Moody, 23 April 1891. 2 Wahl to Rand, 18-25 April 1891. Wahl to Kent, nd. Springer Torsion Balance Co. to FI, 16 March 1891. Springer to Wahl, 13 June 1891. Springer Balance Co. to Kent with shipping bill, 16 March 1891. Kent to Wahl, 6 April 1891.

1621-2 Springer Torsion Balance Co.

1622 Young, Robert J. Philadelphia. Air and Water Heater. Appl referred to Comm on Heating for Advisory Action. 21 March 1891. Young to CSA, 10 March 1891, with note on referral. Pt. 2 Pamphlets. 2 Business cards. Illus.

1623 Pistor, Philip, Chm of Special Comm. Amendments to the CSA regulations. Philip Pistor, S. Lloyd Wiegand, William H. Wahl, H. R. Heyl, Samuel Sartain. Comm recommends four amendments on the preparation of an abstract; a fee for expenses of investigation; amendments. 5 May 1891. Pistor to CSA, recommending amendments, 28 February 1891. Draft. Minutes of 14 March 1891 Meetings; Draft.

1624 Hughes, William H., Cope, John O. Philadelphia. Oil Waste Can. William McDevitt, Arthur Beardsley, Carl Hering. The additional safeguards of exterior jacket and second bottom prevent a danger of heating the exterior. Certificate of Merit. 1 May 1891. Hughes and Cope to CSA, 10 March 1891. Pt. Hughes and Cope to Wahl, 11 June 1891.

1625 Earley, William. Philadelphia. Air and Water Heater. Appl Rej. Earley to CSA, 5 March 1891. 2 Pt. 2 Pamphlets. Earley to FI, 28 January 1892. Wahl to Wiegand, requesting him to appoint Comm with Wiegand's note as to declining, 29 January 1892.

1626 Burton, George D. Boston, Massachusetts. Electrical Forging. Carl Hering, C. Billberg, Herman S. Hering, Clayton W. Pike. The process of heating metal electrically is not new, but Mr. Burton may perhaps be credited with perfecting it and making it commercially successful. Comm is not prepared to say he has overcome all the difficulties but will say he has accomplished very useful results. Scott Medal. 24 February 1892. 5 Burton Stock Car Co. to FI, 18 February - 29 April 1891. 11 Electrical Forging Co. to FI, 4 May 1891 - 9 March 1892. 2 Thomson,

1626 (continued) Thomson-Houston Electric Co. to Hering, 15-25 June 1891. Vost & Cliff Manufacturing Co. to Burton, 26 April 1891. Norris to Burton, 15 August 1891. Norris to O'Hagan, on Burton, with Np, 17 July 1891. Extract from Dr. Berliner on Burton. Wahl to Hering, 31 October 1891. 2 Prospectus, Electrical Forging Co., incorporated 1890. Descr of the State of the Art.

1627 Emerson, James. Willimansett, Massachusetts. Scale. L. d'Auria Philip Pistor, Philip H. Fowler, Arthur Beardsley, Spencer Fullerton, H. W. Spangler. This power scale is in reality simply an adapted Fairbanks scale; the adaptation is perfect and the adjustment and finish of the working parts is all that can be desired from a mechanical standpoint. Scott Medal, 6 June 1892. Emerson Power Scale Co. to CSA, 18 March 1891. 5 Pt with covering ltr, Emerson Power Scale Co., 23 March 1891. Test data. Crane, Engineer, Emerson Power Co., to Wahl, 11 April 1891. Thissell, Florence Machine Co., to Wahl, on Crane, 10 April 1891. 4 d'Auria to Wahl, 17 April - 3 November 1891.

1628 Ashworth, James Alfred. Yonkers, New York. Life Preserver. Appl Rej. Ashworth to CSA, 18 February 1891. Pt. Adv. 3 George Ashworth to CSA, on his son's invention, 16 February - 25 March 1891.

1629 Williams, C. D. Philadelphia. Show Window. Report adopted 2 September 1891. Report Missing. Williams to Wahl, acknowledging receipt of report, 13 October 1891.

1630 Jones, John R. Axles. Thomas P. Conard, Samuel R. Marshall, Luther L. Cheney, John Hall. Rolling produces a much more uniform result and Jones' method of rolling car axles is a valuable one. Amended to award Scott Medal. 2 December 1891. Jones to CSA, 21 February 1891. 3 Pt. 3 Blueprints. Descr, with Draft. Np, Iron Age. Data. Marshall, Draft. Hall to Conard, 18 October 1891. Jones to Wahl, 24 February 1891. Conard, Stevens, Cheney, Hall - Report written 6 May 1891.

1631 Lincoln, Levi. Boston, Massachusetts. Chemical Fire Pail. No Report. Appl Rej (?). Lincoln to CSA, nd. Fire Pail Co. to FI, 12 April 1891. Pamphlet. Pt. Descr.

1632 Gledhill, Walter. Clifton, Pennsylvania. Nut-Locks. John L. Gill, John Hall, Luther L. Cheney. Comm recommends withdrawal of Appl as it could not be brought into commercial use. 27 April 1891. Gledhill to CSA, 26 March 1891. Pt.

1633 Delpy, Theodore Leon, Dermigny, Leon. Paris, France and New York. Ice Machine. Otto C. Wolf, William H. Wahl. This invention is ingenious in construction and on account of its application to household use. Report read 5 May 1891. Dermigny to CSA, 17 March 1891. 6 Adv. 2 Delpy Pt. Dermigny Pt. Dermigny, L. Dermigny & Co., to FI, 16 March 1891, with instructions. Wolf to Wahl, 6 April 1891. 7 Dermigny to Wahl, 9 April - 8 July 1891. Wahl to Dermigny, copy, 6 July 1891.

1634-1 Lungren, Charles M. New York. Incandescent Gas Burner. William H. Wahl, William C, Head, E. Moody, C. John Hexamer, Charles M. Cresson. Tests show this to be capable of answering satisfactorily all the requirements of practical service, yielding, under proper conditions of service 50% more light than the ordinary bats' wing burners in common use, with the same gas. Scott Medal. 4 May 1892. Lungren to CSA, nd. Descr. 2 Pt. 3 Adv. Wahl to Cresson, with test data on back, 15 October 1891 and 3 March 1892. 2 Drafts. 4 Cresson to Wahl, 11 September 1891 - 13 February 1892. 17 Lungren, Lungren Incandescent Gas Light Co., to Wahl, 26 March 1891 - 16 April 1892. Lungren to Cresson, 5 August 1891. ? to Lungren, on Patent coverage.

1634-2 Lungren, Charles M. Incandescent Gas Burner.

1635 Howard, George C. Philadelphia. Safety Clutch for Elevators. H. R. Heyl, Francis Leclere, Luther L. Cheney. This device is designed to cause absolute stoppage of the platform whenever the latter, from any cause, shall descent more rapidly than is provided for in use. The device is not adequate to the responsibility of its purpose. 2 September 1891. Howard to CSA, 9 April 1891. Pt. See also CSA 1601, Heyl to Wahl, 10 June 1891, on Reports.

1636-1 Hanson, Freeman, Hollis, Maine. National Lathe & Tool Co. (Applicant). Philadelphia. Wood Turning and Shaping Machines. Coleman Sellers, H. R. Heyl, William H. Thorne, William C. Head, John Hall, Tinius Olsen, Hugo Bilgram. Many of the devices introduced in this machine for turning wood have been applied to metal cutting machines. Comm recognizes in the ingenious combination of mechanical devices an efficient means of accomplishing a useful result so far as the production of forms that are regular in each step and irregular only in the sequence of the movements are concerned. Certification of Merit. 4 November 1891. Filter, V. Pres. National Lathe & Tool Co., to CSA, 13 April 1891. 7 Pt. Descr. 3 Adv. Statement of Terms to Subcompanies. 4 Sellers to Wahl, 25 May - 31 August 1891. Hall to Wahl, 3 September 1891. Wahl, note on Comm, 17 September 1891. Filter to Wahl, 6 April 1891. National Lathe & Tool Co., A Great Industry to Build up a Locality.

1636-2 Hanson, Freeman. Wood Turning and Shaping Machines.

1637 White, Joseph J. Philadelphia. Journal Box. H. R. Heyl, John Hall, Francis Leclere, Spencer Fullerton. No strain that can be put upon the bolts can affect the true position of the box once it is rigidly secured in place. The box can be adjusted with certain accuracy to the shaft by unskilled labor and in a small fraction of the time usually required. Longstreth Medal. 2 September 1891. White to CSA, 23 April 1891. White to CSA, Descr, nd. Pt. specification. Blueprints. Whitaker & Pervost to White, on Pt. 28 March 1891. White, Pennsylvania Machine Co., to Heyl, on Pt. 28 May 1891. Heyl to Wahl, 26 May 1891.

1638 Richards, Willard F. Pittsburgh, Pennsylvania. Brake. No Report. 3 Richards to Wahl, 14 March - 9 April 1891. Pt. Descr. Richards. "The Necessity and Advantages of the Automatic Graduation of Brake Power."

1639 Goetz, Henry A. and Mitchell, Mancel W. Albany, Indiana. System for Anchoring Beams. C. John Hexamer, Thomas P. Conard, Stacy Reeves. This improvement tends to lessen our enormous annual fire waste. Scott Medal. 2 September 1891. JFI November 1891. Goetz to CSA, 17 April 3 Pt. Goetz (2), Mitchell. Goetz, Goetz-Mitchell Co., to CSA, 4 May 1891. Hexamer to Wahl, June 4, 1891. Stevens to Wahl, 4 June 1891. Goetz to FI, 1 March 1892. 3 Goetz to Wahl, 24 July - 22 September 1891. Pamphlet. 4 Adv.

1640 Bradley, Edward T., Blake, William H. 2nd, Donahue, James H. Swanton, Vermont. Flexible Rule. William H. Thorne, Luther L. Cheney, Hugo Bilgram, W. M. McAllister. This steel rule can be bent into any desired curvatures within the limit of its elasticity. Of limited utility, it is very awkward to use with the ruling pen. Blake and Bradley to CSA, 17 April 1891. 2 Pt. 4 Blake and Bradley to Wahl, 14 April - 11 May 1891. 2 Np. Business card, Blake and Bradley.

1641 Caldwell, Marvin A. Erie, Pennsylvania. Washing Machine. Appl Rej. Caldwell to CSA, 4 March 1891, with Adv. 2 Caldwell to Wahl, 28 April - 11 June 1891. Adv. 2 Photo. Notes - W. H. W. to S. L. W. and S. L. W. to W. H. W., on dropping the case.

1642 Garsed, Robert P. Norristown, Pa. Bell Pump. N. H. Edgerton, Edward F. Moody, William C. Head. While it is a model of simplicity and efficiency, this is one of the principal parts of the Garsed Annunciator which was examined under Appl. 1608 and awarded Scott Medal. Further recommendation is inexpedient. 2 September 1891. Garsed to CSA, 20 May 1891. 3 Pt. Garsed to Wahl, 23 June 1891. Report of Pt Examiner, 22 December 1883. Blueprint.

1643-1 Gibbon, Catherine L. New York. Street Railway Construction. Philip Pistor, H. R. Heyl, A. Beardsley. While appreciating the ingenuity of the construction, Comm calls attention to the increased expense. 6 January 1892.

H. R. Heyl, J. M. Emanuel, Spencer Fullerton, Charles E. Ronaldson, Arthur Beardsley, G. Morgan Eldridge, L. L. Cheney. From a careful examination of this system and an inspection of tracks in practical use, it is evident that a more lasting construction and permanent smoothness have been carefully and ably worked out. Scott Medal. 4 May 1892. JFI June 1892. Gibbon to CSA, nd. 2 Pt. Pr Descr and Illus. Lengthy Descr with Blueprint, test data, Illus. Np. with Advs for 3 companies. Vote by Comm on which Medal to recommend.

1643-2 Gibbon, Catherine L. Street Railway Construction. Thomas Gibbon to CSA, Protest, 28 June 1892. Grimshaw to Wahl, 29 January 1892. Claims for Superiority and Tables of Data. 3 Pistor to Wahl, 31 August 1891 - 22 January 1892. Sellers to Wahl, on construction, 4 April 1892. Catalogue. Ronaldson to Wahl, 13 February 1892. Ronaldson to Heyl, 14 March 1892. C. Gibbon to Wahl, 9 June 1891. T. Gibbon, Duplex Street Railway Tract Co., to Wahl, 6-30 April 1891 - 28 December 1891; 1-8 February 1892. Elwell, Duplex Street Railway Track Co., to Heyl, 29-30 March 1892. T. Gibbon, Duplex Street Railway Track Co., to Wahl, 5 February 1892.

•1644 Henis, William G. Philadelphia. Chimney Cowl. C. John Hexamer, John L. Gill, Jr., William McDevitt. This is a good operative device involving, however, no new principles. 7 October 1891. 2 Henis to CSA, 17 June 1891. 2 Pt. 2 Henis to FI, 5 August - 10 October 1891.

1645 Aldrich, W. S. Obtaining Variable Speed in a Shaft. H. W. Spangler, John W. Moore, Francis Leclere, Thomas P. Conard, Coleman Sellers. Comm doubts whether in its present form this principle can be utilized for electric car propulsion, although this combination of mechanism is ingenious. 4 November 1891. Aldrich to CSA, nd. Draft. 2 Spangler to Wahl, 21 August 1891 - 1 September 1891, with notice of stated meeting, 1 September 1891. 2 Descr. 4 Aldrich to Wahl, 19 June - 26 August 1891.

1646 Holmes, Philip H. Gardner, Maine. Composition for Journal Bearings. H. R. Heyl, Francis Leclere, H. W. Spangler, Thomas P. Conard, Philip H. Fowler, Luther L. Cheney, J. Sellers Bancroft, Stockton Bates, Samuel M. Vauclain. This principal element is graphite. Bearings made of this will reduce friction to a minimum without the aid of oil. There is nothing in the compound that any degree of heat can injure or cause surrounding objects to ignite. This compound is an improvement of rare importance and very great value. Cresson Medal. 2 September 1891, JFI, December 1891. Holmes to CSA, 2 July 1891. Pt. Test data, John H. Cooper. Sadtler to Howson and Howson, on tests, 8 December 1890. 5 Pt: Deeds, Stevens and Butler, Simmons, Otto, Melvin. Report of Coleman Sellers on the Composition. Vauclain to Wahl, 8 September 1891. Holmes to CSA, 5 September 1891. Note on Test Report.

1647 Bevington, James H. Chicago, Illinois. Welding. Luther L. Cheney, S. Lloyd Wiegand, John Hall, Francis Leclere. The capacity of this invention for uses in the arts seems to Comm almost unlimited when circular forms of ductile metal are required. It appears entirely novel and is simple and economical. Cresson Medal. 2 September 1891. JFI, November 1891. Note on referral by the Institute, 17 June 1891. 2 Descr. Pt. 4 Cook, New Process Welding and Spinning Co., to Wahl, 30 June 1891.

1648 Bradford, Julien M. Portland, Maine. Electric Heat and Vapor Governor. J. M. Emanuel, W. C. Head, C. John Hexamer, G. Morgan Eldridge, W. M. McAllister, Arthur Beardsley, T. C. Search, Charles A. Rutter, Philip H. Fowler. Not having a model or working machine, Comm must decline making a Report. Bradford to CSA, 15 July 1891. 2 Bradford to Wahl, 15 July - 22 September 1891. 6 Catalogues. 2 Pt. 2 Illus with Descr. Decision of Commissioner of Pt.

1649 Seley, G. A. St. Paul, Minnesota. Double Latch. Appl Withdrawn. 3 September 1891. Seley to CSA, nd. 3 Seley to Wahl, 11 July - 5 September 1891. Great Northern Railway Line, Np with blueprint. Descr. 20 July 1891. Conard to Wahl, on not having Report ready, 21 August 1891. Seley to CSA 20 July 1891.

1650 Engelbach, Augustus L. Leadville, Colorado. Marr, G. A. (Applicant). Philadelphia. Reversing Valve. Hugo Bilgram, John E. Codman, Charles A. Rutter. The device is ingenious but shares the defect of all similar reversing gears -- the impracticability of using any advance of the eccentric and the waste of steam. 6 January 1892. Appl, 23 July 1891. Draft, signed by Bilgram, T. Carpenter Smith, Codman, John L. Gill, Jr. Pt. Blueprint. Bilgram to Wahl, 23 January 1892. Bilgram to Comm, 23 January 1892, amendment to Report. Marr to Wahl, on Report, 20 January 1892. Marr to Wahl, 24 October 1891. 4 copies of Adv. FI corres on preparation of Report. 5 October - 30 November 1891.

1651 Blau, John Godfrey. Philadelphia. Guide for Railway Cars. John L. Gill, Jr.; Philip Pistor, William H. Thorne, Thomas Shaw. This is more likely to cause a derailment of a train than to prevent one. Chairman does not think it worthwhile to waste Comm's time by calling a meeting and suggests Appl be withdrawn. Blau to CSA, 13 October 1891. Gill to Wahl, 31 October 1891, with Comm signatures. Pt.

1652 Storck, Frederic. Railway Car Ventilation. H. R. Heyl. No Report. Appl; requesting Advisory Report, 24 August 1891. McDevitt to Wahl, 14 September 1891.

1653 Jones, John R. Philadelphia. Machine for Producing Rolled Car Wheels. Thomas P. Conard, J. M. Emanuel, John Hall. The invention has not yet reduced to practice; Comm examined a wooden working model and see no practical difficulties in the way of constructing a successful machine of full size. This invention is essentially superior to all other previous efforts in this line. Longstreth Medal. 6 January 1892. Jones to CSA, 26 August 1891. 2 Descr. Np, The Iron Age. Jones to Wahl, 26 August 1891. Emanuel, 13 November 1891, on being appnted to Comm. 2 Notes on Comm meetings. 12 Pt: Jones, Ralston and Jones; Mann, Facer, Strong, Fowler (3), Bagaley and Hainsworth, Bean (2), Nioggemeier.

1654 Bennor, Joseph. Philadelphia. Knitting Machine. H. R. Heyl, C. John Hexamer, G. Morgan Eldridge, D. E. Crosby, John Hall. All the operations are automatic and continuous so long as the yarn holds out and no accident necessitates the stopping of the machine. The product is exceptionally neat and uniform. Scott Medal. 2 February 1892. Bennor to CSA, 11 September 1891. Search, to Wahl, 11 January 1892. Search, Erben, Search & Co., to Wahl, 21 December 1891. Wahl, note on Search, 5 January 1892. Fowler to Wahl, 19 October 1891. 3 Pt: Bennor, Nelson (2).

1655 Fiske, Bradley Allen. Range Finder. E. Alexander Scott, Clayton W. Pike, C. Billberg, Carl Hering, L. F. Rondinella. Two telescopes are pivoted at the ends of the base line; the needle of a galvanometer is moved by these movements, indicating the length of one of the sides of the triangle (2 telescopes and target). This is a great advance in securing a more effective service of heavy ordnance. Cresson Medal. 1 June 1892. JFI October 1892. Wahl to CSA, 16 September 1891, referred by FI. Illus. Pt. Adv. Np. Illus. Receipt for Ltr, 18 April 1893. 2 Moody to Wahl, protest of award for an inventive subversive of or contrary to the well understood and legal meaning of the word useful and destructive in nature, designed to increase the already too terrible powers of war, 17 May 1892. 4 Fiske to Wahl, 5 October 1891 - 18 March 1892. 2 Scott to Wahl, 23 April 1892 - 2 May.

1656 Fuller, Fred L., Griswold, George H. Waterbury, Connecticut. Cash Register. H. R. Heyl, W. M. McAllister, Luther L. Cheney, John Hall, Spencer Fullerton. The indications are made upon a series of dial wheels each of which is turned by the toothed wheel engaged in a toothed sector. A device is introduced to prevent two adjacent sectors being depressed simultaneously which is necessary to prevent registering a false addition. As mental calculation is unnecessary, the liability of a mistake occasioned by confusion is greatly reduced. Scott Medal. 4 November 1891. 2 Fuller and Griswold to CSA, 1 with note, S. L. W., 19 September 1891. 2 Drafts. Amended copy. 7 Pt: Fuller and Griswold (2), Pearson, Hopkins, Pottin, Scales, Burns. Fullerton to Wahl, 11 October 1891. Fuller and Griswold, Union Cash Register Co., to Wahl, 26 November 1891.

1657 Middleton, Alice G. Philadelphia. Transfer Apparatus for Traction Cable Cars. H. R. Heyl, G. Morgan Eldridge, J. M. Emanuel, Luther L. Cheney. This method of propelling cable cars around curves by an auxiliary cable is not new and none of the important parts of this device is original with this inventor. 8 Prior Pts. present conclusive information showing that the inventor has been fully anticipated. Report made advisory, 7 December 1892. Middleton to CSA, 28 September 1891. Heyl to Wahl, suggesting Appl be withdrawn, 23 April 1892. Middleton to Heyl, 28 September 1891. 2 Middleton to Wahl, 18 February - 27 April 1892. Memo, Hall. Heyl to Wahl, 1 June 1892. Wahl to Heyl, 31 March 1891, on Report.

1658 Greene, Francis V. and Mary A. Philadelphia. Window. John Hall, Francis Leclere, G. Morgan Eldridge, Luther L. Cheney, W. M. McAllister, G. W. Wilson, Spencer Fullerton. While remodeling old windows to suit this improvement would be expensive, it would evidently be desirable in fitting up new windows. Certificate of Honorable Mention. 4 May 1892. Greene and Greene to CSA, 29 September 1891. Pt. Minutes of Joint Comm on 1658 and Roeder's Window (see 1660), 23 March 1892. Eldridge to Wahl, protesting signing Draft, 25 March 1892. Hall to Wahl, 19 February 1891. Copies of 3 T. 5 F. V. Greene to Wahl, 4 April - 3 June 1892, Descr and T. F. V. Greene to CSA, protesting unusual language in Report, 16 May 1892, with note that no action was taken, Wahl, 1 June 1892.

1659 Clark, George S. Philadelphia. Safety Valves. E. F. Moody, Otto C. Wolf, G. Morgan Eldridge, Reuben Haines, William McDevitt, C. John Hexamer. This device is designed to form a level of unbroken floor when all the doors of a vault are open. The movable sill stands vertically when the door is closed and horizontally when open. In construction it is virtually another door. Scott Medal. 2 March 1892. Clark to CSA, 1891. 3 Drafts. Pt. Adv.

1660 Roeder, Jonas E. Philadelphia. Window. John Hall, Francis Leclere, G. Morgan Eldridge, Luther L. Cheney, W. M. McAllister, G. W. Wilson, Spencer Fullerton. In adapting this improvement to existing windows, very little change takes place in the original condition of frame or sashes. The sashes pivot, permitting any work to be done, on either face of sash, by swinging the whole width of both sashes into the room. Longstreth Medal. 4 May 1892. Roeder to CSA, 20 October 1891. Pt. Roeder to Wahl, 12 May 1892. Memo, Roeder.

1661 Chenoweth, Alexander C. New York. Conduits. E. F. Moody, C. John Hexamer, Reuben Haines, Samuel P. Sadtler, Rudolph Hering. This monolithic cylinder has solid and impervious walls of concrete, poured about a segmented wooden center. The size of the center can be made large or small. This method produces better work at lower cost. Longstreth Medal. 24 February 1892. Appl, 26 October 1891. 4 Chenoweth, Dept. Public Works, N. Y. City, to Wahl, 17 October 1891 - 4 March 1892. 2 Pt. Draft. Draft marked "void". Wahl, 5 December 1891. Pamphlet, Monolithic Drain & Conduit Co. Wahl to Moody, on Hering's corrections, Chenoweth's Scott Medal (CSA 1419), 2 January 1891. Moody to Wahl, 15 December 1891.

1662-1 Bell, Joseph Snowden. Allegheny, Pennsylvania. Spark Arrester. Arthur L. Church, John E. Codman, Luther L. Cheney. The perforated deflecting plates are not new, having been used as far back as 1883. Comm believes this type of arrester is a matter of design and arrangement of parts and involves no new elements in construction. 1 March 1893. Bell to CSA, 27 October 1891. Pt. Blueprint. Bell to CSA, 3 November 1891, Descr. 5 Bell to Wahl, 12 March - 13 July 1893. Bell to Comm, 5 April 1892, with T, Mexican Central RR. Bell to Church, 3 November 1891. Bell to Heyl, Chm CSA, 13 March 1893, on request for reconsideration.

1662-2 Bell, Joseph Snowden. Spark Arrester. 5 Wahl to Church; 12 November 1891 - 29 April 1892. Wahl to Church, on Belle's request with comments by Codman and Wiegand, 27 May 1893, and 12 April 1893. 7 Church to Wahl: 4 May 1892 - 21 June 1893. Cheney to Church, 3 November 1891. Wiegand to Wahl, 17 September 1892. Codman to W.H.W., 21 May 1892. Wahl to Codman, with reply, 27 March 1892. Wahl to Cheney, with extract from Comm meetings minutes, 2 February 1892. Comm Meetings minutes, 1 November and 3 December 1891. Copy of reply to Belle's letter. Report was sustained. With Mexican Central RR Co., 8 November 1892 - 18 January 1892 (?3), T. With Wisconsin Central Lines, 8 December 1891 - 18 January 1892, T.

1663 Shay, Ephraim. Haring, Michigan. Locomotive. John E. Codman. Luther L. Cheney, Spencer Fullerton. This is designed especially for service on roads of cheap construction and with steep grades. By its construction, all the wheels become drivers. Data supplied prove its power and efficiency. Scott Medal, 24 February 1892. Lima Machine Works to CSA, nd. Conard to Wiegand, forwarding Appl, 31 October 1891. Test data. T. Pt. Adv. Conard to Wahl, arrangements for Comm to see engine, 16 November 1891. Codman to Wahl, on Comm, 24 November 1891. Minutes, Comm meeting, 14 November 1891.

1664 Westinghouse, H. Herman, Rites, F. W. Kerr, Walter (Applicant). New York. Compound Engine. H. W. Spangler. Comm Disc. Kerr; Westinghouse, Church, Kerr & Co., to CSA, 21 November 1891. Wahl to Spangler, on Comm, with reply, 21 September 1891. 3 Spangler to Wahl, 1 February 1892 - 21 October 1893, Appl withdrawn. Kerr to Wahl, 19 February 1892. Kerr to FI, 21 November 1891. 6 Pt: Bagaley and Rites, Westinghouse and Rites (4), Rites.

1665 Milliken, Foster. New York. Pole. John E. Codman, James Christie, Arthus Beardsly. This pole for electric services is stronger than the common form of pipe pole. They are open for inspection and painting and can be easily climed by experienced persons. Comm believes this is a modification and adaptation of the well-known forms of segments used in a Phoenix column. Certificate of Merit.

Having received Mr. Milliken's protest, Comm sees no reason for changing the Report; Mr. Milliken received full credit for all that the Comm believes belongs to him as the inventor of the improved pole. Milliken to CSA, 5 December 1891. Milliken, Milliken Brothers Manufacturers, to FI, 5 December 1891. Pt. Catalogue. Test data and blueprint graphs, Cornell University, 24 June 1891. Milliken to Wahl, protest, 16 February 1892, with copy. 4 Milliken Brothers to Wahl, 8 December 1891 - 18 May 1892. Wahl to Wiegand, 7 December 1891. Christie to Wahl, 5 January 1892. Answer to protest, copies signed by Christie with amendments and by William McDevitt. Supplemental Report, Codman, Christie, Beardsly. 4 May 1892.

1666 Barnes, David L. Chicago, Illinois. Truck. Thomas P. Conard. No Report. Barnes to CSA, nd. Pt. 5 Barnes to Wahl, requesting action on Appl be postponed, 23 May 1892. Conard to Wahl, 24 March 1892. Minutes of Comm meeting, 5 January 1892.

1667 Wood, Frank W. East Baldwin, Maine. Water Wheel. John H. Cooper, James Christie. Comm cannot speak with authority on any point without data from accredited tests. Advisory. 2 March 1892. Wood to CSA, nd. Pt. 2 Adv. Wahl to Wood, requesting clarification of Wood's intention with reply, 8 January 1892. 2 Wood to FI, 28 September 1891 - 21 January 1892. Hubbard to Cooper, 24 January 1892.

1668 Duryea, Charles E. Chicopee, Massachusetts. Game Board. Appl Rej. Duryea to CSA, 8 December 1891, faded note on cover, S. L. W. Pt. Adv. Duryea, Descr. 2 Duryea, Rouse-Duryea Cycle Co., to FI, 15 December 1891 - 4 January 1892.

1669 Hunt, John Parks. Philadelphia. Measurement. Hugo Bilgram, Strickland Kneass, L. F. Rondinella. This list of rules for areas and contents is distinguished by numerous errors and other shortcomings. Comm sees no reason for changing the formula now given in all reliable textbooks. 2 March 1892. Heyl to Wiegand, forwarding documents, 4 November 1891. 2 Adv. Hunt to Wahl, 12 October 1891. Hunt to CSA, Descr data, 29 October 1891. Hunt to Beardsly, 9 March 1892, considers himself treated unfairly. Hunt to Beardsly, examples as proof of his system, 15 March 1892. Copy of Wahl to Hunt, on Comm inviting Hunt to inspect papers in file (CSA 1669) and verify or withdraw accusation, 12 March 1892.

1670 Mehner, Herman. New York. Thermo-Dynamic Process. No Report. Comm Disc 5 April 1893. 2 length Descr with data, Mehner. Mehner to Spangler, data, 5 April 1892. Mehner to Spangler, 18 May 1892.

1671 Messick, Charles B. Philadelphia. Steam Generator. John E. Codman, Spencer Fullerton, J. M. Emanuel, Arthur L. Church. Comm has met with Applicant and request Report be considered Advisory. 24 February 1892. Messick to CSA, 7 January 1892. Messick to FI, Descr, 7 January 1892. Illus.

1672-1 McClellan, Ezra S. Paterson, New Jersey. Trap Vent. G. Morgan Eldridge, John E. Eyanson, C. John Hexamer, William B. Cooper, J. Sellers Pennock, Frank L. Brown. E. F. Moody. The aluminum can rests in a trough filled with mercury. This cup seals the pipe by a seal capable of sustaining a pressure from within which would force an ordinary trap. This device has stood the test of practical service for a long time in many places. Scott Medal. 4 May 1892. McClellan to CSA, 7 January 1892, with note that this is a new Appl for a device already considered (See CSA 1448). 2 Pt. McClellan to CSA, 5 January 1892. McClellan to Eldridge, 25 April 1892. 7 McClellan to Wahl, 12 December 1891 - 20 December 1892. Adv. Wahl to Comm, 22 March 1892. McClellan, "The Sewer-Gas Question." 1890 and 1892. Denton, "Trap-Siphonage and Trap-Seal Protection," 1891. Draft.

1672-2 McClellan, Ezra S. Trap Vent.

1673 Bottome, Turner D. Indianapolis, Indiana. Anti-Friction Alloys. Charles B. Dudley. It would take a long series of experiments to prove the merit of adding metallic magnesium to alloys and Comm feels these experiments more properly belong to the inventor of the alloy rather than to CSA. Appl, 12 January 1892. Bottome to Secy, FI, 11 January 1892, with Descr. Descr. Pt. Dudley, Pa. Railroad Co., to Wahl, 20 March 1894, with Report. Bottome to Secy, FI, with test data, 26 March 1894. 8 Dudley to Wahl, 14 March 1892 - 16 October 1893.

1674 Phillips, William H. Philadelphia. Signal Car. John H. Cooper, Henry F. Colvin, T. Carpenter Smith, Spencer Fullerton, John L. Gill, Jr. In this plan, the car would give notice to any train which may be coming in the rear, in lieu of the brakeman usually doing this. Comm, while desiring to aid every inventor to success, must conclude without issue of opinion, as to merit, until further favorable developments in this automatic device. 6 April 1892. Made Advisory. Phillips to CSA, nd. Pt. 2 Blueprints.

1675 Woodbury, Daniel A. Rochester, New York. Stearns Manufacturing Co. (Applicant). Philadelphia. High Speed Engine. James Christie, J. M. Emanuel, Spencer Fullerton, John E. Codman, Thomas P. Conard, John H. Cooper. The skill and intelligence desplays in the design and construction of this engine have resulted in a machine of handsome appearance, capable of close regulation of speed, smooth in its action and well adapted for its purpose, that of meeting the demand for high-speed machines designed for electric lighting. Longstreth Medal. 4 May 1892. Stearns Mfg. Co. to CSA, 28 January 1891. 11 Pt. Smith to Wahl, declining appointment to Comm owing to connection with competitor, 30 January 1892. Christie to Wahl, nd. 2 Stearns Mfg. Co. to Wahl, 9-16 May 1892.

1676 Gerber, Henry. New York. Carbon Paper and Typewriter Ribbons. Appl Rej. Gerber to CSA, 19 January 1892. 2 Adv. S. L. W. to Wahl. Appl is not properly in the field of CSA's work. nd, with note on Mannesman tubes (CSA 1607).

1677 Markee, Reuel T. Philadelphia. Brake Beam. John L. Gill, Jr. Preliminary Comm advised Markee to withdraw his Appl as there are many objections to his device. 2 March 1892. Markee to CSA, 3 February 1892. Descr.

1678-1 Golding, John F.; Durkee, George B. Chicago, Illinois. Central Expanded Metal Co. (Applicant). Pittsburgh, Pennsylvania. Metallic Screening. Spencer Fullerton, N. H. Edgerton, T. Carpenter Smith, J. M. Emanuel, Samuel R. Marshall, D. E. Crosby, William C. Head. The expanded metal is used for fencing and for fire-proof construction. It is solid at all points in intersection; numerous sections may be broken without materially weakening the sheet. Scott Medal. 4 May 1892. Central Expanded Metal Co. to CSA, 6 February 1892. 4 Pt: Golding (2); Golding and Durkee (2). 2 Emanuel to Wahl, on Comm, 12 February - 7 March 1892. W. H. W., note on papers. 2 Catalogues. 8 Adv, 1 Business Card (Agent).

1678-2 Golding and Durkee. Metallic screening.

1679 Haley, Joseph A. Bellevue, Ohio. Slide Valve. Thomas P. Conard, J. M. Emanuel. The Applicant's Descr of the action of this valve is exceedingly incorrect, but Comm believes it understands what the action is intended to be, and unhesitatingly pronounces the invention impracticable and useless. 6 April 1892. Haley to Wahl, 6 February 1892. Descr with Blueprint.

1680 Longacre, Matthias R. Philadelphia. Case Register. H. R. Heyl. No Report. Comm Disc, 4 May 1892. Longacre to CSA, 23 January 1892. 2 Pt. Longacre to CSA, Descr, 26 January 1892. Longacre to Wahl, withdrawing Appl, 9 April 1892. Longacre to Heyl, 25 March 1892. 2 Heyl to Wahl, 26 March advising withdrawal - 29 March 1892; Comm meeting.

1681 Becker, Joseph. Washington, D. C. Mirror Gauge. F. E. Ives, N. H. Edgerton. This optical device is for measuring the thickness of plate glass and plate glass mirrors when set or framed. Although its advantageous use is limited, it evidently merits commendation for its ingenuity and effectiveness. 2 November 1892. Appl, submitted by Wahl following approval by CSA, 24 February, 27 February 1892. Descr, Becker, 22 February 1892. Becker to Wahl, 5 March 1892.

1682 Perry, J. Iinsbury College, England. Continuous Indicator. Hugo Bilgram, T. Carpenter Smith. An elastic diaphragm moves according to the pressure of the steam engine. A beam of light is reflected onto a screen by a mirror attached to this diaphragm, describing an indicator diagram on the screen. This form of indicator, although described by others seven years ago, is very little known, from which it may safely be inferred that it cannot successfully compete against the usual form of indicators. 5 October 1892. Appl, following approval by CSA, forwarded by Wahl, 27 February 1892. Np, The Manufacturer and Builder, December 1891. Draft, signed by Spangler and Smith. 2 Bilgram to Wahl, with amendments, 23 May - 1 June 1892.

1683-1 Brown, Albert Betts. Edinburgh, Scotland. Marine Engine Governor. J. M. Emanuel, H. W. Spangler, Charence B. Schultz. This is to promptly arrest the motion of marine propelling engines, when their velocity exceeds the normal limit. Governors in stationary service, in which the variations of resistance and speed must first occur, before the action of the governor, are not applicable to marine service. Brown's invention is simple and effective, and so far as Comm can find, new and original. Comm has examined all inventions patented in U. S. for this and submits brief review. 3 May 1893. Appl, 27 February 1892, referred by CSA. Brown, Englist Pt. 39 U. S. Pt. 3 Drafts, one signed Wiegand (first Chm), Emanuel, Whitham. Abstract. Wahl to Spangler, on Comm with reply, 14 March 1893. Wiegand to Wahl, 28 February 1893. Edwin S. Cramp, the William Cramp & Sons Ship & Engine Building Co., to Wahl, on J. S. Wilson's governor, 18 January 1893. Spangler, on Report, 23 December 1892.

1683-2 Brown, Andres Betts. Marine Engine Governor.

1684-1 Gieseler, E. A. St. Augustine, Florida. Law Governing the Deterioration of the Tidal Wave. John C. Trautwine, Jr., Spencer C. McCorkle, Elmer L. Corthell, Arthur Marichal. Gieseler endeavors to establish a relation between the cross section of a river, its tidal range at that point and the superficial area of the tidal basin above that point. This formula would guide the engineer in determining to what extent the cross section at that point may be modified without injuriously affecting the range of the tide. Gieseler's paper, "The Range of Tide in Rivers and Estuaries," is an interesting and

1684-1 (continued) valuable contribution to the literature of the subject. Comm submits that the profession must await the result of the author's continued search for additional data. These may raise his theory from the plant of probable hypothesis to that of well-established law. 3 May 1893. Appl referred to CSA, 27 February 1892. 5 Drafts. 8 Charts, Blueprints. 2 copies, List of Exhibits to accompany Report. McCorkle, on Report, nd. Gieseler, "The Range of Tide in Rivers and Estuaries." from JFI 1891, with reviews. d'Auria to Trautwine, 22 and 27 March 1893.

1684-2 Gieseler, E. A. Law Governing the Deterioration of Tidal Waves. Gieseler, U. S. Engineer Office, to Wahl, Appl, 18 February 1892. 9 Tratuwine to Wahl, Comm progress and forwarding notes with Draft Ltr, 16 March - 19 October 1892. 2 d'Auria, U. S. Engineer Office, to Wahl, 27 March - 7 September 1892. Marichal, Civil Engineer, to Wahl, 22 April 1892. McCorkle to Wahl, 17 May 1892. Gieseler to Wahl, 11 December 1891 - 12 November 1892. Gieseler. "Authorities Consulted." 17 ltrs between Trautwine and Gieseler, 2 April 1892 - 13 February 1893. Data.

1685 Johnson, Peter. Dassell, Minnesota. Tempered Copper. F. Lynwood Garrison. Comm prefer to be considered a preliminary Comm and recommends Comm be dismissed as Appl is not worthy of consideration. 23 April 1892. Johnson to CSA, 7 March 1892. Johnson to Wahl, 7 March 1892. Johnson to FI, 27 February 1892. Garrison to Secy, FI, samples have not the slightest claim to be considered tempered, 28 March 1892. Garrison to Wahl, 22 April 1892.

1686-1 Edson, Jarvis B. New York. Leclere, Francis (Referred Edson to CSA.) Recording Gauge. Coleman Sellers, Clarence C. Schultz, J. M. Emanuel, H. W. Spangler, T. Carpenter Smith. The instrument affords a written tracing of "log" of every degree of pressure sustained within a steam boiler, tank, pipe or any reservoir of air, steam or liquid to which it is attached and at what time it occurred. This chart will make firemen both careful and proud of their record. This gauge can be conscientiously recommended to every owner of a steam boiler for the sake of safety and also economy. Scott Medal. 1 November 1893. JFI April 1894. Wahl to Wiegand, Leclere recommended this subject to CSA, 28 November 1892. Sellers to Wahl, on Comm, 28 March 1892. 2 Edson to Wahl, lengthy descr with some data, 10-25 March 1892. 11 Adv with "Instructions." T with Partial List of Recent Patrons. Sample logs. 2 Photo. 33 Pt studied by Comm. 3 Edson Pt. 4 Illus. 2 Edson catalogues. Edson, "Pressure-Recording Instruments." from U.S. Naval Institute Proc, 1887. "Brief for the Secy of the Treasury. In the Matter of the Edson Time and Pressure Recording Steam Gauge," with note on efforts to enforce an inoperative Federal law requiring gauges on all steam vessels. See also Wiegand to Wahl, 13 March 1893, in CSA 1592.

1686-2 Edson, Jarvis B. Recording Gauge. Eleventh Annual Meeting of the Am Water Works Association (1891) and Report of the Water Commissioners, Pawtucket, R. I. (1889) were part of this case but were not microfilmed.

1686-3 Edson, Jarvis B. Recording Guage.

1687 Baldwin, Frank Ruel. New York. Boiler Tube Cleaner. Henry F. Colvin, D. E. Crosby, John L. Gill, Jr. Currents of steam create a partial vacuum which removes deposits from tubes through the chimney into the atmosphere, or through a connection, into any place desired. Scott Medal. 5 October 1892. Baldwin to CSA, 15 March 1892. Pt. 4 Baldwin to Wahl, 9 March to 13 October 1892, with Descr. 4 Adv.

1688 Mattis, H. J. M. Philadelphia. Theoretical Attempt to Utilize the Kinetic Energy of the Earth's Rotation. Hugo Bilgram, George A. Hoadley. Comm fails to see the physical possibility even if the practical difficulties could be overcome in making the energy of rotation of our earth available. The gyroscope as described, is, however, a most interesting physical instrument. 7 December 1892. Mattis to CSA, 16 March 1892. Mattis, "The Earth A Prime Mover," with Appendix, 16 March 1892.

1689 Ives, Frederick Eugene. Philadelphia. Color Photography. John Carbutt, Joseph M. Wilson, John C. Browne, Samuel Sartain, W. N. Jennings, George A. Hoadley. Ives, by his special construction of camera and heliochromascope, has offered a practical solution to the problem of reproducing by means of photography the colors of nature. Comm examined critically photographs and the original objects which were rendered with great fidelity. Cresson Medal. 3 May 1893. Appl referred to CSA, 19 March 1892. 2 Adv. Descr. Ives, "Composite Heliochromy," J of the Society of Arts, 1892. 2Pt. Minutes of Comm, 11 November 1892. Wallace to Wahl, not being on Comm, 23 February 1893. 7 Sellers to Wahl, 24 March - 8 November 1892. Wahl to Comm, 11 November 1892.

1690 Howe, Henry Marion. Boston, Massachusetts. Metallurgy of Steel. James Christie, Samuel Sadtler. This book treats of the various methods of producing steel and the action incidental to the manufacturing process. The work is a credit to American scholarship. Comm recommends FI recognize the labors of Mr. Howe by its most fitting award. As some doubt exists as to the right to bestow the Cresson Medal, Comm submit the subject to the decision of the CSA.

S. Lloyd Wiegand, Samuel Sartain, trustees, to Beardsley, Chm CSA, Appl must be submitted to and adopted by CSA before it is submitted to Trustees of Cresson Fund, and on limitations of Trustees, 22 March 1892.

Howe to Wahl, Appl, 26 February 1892. Np, Review of book. Scientific Publishing Co. to Wahl, 5 March 1892. Birkinbine to Wahl, 29 March 1892. Christie to Wahl, 30 March 1892.

1691 Billings, Harry E. Hartford, Connecticut. Picture Hangers. C. John Hexamer, N. H. Edgerton, William McDevitt, William C. Head, G. Morgan Eldridge. Judging from experience of Comm with cords passing through the eyes in the ordinary way and from examination of this device as presented, the former is the more convenient and the generally desirable. This device is so trivial that the Appl should be referred back to the preliminary comm for rejection. Appl Rej. Billings to CSA, 27 March 1892. Pt.

1692 Ogden, Samuel. England. Rossendale Belting Co. (Applicant). Newark, New Jersey, Belting. John H. Cooper, Thomas P. Conard, Luther L. Cheney, D. E. Crosby, Spencer Fullerton. Test results, furnished by the makers, show camel's hair belting to be stronger than leather. The grip of these belts is stated, by a reliable correspondent, to be much greater than leather. Its great strength and driving capacity, which may be maintained by ordinary care and treatment, secure effective transmitting qualities and unusual durability. Longstreth Medal. 5 October 1892. Rossendale Belting Co. to CSA, 31 March 1892. Pt. 2 Adv. Pamphlet. Test data. Rossendale Belting Co. to Wahl, 31 March 1892. 3 T.

1693 The Tanite Co. (Applicant). Stroudsburg, Pennsylvania. Emery Wheels. W. C. Head. No Report. Comm Appnt 9 April 1892. The Tanite Co. to Wahl, 7 April 1892, with Comm. Paret, Pres., Tanite Co., to CSA, Descr, 7 April 1892, requesting investigation but maintaining a 'secret process.' Np, The Manufacturer and Builder, 1891. Tanite Co. to Wahl, 21 April 1892. Paret to Wahl, withdrawing Appl, 19 October 1893.

1694 Bridgman, H. L. Chicago, Illinois. Ore Sampler. Reuben Haines, F. Lynwood Garrison, Thomas P. Conard, William H. Wahl, Spencer Fullerton. This machine is designed to abstract from a large bulk of ore a sample which will represent accurately an average of the whole quantity of original ore. Much of the correctness of hand sampling is dependent upon the capability and conscientiousness of the workmen. Test results provided show this machine to give practically identical results as the hand sampling method. Bridgman's automatic ore sampling machine is a meritorious advance in mechanical sampling methods. Scott Medal. 7 June 1893. 11 Bridgman, Chicago Copper Refining Co., to Wahl, 7 April 1892 - 17 June 1893. Engineering and Mining Journal to Wahl on Pt in field, 22 April 1893. Ricketts and Banks to Haines, 6 December 1892. Wahl to Haines, 9 February 1893. Haines to Constant, 25 April 1893. 2 Constant to Haines, 19 December 1892 - 28 April 1893, with Adv, test data, Report. 3 Standard Smelting and Refining Co. to Wahl, 7 January - 5 April 1893. 2 Test data and Draft. Np, Iron Age, October 1892; Engineer, January 1893. Descr, Instructions. List of Pt in area. 3 Pamphlets, 1 business card. 2 cards - 1 on CSA guidelines; 1 on slides.

1695 Mackay, William M. Newark, New Jersey. Valve. Henry F. Colvin, John Hall, Frank P. Brown, D. E. Crosby, C. John Hexamer. This quick operating valve is designed chiefly for hot water radiators. As the stem only turns partly around in the stuffing box and does not move horizontally through the packing, the probability of its leaking is materially lessened. Longstreth Medal. Appl, nd. Pt. Adv. Mackay to Colvin, with T, 30 April 1892. Mackay to Wahl, with T, 23 April 1892.

1696 Roberts, William E. New York. Advertising Device. G. Morgan Eldridge, N. H. Edgerton, T. C. Search, W. M. McAllister. This device does not differ materially from that in use at the Institute to announce its current business except in the manner of attaching the letters, which are perhaps more firmly held in place, though at greater cost. 1 June 1892. Appl, per Charles Ronaldson. Business card, U. S. Changeable Sign Co. Adv. Pt. U. S. Changeable Sign Co. to Wahl, 20 April 1892.

1697 Meylan, Eugene, Reckniewski, Wenceslas Camille. Paris, France. Electric Meter. Carl Hering, N. H. Edgerton, George A. Hoadley, C. H. Bedell, T. Carpenter Smith. The constancy of speed of the motor with the meter is obtained by a centrifugal pendulum which has two contacts. By the contact when at its maximum deflection it short circuits part of the working current of the motor. During tests the meter started to register with one-tenth of an ampere. The governor regulated the speed of the motor within one percent. Scott Medal. 1 February 1893. Meylan and Reckniewski to CSA, nd. Pt. Draft. Bedell to Wahl, 7 January 1893. Pamphlet with sample chart. Hering to Wahl, 2 January 1893. Illus. Note on tests. Forwarding note on meter, Eldridge, 8 June 1893.

1698 Pantasote Leather Co. (Applicant). Passaic, New Jersey. Leather Substitute. No Report. See CSA 1772. E. H. Outerbridge to CSA, 25 April 1892. 3 Outerbridge, Treas., Pantasote Leather Co., to Wahl, 5 April - 17 May 1892.

1699 Warden, John T. Philadelphia. Drawing Board. John E. Codman, L. F. Rondinella, Luther L. Cheney. A heavy iron stand supports a wooden frame drawing board, counter balance weight, parallel ruler levers and counterweight. The arrangement for moving the parallel ruler is very ingenious. Certificate of Merit. 1 February 1893. Warden to CSA, 3 May 1892. Pt. List of Pt in the field. 2 Adv.

1700 Henn, Eduard, Pagenstecher, Albrecht. Jersey City, New Jersey. U. S. Fuel Co., Ltd. (Applicant). New York. Artificial Fuel. William H. Wahl, Thomas P. Conard, Spencer Fullerton, T. Carpenter Smith, Henry Pemberton, Jr. Tests show the rate of combustion to be slow and that combustion products accumulate slowly. This system affords a convenient and economical method of heating and cooking, well adapted to a variety of special applications, and when applied with fair ventilation in living rooms, practically free from objection on the score of unwholesomeness. 1 February 1893. U. S. Fuel Co., Ltd., to CSA, 14 May 1892. 3 Pt: Henn (2), Pagenstecher. Wahl to Pemberton, 9 August 1892. Pemberton to Wahl, 24 August 1892, test data. Fullerton to Wahl, 9 January 1893. 3 Adv. 1 Pamphlet, U. S. Fuel Co., Sestalit. 2 Adv. Harrison Brothers, "Carbonite." 7 U. S. Fuel Co., Ltd., to Wahl, 16 May 1892 - 11 February 1893.

1701 Miggett, William. Philadelphia. Car Coupling. H. T. Colvin. No Report. Comm Appnt, 23 May 1892. Miggett to CSA, nd. Pt.

1702 Dewey, Mark W. Syracuse, New York. Induction Railway System. T. Carpenter Smith. No Report. Comm Appnt, 27 May 1892. Appl, nd. Dewey, Dewey Electric Heating Co. to Wahl, withdrawing Appl, 30 March 1893. 3 Pt. Np, Electrical World, 1892. 4 Dewey to Wahl, 21 May - 14 October 1892.

1703 Smith, T. Carpenter, Chm of Special Comm. The Protest Against the Confirmation of the Award to C. H. Batchellor. T. Carpenter Smith, James Christie, John L. Gill, Jr., Hugo Bilgram. Comm, in view of the evidence offered and the precedents in the case, recommends that the interpolated matter be not expunged from JFI and that no action be taken regarding the persons making same. CSA should prepare regulations regarding amendments to reports after adoption. 7 September 1892.

1704 Bradburn, Joseph A., Pennock, John D. Syracuse, New York. Extraction of Alumina from Bauxite. Reuben Haines, William H. Wahl, H. Pemberton, Jr. On examination of the history of the extraction of alumina from bauxite, this process does not exhibit any novelty beyond possible improvements in details of an old process. This process is the first in this country to be produced on an extensive scale, the alumina produced being of an excellent quality. Longstreth Medal. 1 March 1893. Appl, nd. Pt. Bradburn and Pennock to Secy, FI, 20 July 1892. Bradburn and Pennock to Comm, 4 August 1892. 6 Bradburn to Wahl, 26 July 1892 - 21 March 1893. 3 Haines to Wahl, 4 October - 27 October 1892. 2 Wahl to Haines, 6 - 15 October 1892. 3 Shepard, U. S. Chemical Co., to Pemberton, 10 - 25 October 1892. Comparison of Bradburn-Pennock process and process in general use.

1705 Clark, George S. Philadelphia. Safety Vaults. E. F. Moody, William McDevitt, Hugo Bilgram. This is an improvement of an earlier invention to the extent that it can be applied to any existing vault. 2 November 1892. Clark to CSA, 3 August 1892. Pt. Adv. Clark, Fidelity Insurance, Trust and Safe Deposit Co., to Wahl, 11 November 1892. See CSA 1659.

1706 Marks, George E. New York. Artificial Limbs. Cresson Medal. February 1, 1893. JFI, July 1893. Folder Missing.

1707 Perry, Nelson W. Chicago, Illinois. System of Series Electric Traction. G. Morgan Eldridge, N. H. Edgerton, C. O. C. Billberg, G. A. Hoadley, Carl Hering, Paul A. N. Winand. Subject to the risks which invariably attend reducing a plan to practice, Comm believes a railroad may be practically operated by this series system. The current which drives the car not only sets the signal but refuses to work when two cars come on the same block. Amended to award Scott Medal. 6 September 1893. Perry to Wahl, claiming to have done for the series electric railroad what Charles F. Brush did for the series arc lamp, 11 August 1892. 2 Pt. Comm list. Draft of Amendments, 2 June 1893, Hering. Hoadley to Billberg, 1 June 1893. Eldridge to Billberg, 31 May 1893, with note to Hoadley. Hering to Billberg, 29

1707 (continued) May 1893. Edgerton to Eldridge, 22 May 1893. Perry to Wahl, 11 May 1893. Telegram, Perry to Wahl, 11 March 1893 Smith to Wahl, declining membership in Comm 26 October 1892. Wahl to Eldridge, 11 May 1893. Eldridge, note on Comm. 2 Np and Perry, "Series Electric Traction", Trans AIEE (1892).

1708 Spencer, John E. Salem, Massachusetts. Field, D. W. (Agent). Philadelphia. Damper Regulator. J. M. Emanuel, Frank P. Brown, Thomas P. Conard, D. E. Crosby, J. L. Gill, Jr. A column of mercury is arranged to receive a certain percentage of boiler pressure while the balance of the boiler pressure acts upon the electric diaphragm of the boiler regulator. It uses water pressure instead of live steam in the motor of the regulator and has great sensitivity. Scott Medal. 2 November 1892. Spencer to CSA, 6 September 1892. Spencer, per Field, to FI, Descr, 24 August 1892. 3 Pt. Draft of Report.

1709 Barbet, Emile Augustin. Paris, France. Treatment of Alcohol. William C. Day, Harry W. Jayne, Louis J. Matos, S. P. Sadtler, Henry Trimble. Comm could not see the process in actual operation, on a commercial scale, or obtain the technical information and requests discharge. 6 December 1893. Barbet to CSA, August 1892. Barbet to Wahl, 9 September 1892. 2 Pt.

1710 LaRue, Silas Huffman. Trenton, New Jersey. Stove. G. Morgan Eldridge, F. P. Brown, J. L. Gill, Jr. Luther L. Cheney, William C. Head, C. John Hexamer. For Report, see CSA 1711. LaRue to CSA, 18 September 1892. 2 Pt. Descr. 2 Adv. Illus with Descr, test procedure. Telegram, Buchanan to LaRue, on Pt, 20 September 1892. 6 LaRue to Wahl, 21 September 1892 - 28 October 1893, on Report. Poem, by LaRue, "The Wondrous Stove." Wahl to Comm Chm, 1 December 1892. See CSA 1712.

1711 LaRue, Silas Huffman. Trenton, New Jersey. Stove. G. Morgan Eldridge, William C. Head, Frank P. Brown, Luther L. Cheney. The door to the fire box is double, and the space between the two doors is connected to the smoke flue so that any gas which might escape through the inner door is carried away. The fire is readily kept under desire and control by dampers. It will burn fuel of almost any kind or character. Scott Medal. 7 June 1893. LaRue to CSA, 18 September 1892. LaRue, Descr. 6 Pt. See CSA 1710, 1712.

1712 LaRue, Silas Huffman. Trenton, New Jersey. Smoke Consuming Apparatus for Locomotive Engine. Comm not Appnt. See CSA 1710, 1711. LaRue to CSA, 18 September 1892. Descr. Illus.

1713 Conard, Thomas P. Chm of Special Comm. Special Comm to Consider Protest Against CSA 1610. Thomas P. Conard, Coleman Sellers, D. E. Crosby, Frank P. Brown, Hugo Bilgram. Comm has carefully considered the history of the proceedings in case 1610 as they appear in the Minute Book of the CSA, which records have not been and cannot be impeached. Comm recommends that the further consideration of this case and the protest be dismissed finally. Resolution calling for Special Comm (1892).

1714 Buckman, Samuel Y. Philadelphia. Tinning Machine. Thomas P. Conard. Buckman to CSA, 4 October 1892. 4 Pt. Buckman, American Tin Plate Machine and Manufacturing Co., to Wahl, 31 December 1894. Buckman to FI, Descr, nd. List of Pt in field. Minutes of Comm, 18 November and 2 December 1892, with Draft. Conard to Wahl, 12 November 1892. Wahl to Comm, 2 December 1892. Np Illus Lloyd Booth Co., tinning machine.

1715 Lipman, Hymen L. Philadelphia. Coffee Dam. Edward F. Moody, I. M. Emanuel, C. John Hexamer, John E. Codman. This method is more costly than the ordinary ones in use and assumes that the grooved piles are to be driven absolutely vertical. No person who has ever driven piles, will say in advance where a pile will stand when driven home; the words 'about' and'nearly' are of great meaning in pile driving. 1 February 1893. Lipman to CSA, 5 October 1892. Pt. Lipman to Wahl, 14 February 1893. 2 Descr.

1716 Haines, Robert B. Jr. Coatesville, Pennsylvania. Micrometer Gauge. James Christie. Appl Withdrawn. 7 January 1893. Haines to CSA, 6 October 1892. Pt. Descr. Haines to Wahl, 24 November 1892. Christie to Wahl, 12 October 1892. Haines to CSA, 7 January 1893.

1717 Pontrichet, F. New York. "Black Print" Process. Francis Leclere I. M. Emanuel, William H. Wahl. The details of this process for preparing sensitised paper are still kept as trade secrets but the samples provided are superior. Scott Medal. 7 February 1894. Pontrichet to CSA, 17 October 1892. See CSA 1771. Supplement to Report: paper is not brittle and the cost is exceedingly moderate. 2 Pontrichet to Wahl, nd.

1718 Reddaway, Frank. Pendleton, Manchester, England. Belting. John H. Cooper, Thomas P. Conard, D. E. Crosby, Luther L. Cheney, Spencer Fullerton. This consists of a four-ply woven fabric, made of what is now technically known as camel hair and of cottom threads. Comm has made critical examination of several samples in whole and in section and is very favorably impressed with the ingenuity displayed in the fabrication of this type of belting as well as with its excellent quality. Scott Medal. 7 June 1893. F. Reddaway & Co., to CSA, nd. Pt for Trade-Mark. F. Reddaway & Co., September 1892. Reddaway to Wahl, 27 October 1893.

1719 Frank, Adolph, Charlottenberg, Prussia, Germany. Berkefeld Filter Co. (Applicant). New York. Filter. Samuel P. Sadtler, G. Morgan Eldridge, William H. Wahl, Reuben Haines, John E. Codman. The great difficulty to be overcome in making an effective filter is the formation of a solid substance of the deposited organic or inorganic matter. This, Wilhelm Berkefeld has accomplished by using the compound patented by Adloph Frank. A series of careful bacteriological tests by Dr. Dixon, of ANSP, show that water from the Schuylkill River is absolutely sterile after filtration. Scott Medal to Frank.

1719 (continued) 13 June 1893. Berkefeld Filter Co. to CSA, nd. Frank Pt. Berkefeld Pt. 13 Giese to FI: 22 October 1892 - 3 March 1894. 2 Berkefeld to FI; 2 February - 3 March 1894. Adv. Pamphlet. Draft. Samuel G. Dixon, Academy of Natural Science of Phila., to FI, 10 May 1894, Report. Copy, FI to Berkefeld, 17 February 1894, FI to Giese, 11 February 1894. 2 Wahl to Sadtler, 11 February - 7 May 1893. Sadtler to Wahl, 26 May 1893. Dixon to Wahl, 25 May 1893. Copy, Berkefeld to City Trust, 2 January 1894, 2 City Trusts of FI, 12 December 1893 - 15 February 1894.

1720 Coyle, John. Errington, Delaware County, Pennsylvania. Fire Place. Spencer Fullerton, D. E. Crosby, C. John Hexamer. Comm advised the inventor and asked to be discharged. 1 February 1893. Coyle to CSA, 4 November 1892. Descr.

1721 Backus, Quimby S. Williamsport, Pennsylvania. Heater. Arthur Kitson, G. Morgan Eldridge, Thomas P. Conard. This heater is capable of heating rooms in an easy, desirable and economical manner, providing proper means for carrying away the products of combustion are adopted, Comm desires to repeat that statements like "1% of carbonic acid gas in air is negligible," are both dangerous and condemnable in the extreme. 1 March 1893. Haskins to CSA, 5 November 1892. Blueprint and copy. 6 Pt. Np. Pamphlet. Haskins to Wahl, 23 December 1892. Kitson to Wahl, 20 December 1892. Minutes of Comm Meeting, 24 December, 1892, 26 January 1893. Draft.

1722 Hill, Frederick Barker. Peckham, Surrey, England. Sewage Treatment. Edward F. Moody, William H. Wahl, Frank P. Brown. Each water closet, or as many as may be desired, are connected with an underground tank of suitable size, in which the material as soon as it enters is treated with the precise quantity of chemicals required to produce the desired result. An automatic arrangement assures that only the proper quantity of chemicals is present at any time. When no sewage is flowing, no chemicals enter the tank, and are therefore not wasted. Longstreth Medal. 5 April 1893. Hill to CSA, 21 November 1892. Moody to Wahl, 21 January 1892. Wahl to Moody, 18 January 1893, with reply. British Pt. Illus.

1723 von Janko, Paul. Totis, Austria-Hungary. Piano Key-Board. Clarence B. Schultz, R. Zeckwer, Adam Trau. The keys are in six rows, elevated one above the other. Each two of these rows embrace the entire scale, all the intervals of each row being whole tones. This keyboard greatly reduces the technical difficulties and labor of learning to play upon the piano. It puts within the reach of a child's hand the rendering of the music of the masters. Illus. Cresson Medal. 3 May 1893. Referred to CSA by the Institute, 2 December 1892. Pt. Pamphlet, Paul von Janko Conservatory of Music, Decker Brothers, Manufacturers. 6 Decker Bros. to FI: 29 November 1892 - 6 December 1893. Heyl to Wahl, Comm to meet at Prof. Zeckwer's Conservatory, 24 March 1893. Stimson, for von Janko, to Decker Bros., 8 September 1893.

1724 Townsend Marine Invention Co. (Applicant). Baltimore, Maryland. Recording Compass. H. W. Spangler. No Report. Comm Appnt. 5 December 1892. Townsend Marine Invention Co. to CSA, 28 November 1892. Deedly, Chief of Bureau, Navy Dept., Bureau of Equipment and Recruiting, to Wahl, on compass the Navy uses, 3 February 1890.

1725 McMahon, Patrick J. New York. Ammonia Motor. H. W. Spangler. No Report. Comm Appnt. 9 December 1892. McMahon to CSA, 17 December 1892. Railway Ammonia Motor Co. to CSA, 6 December 1892, withdrawn 15 December 1892. 2 Railway Ammonia Motor Co. to Wahl, 6 December 1892. Ronaldson to Wahl, 6 December 1893. 4 McMahon to Wahl, 19 December 1892 - 26 December 1893. 3 Collins to Wahl, 2-27 February 1893. 2 Descr. Illus. Np. 7 Pt. Minutes of Comm Meeting 26 December 1892.

1726 Fullerton, Spencer, Chm of Special Comm. Amending Regulations of CSA. Spencer Fullerton, Thomas P. Conard, N. H. Edgerton, Samuel Sartain. Amendments recommended covered investigation of invention or discovery, the process or ingredients of which are not made known to Comm; role and duty of Chm, CSA, in appointing and his membership in subcommittees; patents supplied to subcommittees; preparation of abstract by Comm; membership in Comm and conflicting interests. Resolutions calling for Comm on Revision, 12 December 1892. Sartain to Wahl, 4 March 1893. Fullerton to Wahl, 16 June 1893. Minutes of Comm, 6 March 1893, 28 February 1893. Draft on Cresson Medal Resolution.

1727 Etzler, Edwin J. Tyrone, Pennsylvania. Boat Propulsion. J. M. Emanuel, S. Lloyd Wiegand, G. Morgan Eldridge. A flat bottomed, air supplied boat is not new and does not appear to have been successful in practice. The design of this boat tends to increase friction. 1 March 1893. Etzler to CSA, 15 December 1892, note on Advisory Report. Illus. Descr. 2 Drafts, Emanuel, Haug, Cheney. 2 Etzler to Wahl, 7 January - 28 March 1893. Wiegand to Wahl, 10 January 1893. Wiegand to Emanuel, 27 February 1893.

1728 Falkenau, A. Philadelphia. Method of Boring Pipes. Appl Withdrawn. Falkenau to CSA, 16 December 1892. Falkenau to Wahl, withdrawing Appl, 18 April 1893. 2 Spangler to Wahl, Westinghouse and Falkenau Comm, 20-24 February 1893.

1729 Baker, James H. Allegheny, Pennsylvania. Farm and Lumber Wagons. No Report. Appl Rej. Baker to Wahl, 20 December 1892. Baker to CSA, 20 December 1892.

1730 Jones, Owen. London, England. Governing the Speed of Engines. J. M. Emanuel, J. M. Witham. The present invention provides for setting up within the engine, a resistance to the same, by cutting off the communication between the cylinder and the supply and the exhaust, and thus retaining the steam in the said cylinder. A brief history of Am. Pt in this field is provided, 1 November 1893. Jones to CSA, 3 January 1893. 2 British Pt. Emanuel, Whitham. Insufficient data, asked Disc. 29 April 1893. Dup, 29 April 1893 with resolution referring back to Comm. With present information the report of 29 April is only one possible. 13 May 1893. 2 Emanuel to Wahl, 10-13 May 1893. Jones to Wahl, 15 April 1893.

1731-1 Priestman, William Dent and Samuel. England. Engine. Arthur Kitson, Hugo Bilgram, Clarence B. Schultz, T. Carpenter Smith. This has the same cycle as that of the Otto type but is, in effect, a gas generator and gas engine combined. In testing the engine submitted, Comm has sought merely to deal with the commercial aspects of the case, rather than furnish an exhaustive scientific report. Messrs. Priestman claim to have been the first to bring out a thoroughly successful commercial engine and Comm has no evidence by which this claim can be refuted. Scott Medal. 4 April 1894. Referred to CSA by FI, Appl, 4 January 1893. 5 Pt. Priestman (3), Humes, Drysdale. Instructions for Starting and Operating the Priestman engine. 6 Kitson to Wahl, 22 October 1893 - 2 August 1894. 5 Priestman & Co, to Wahl, 16 October 1893 - 30 May 1894. 11 Adv. 1 Photo. Judges' Report, Sixtieth National Industrial Exhibition, 1891, Am. I. Claims for Superiority. T. Draft. Business Card.

1731-2 Priestman. Engines.

1732 Schwencke, Kirk & Co. (Applicant). New York. Sensitized Paper. Appl Rej. 5 January 1895. Schwencke, Kirk & Co., to CSA, 3 November 1892. Schwencke, Kirk & Co. to Weber & Co., 22 November 1892.

1733 Wilkin, John T. Connersville, Indiana. Generating Cycloidal Surfaces. H. W. Spangler, C. B. Schultz, D. E. Crosby, Hugo Bilgram, J. Sellers Bancroft. The method of changing from the epicycloidal cut to the hypocycloidal and back again is slow and will have to be modified to make a satisfactory machine. The method of keeping the tool always normal to the surface being formed is novel and valuable. Scott Medal. 4 October 1893. Wilkin to CSA, 13 February 1893. 3 Descr. 7 Illus. 2 Pt. 4 Wilkin, Connersville Blower Co., to FI, 12 April 1893 - 6 March 1894. Bilgram to FI, 15 March 1893. Draft. Bancroft to Wahl, 1 May 1893. Wahl to Spangler, 9 June 1893. Spangler to Wahl, 25 September 1893.

1734 Byerly, Frank E. Philadelphia. Cutter. Hugo Bilgram, John L. Gill, Jr., John H. Copper, Paul A. Winand. This may be re-shaped without changing its shape. The cutter head, as described in the Pt specification, has several serious mechanical faults, which can, however, be avoided by a suitable change of design. Comm considers this cutter to be preferable to those consisting of a flat steel plate. Certificate of Merit. 6 September 1893. Byerly to CSA, 11 February 1893. Pt. 3 Byerly to Wahl, 10 July - 16 October 1893.

1735 Bristol, William H. Hoboken, New Jersey. Recording Gauge. Thomas P. Conard, Arthur Beardsley, John H. Cooper, John E. Codman, H. W. Spangler. The tube consists of a series of corrugated discs of thin sheet metal, slightly concave and perforated at their center. Comm carefully tested the sample gauge submitted, in comparison with a standard U tube water gauge. Comm considers this to be the only recording gauge for very low pressures, adapted to general use except those using floats in water and which are not only expensive but difficult to maintain in accurate working condition. Longstreth Medal.

1735 (continued) 3 January 1894. Appl, nd. See Csa 1500. 6 Illus. 2 Adv. Test data. Np, Trans., A.S.M.E. Pt. Minutes of Comm: 7-18 November 1893. 5 Bristol, Stevens I. of Technology to Wahl, 18 February 1893 - 5 March 1894. 2 Bristol, The Bristols' Mfg. Co., to Conard, 11-30 November 1893. 2 Spangler to FI, 2 December 1893 - 3 January 1894. Conard to Wahl, 20 November 1893. Am. Meter Co. to Conard, 22 November 1893. Cooper to Wahl, 4 December 1893.

1736 Heisler, Charles L. Philadelphia. Locomotive. Appl withdrawn, 15 April 1893. Appl, 20 February 1893. Pt. Illus. 2 Pamphlets. Adv. 3 Heisler to FI, 21 February - 15 April 1893.

1737 Emerson, James. Willimansett, Massachusetts. Register Counter. James Christie, Paul A. N. Winand, T. Shaw, Hugo Bilgram. This is intended to register automatically the power transmitted through a dynamometer. Comm has been unable to test the working qualities of the instrument, nor have they any evidence it is yet a commercial production, and they cannot recommend an award of the Institute without more definite knowledge. 4 October 1893. Emerson to CSA, 11 March 1893. Pt. 7 Emerson to Wahl, 31 January - 27 May 1893. 6 Christie to Wahl, 10 April - 9 June 1893. Wahl to Christie, 15 April 1893. Wahl to Emerson, 15 April 1893. Sawyer to Emerson, T, 26 April 1893. Walker to Wahl, 3 May 1893. Pamphlet, United Railways Safety Car Heating and Lighting Co., 1893.

1738 McChesney, Reuben. Philadelphia. T-Squares. John E. Codman, Francis Leclere, Elmer G. Willyoung, John L. Gill, Jr. This arrangement, of an annular protractor and back plate with a series of holes and a stop pin attached to an arm revolving on the common center of protractor and back plate, is convenient in many cases. The value of the instrument depends entirely upon the accuracy with which the holes are drilled and the pin fitted into them. Certificate of Merit. 6 September 1893. McChesney to CSA, 23 March 1893. Pt. Draft.

1739 Burke, Charles G. New York. Cosmosgraphy. Appl Rej. Appl filed, 25 April 1893. Appl, nd. Burke to Wahl, 4 April 1893. Pamphlet, Burke, Cosmography and the Cosmograph, 1892.

1740-1 Locke, Nathaniel C. Locke Regulator Co. (Applicant). Salem, Massachusetts. Damper Regulator. James Christie, Henry F. Colvin, D. E. Crosby, Frank P. Brown. This has the usual flexible diaphragm and attached lever, operated by steam. Comm finds that the most perfect damper regulator should be capable of opening or closing the damper, by small differential movements. The regulator of the Applicant, which the Comm observed does not show this damper action. 7 March 1894. Smith, Locke Regulator Co., to CSA, 21 April 1893. 4 Pt. The History of the Locke Damper Regulator. Test data, Barrus, Boston. Corres between Locke and Pt Office, 13 January 1884 - 26 November 1890. Wahl to Christie, on Locke Co's letter being of the nature of a protest, 19 April 1894. Locke Co. to FI, on Report, 18 April 1894. Christie to Wahl. 21 April 1894. 15 Locke to FI, 2 May - 1893 - 11 June 1894; 2 telegrams, 3 May 1893. 9 Blueprints. Photo. Illus. Pamphlet. Directions. Adv. 8 Christie to Colvin, 14 July - 20 December 1893, with note, Wahl to Christie, 27 December 1893. 2 Wahl to Colvin, 29 April - 20 May 1893.

1740-2 Locke, Nathaniel C. Damper Regulator. 6 Patterson to Colvin, 5 December 1893 - 11 May 1894. 3 Locke Co. to Colvin, 12 May - 11 June 1894. 10 Christie to Wahl, 26 May 1893 - 14 July 1894. Patterson to Wahl, 14 November 1893. Copy FI to Patterson, 13 April 1894. 24 Pt: Kelly, Locke (4), Clark, Webster, Noyes, Ford, Kipp, Smith and Wood, Ide, Woodruff, Fitts, Dunham, Dechamp, LeNan, Kellem, Hallock, Jones, Funck, Githens, Spencer (2). See CSA 1737, Christie to Wahl, 18-25 May 1893. See also CSA 1839, CSA 2043.

1741 Shuman, Frank. Philadelphia. Wired Glass. F. Lynwood Garrison, William H. Wahl, C. L. Prince, William C. Head, C. Hanford Henderson. The prior state of the art indicates that the idea of inserting a wire netting into sheets of glass while the glass is in a plastic condition is by no means a new one, although its development on a large scale until very recently has not been successful. The radically novel feature is the ribbed roll by which the heated and pliable wire netting is pressed to a predetermined depth into the glass while the sheet is being rolled and permanently fixed in position by the following smoothing roll. Illus. Scott Medal. 1 November 1893. JFI March 1894. Shuman to CSA, 19 April 1893. 11 Photo. 2 Np. 2 Pt. Draft. Howson and Howson, Pt. Search. Trans., Revue Industrielle. 4 Am Wire Glass Mfg. Co. to Wahl, 19 April - 5 September 1893. Wahl to Garrison, 17 May 1893. 2 Howson and Howson to Shuman, 16 May - 19 September 1893. 2 Daux to Am. Glass Wire Co. 11-14 April 1893. 3 Birkinbine to Wahl, 11-23 October 1893, Descr of a German Pt. Illus. Pamphlet, T.

1742 Simonds, George Frederick. Fitchburg, Massachusetts. Ball Bearing. Hugo Bilgram. No Report. Comm Disc 2 October 1893. Simonds to CSA, 26 April 1893. Norris to Wahl, on Pt, 27 April 1893. 12 Pt. Simonds to Wahl, 25 April 1893. 2 Bilgram to Wahl, 6-9 May 1893. J. H. C. to Wahl, on Simonds' advance in manufacture of ball bearings with 2 samples, 15 May 1893.

1743 Adams, William G., Forbes, John Sims. Philadelphia. Radiator Stop Valve. Henry F. Colvin, D. E. Crosby, Thomas P. Conard, Frank P. Brown. The valve can be opened and closed full without any undue strain on the diaphragm. Steam on water do not pass from its interior to the atmosphere. Longstreth Medal. 6 September 1893. Adams and Forbes to CSA, 25 April 1893. 2 Pt. Draft.

1744 McIntire, Charles. McIntire, C. H. (Applicant). Newark, New Jersey. Electric Wire. Elmer G. Willyoung, C. Billberg, N. H. Edgarton, Paul Winand. The covering is laid on the core with lapped and soldered joint. The process marks an advance over pre-existing ones resulting, with care, in a wire better than other wires known at the date of appl. Certificate of Merit. 6 September 1893. C. H. McIntire to CSA, 27 April 1893. Pt. 2 C. H. McIntire, McIntire Co. to Wahl, 19-23 April 1893. Draft. 2 Np. C. Stewart, Stewart Wire Co., to Wahl, 8 April. 2 McIntire to Wahl, 8 May - 16 October 1893. Willyoung, on McIntire's Pt, 9 May 1893.

1745 Clark, William H. and Collins, Frank W. Cortland, New York. Stove. Arthur Kitson, William C. Head, Frank P. Brown. This is the only stove known to Comm which combines in itself, in a practical and effective manner, both heating and ventilation. The importance of proper ventilation is only beginning to be sufficiently appreciated in this country. The arrangement of the magazine effectually prevents the escape of gas into the room. Longstreth Medal. 1 November 1893. Clark to CSA, May 1893. 3 Pt. Draft. 5 Adv. Kitson to Wahl, 27 May 1893. 6 Photo, 1 Illus. 4 Testing Reports, data. 1 T. 15 Cortland Howe Ventilating Stove Co. to Wahl, 25 April 1893 0 25 April 1894.

1746 Johnston, Andrew Langstaff. Richmond, Virginia. Automatic Electric Disconnector. Paul A. N. Winand, Carl Hering, W. N. Jennings, Edward F. Moody. Wires are installed in sections. When a break in the line occurs and causes a change in the tension, the section is automatically disconnected from the rest of the line at each end of the section. The broken wire is thus transformed into a dead wire and repairs are made only on that section. Longstreth Medal. 1 November 1893. Johnston to CSA, 4 May 1893. Pt.

1747 Hall, Albert F. Boston, Massachusetts. Steam Pump. Appl Rej. 19 September 1893. Hall to CSA, 6 May 1893. Pt. 5 The Geo. F. Blake Mfg. Co. to FI, 8 April - 8 May 1893.

1748 Steinle, Rudolf. Philadelphia. Antiseptic Handles for Surgical Instruments. No Report. Steinle to CSA, 15 May 1893. Pt.

1749 Payen, Clement. The Electric Storage Battery Co. (Applicant). Philadelphia. Chloride Electrical Storage Battery. E. G. Willyoung, C. A. C. Billberg, William H. Greene, L. F. Rondinella, H. W. Spangler, Paul A. N. Winand. A number of cells were placed upon a regular working circuit. The necessary active material for this battery is obtained by a strictly chemical process. The lead made is in a crystalline condition and the crystals are all uniformly arranged. This crystalline structure presents the maximum obtainable surface for the given mass, thus giving the battery a maximum capacity for a given weight and size of cell. The manufacture of this battery is protected by a large number of Pts; the essential features of the process are covered by the Pts of Payen. Scott Medal. 28 June 1894. JFI October 1894. Gibbs, Electric Storage Battery Co. to CSA, 17 May 1893. T. List of Pt. 6 Pt. Illus, Draft. Eldridge to Wahl, with amendments, 7 May 1894. 7 Battery Co. to FI, 10 May 1893 - 17 September 1894. Notice of FI Meetings with note from Payen. 2 Payen to FI, 17 December 1894. Wahl to Willyoung, 4 November 1893, with reply.

1750 Acheson, Edward G. Monongahela City, Pennsylvania. Carborundum. William C. Head, William H. Wahl, Hugo Bilgram, Spencer Fullerton. Electric current is passed through a mixture of carbon and sand to fuse the contained silica and bring about its subsequent combination with a portion of the carbon to form the substance to which the name

1750 (continued) "carborundum" has been given. The crystals form an artificial abrasive material which should find general application in the arts, wherever its price is not prohibitory. Scott Medal. 7 February 1894. JFI June 1894. Acheson to CSA, 22 May 1893. Np, Electrical Engineer, 1893. 2 Drafts. Pt. 6 Adv, 2 cards, 18 June (?.) 2 Head to Wahl, 27 December 1893. 2 Bilgram to Wahl, 10 November - 20 December 1893. 10 The Carborundum Co. to Wahl, 12 February 1893 - 21 June 1894. 6 Baldwin Locomotive Works, Burnham, William & Co. to FI, on use of Carborundum Wheels, 1 September - 9 December 1893. Telegram: Acheson to Wahl, 6 June 1893. Wm. Sellers & Co. to Wahl, 7 September 1893.

1751 Schenck, William T. Y. San Francisco, California. Hose Reel. William McDevitt, William L. Boswell, C. John Hexamer. The axle of the reel on which the hose is wound forms a continuation of the water way. The reel swings in any direction in which the hose may be pulled off, thereby avoiding any kinking or liability of the hose being pulled over the rim of the reel as on hose reels secured by stationary brackets. Certificate of Merit. 6 September 1893. Schenck to CSA, 22 May 1893. Pt. 3 Adv. Browne to Schenck's Swinging Fire Hose Reel, on Pt originality, 21 June 1893. McDevitt to Wahl, 29 June 1893. 4 Schenck's Reel to FI, 26 May - 29 June 1893. 3 Pt: Bowers, Dillon, Guild.

1752 Morsell, W. F. C. Philadelphia. Application of Complementary Color Designs. L. F. Rondinella, John Sartain. T. C. Search, L. W. Miller. This series of film designs is to be used in the polariscope for the systematic study of color, furnishing perhaps the richest color chart that can be gotten by scientific analysis. Comm believes this apparatus will furnish the art teacher or student with a valuable equipment for the study of color and form in designing. Scott Medal. 1 November 1893. Morsell to CSA, 31 May 1893. Draft signed by Sartain, Search, Miller. 2 Rondinella to Wahl, 15 July - 13 October 1893. Morsell to Wahl, 6 November 1893. Miller to Wahl, 5 October 1893.

1753 Reinemann, Adolph. New York. Heat Annunciator. C. L. Prince. No Report. Appl Withdrawn. 9 October 1893. Reinemann to CSA, 2 June 1893. Pt. 6 Reinemann to FI, 20 May - 9 October 1893.

1754-1 Spiro, Charles. New York. Colket, Purdy & Co. (Agents). Philadelphia. Typewriter. G. Morgan Eldridge, William C. Head, John H. Cooper. Comm finds that although some machines possess capabilities not possessed by this one, it presents an exceedingly advantageous combination and has some points of merit peculiar to itself. It has a light elastic touch and a very positive movement of its platen escapement. Scott Medal. 6 December 1893. JFI May 1894. Spiro to CSA, 7 June 1893. 20 Pt. Spiro to CSA, detailed Descr, 2 June 1893. 2 Drafts, note by Head, 28 October 1893. Cooper to Wahl, 18 June 1893. Bilgram to Wahl, 4 October 1893. Bilgram and Eldridge, note on amendments, 28 October 1893. Colket, Purdy & Co. to FI, 18 September 1893, with card. 3 Spiro to Wahl, 10-14 April 1894.

1741-2 Spiro, Charles. Typewriter. 5 Adv. Pt. Np, The British & Colonial Printer and Stationer, 27 April 1893.

1755 Berliner, Emile. Washington, D. C. Gramaphone. Appl postponed. See CSA 1918. Wahl, Secy, CSA, on Action of CSA, 7 June 1893, calling for investigation. 2 Pt. Illus. 5 Berliner to Wahl, 2 February - 27 October 1893. Photo. Willyoung to Wahl, 27 July 1893. Houston, "On Berliner's Improved Gramaphone".

1756 Tesla, Nikola. New York. High Frequency Phenomena. Carl Hering, T. Carpenter Smith, Edward G. Willyoung, Herman S. Hering. His researches were made with alternating electrical currents and electrical fields of very high frequency of alternation and very high potentials. Probably the best proof of the importance of his researches is that his lectures were translated into many languages and published in almost every scientific journal with very favorable comments. Cresson Medal. 6 December 1893. Stillwell, Westinghouse Electric & Mfg. Co., to Eldridge, 23 January 1894. Tesla to Wahl, 10 April 1894. Draft.

1757 Weidig, Henry P. Newark, New Jersey. Fire Extinguisher. William McDevitt, C. John Hexamer, Samuel P. Sadtler, Frank P. Brown. A steel vessel contains liquified carbon dioxide which can be brought in connection with a receptacle filled with carbonated water under any desired pressure. When combined with water the liquid is forcibly ejected and delivered upon the file. Several highly successful tests were conducted by Comm and the Chief of the Fire Department. Valves and other metallic parts are not corroded as there are no active acids or salts, only liquified gases, present. Scott Medal. 6 December 1893. Weidig to CSA, 5 June 1893. Draft. Pt. Descr. Report, Navy Yard, 16 September 1893. 3 Adv. Illus. 2 Blueprints. Hexamer to Wahl, 9 October 1893. Brown to Wahl, 6 October 1893. Boswell to Wahl, 9 October 1893. 3 Columbia Chemical Fire Engine to Wahl, 26 September 1893 - 11 April 1894. 8 Weidig to Wahl, 18 May - 12 August 1893. 2 Faber du Faur to Wahl, 19-23 June 1893.

1758 Hillenbrand, Julius. Mannheim, Germany. Joseph, Leopold (Agent). Mannheim, Germany. Hydraulic Engine. Appl Rej. 2 January 1893. Joseph to CSA, 26 January 1893. Pt. 2 Adv. 7 Joseph to FI, 20 June - 18 December 1893. Cooper to Wahl, on Joseph's Ltrs requesting publications, not a Comm Report, 28 September 1893.

1759 Hillenbrand, Julius. Mannheim, Germany. Joseph, Leopold (Agent). Mannheim, Germany. Pump. Appl Rej. 2 January 1895. Joseph to CSA, 26 June 1893. Pt. Joseph to FI, 23 January 1893.

1760 Shaw, Thomas. Philadelphia. Gun Powder Tester. W. H. Jaques, Hugo Bilgram, Charles H. Clarke, J. M. Emanuel, Spencer Fullerton. The instrument and method are attractive and its operation simple. But no record is obtained with it bearing directly on the important points considered. It is difficult to see how Shaw's method can be applied to heavy ordnance, and even in dealing with small arms under

1760 (continued) the pressures common in the smaller calibres rapid erosion of the channel might well be expected. With circular, Am. Wood Powder Co., on cartridges used in tests. Comm Disc. 8 April 1896. Wahl to CSA, on referral from FI, 27 June 1893. 2 Photo. 13 Shaw to Wahl, 3 March 1894 - 16 December 1895. 15 Jaques to Wahl, 28 February 1894 - 19 October 1894. Jaques to Clark, 19 October 1894. 2 Clark to Wahl, 8-30 March 1894. Cooper to Wahl, 17 November 1893. 2 Farley, Frankford Arsenal, to Wahl, 28 February - 5 March 1894. Shaw to Jaques, 4 April 1894. Wahl to Kitson, 15 November 1893. Garrison to Wahl, 30 October 1893. Wahl to Heyl, with reply, 21 October 1893. 3 Shaw to Wahl, 28 June - 23 October 1893. Memo on corrections- See CSA 1733, Spangler to Wahl, 25 September 1893.

1761 McCracken, Edwin D. Paterson, New Jersey. Norwich Insulated Wire Co. (Applicant). New York. Conductor, Electric. Elmer G. Willyoung, N. H. Edgerton, Richard Gilpin. The inventor of this style of insulated wire claims a particular way of applying the paper covering. As it was not feasible to make systematic tests of this wire, Comm wrote to users of the same inviting an expression of thier experiences. Replies showed continuous service with highly satisfactory results, in connection with large city plants. Comm made several mechanical tests. Scott Medal. 3 June 1896. Norwich Insulated Wire Co. to CSA, 29 June 1893. Pt. Draft. McCracken to Wahl, 30 January 1897. T. Louisiana Electric Light Co. to (Willyoung), 2 April 1894. Chicago Edison Co. to (Willyoung), 2 April 1894. 3 Norwich Co. to Wahl, 28 March - 13 September 1893. 2 National Underground Cable Co. (now owner of business of Norwich Co.) to Wahl, 18-24 November 1896.

1762 Ivins, Ellwood. Philadelphia. Tubing. Thomas P. Conard, Cyrus Chambers, Jr., Spencer Fullerton. The manufacture has been largely developed since an earlier investigation (see CSA 1567) and a line of fine metal tubing is now produced in a variety of sizes and shapes, with accuracy of diameter, bore and gauge, and in a variety of materials. A member of the Comm has recently had occasion to investigate the subject of fine metal tubing very thoroughly in connection with an enterprise of his own, and after many careful tests, finds the Ivins tubes extremely accurate. Testimonials from other manufacturers and scientific experts confirm Comm's belief in the high merit of Ivins tubes. Longstreth Medal, (with Amendments). 4 April 1894. Ivins to CSA, 30 June 1893. Np, Traffic. Comm Minutes, 27 September and 21 November 1893. Partial Draft, Referred back 3 January 1894, 11 T. Ivins Tube Co. to Wahl, supplying samples, 21 March 1894. Wilder to FI, declining Comm appnt, 9 April 1893. 2 Ivins to Wahl, 1 July - 6 November 1893. Conard to Wahl, 27 September 1893. Chambers to Conard, 23 November 1893.

1763 Diehm, John L. Philadelphia. Squaring the Circle. Hugo Bilgram, John C. Trautwine, Jr. The solution is not theoretically correct. Comm advises the applicant to acquaint himself more fully with what has already been accomplished in this direction. Advisory Report. 6 September 1893. Appl, 3 July 1893, with note Advisory. Descr. Draft, 3 Diehm to FI, 29 June - 14 September 1893.

1764 Riefler, Sigmund. Munich, Germany. F. Weber & Co. (Applicant). Philadelphia. Mercurial Compensation Pendulum. Hugo Bilgram, G. Morgan Eldridge, Fredrich Loos. In this escapement the motor wheel produces a movement opposite to that through which the release is accomplished. All influences disturbing the time of vibration from this source (the motor power of the clockwork) are as completely eliminated as ingenuity can be expected to do. Data. Scott Medal. 7 March 1894. Weber & Co. to CSA, 6 July 1893. 2 Pt. German Consul to Wahl, 14 November 1894. Weber & Co. to FI, 20 July 1894. Wahl to Bilgram, with reply, 31 January 1894. 2 Bilgram to Wahl, 10 November - 27 December 1893. Weber & Co. to Wahl, 31 October 1893. Wahl to Bilgram, 5 October 1893. Draft. 2 Pr Descr, (English, German). Riefler, "Pendel - Echappement." Anding, "Bericht uben den Gang Einer Riefler'schen Pendeluhr," 1893. Adv - French. Bauer, "Hemmungen und Pendel . . .Rieflen'schen Systems," 1893. Copy, Riefler, 3 January 1894. 2 German T. Adv. Np, Deutsche Uhrmacher-Zeitung.

1765 Urich, Clarles. Paterson, New Jersey. Perspective Lineator. Appl Rej. October 1893. Urich to CSA, 20 July 1893. 2 Adv. Wilson, Pres. FI, and Wilson Brothers & Co., to Wahl, 28 September 1893, with expert opinion of Co's. Principal Assistant Architect.

1766 North, S. E. Carbondale, Illinois. Welding Copper. Comm not Appnt. North to CSA, 10 August 1893. 2 North, S. E. North & Son, to FI, 10 August to 25 September 1893. North, Adjutant, Illinois National Guard, to FI, 21 October 1893.

1767 Keep, W. J. Detroit, Michigan. Researches on Cast Iron. C. L. Prince, James Christie, Thomas P. Conard, Francis Schumann, William R. Webster, John M. Hartman, Charles B. Dudley. Keep's various papers, as published, have caused a wide spread discussion in the technical press throughout the middle and eastern sections of the country, and they have been of much value in arousing a greater interest in the details of foundry practice. Comm is not willing to endorse fully Keep's method of experimentation, believing that the drawing of general conclusions which may affect the whole subject of cast iron from the data from one or two tests, to be unscientific in method and liable to be inaccurate. Amended by General Comm. 1 May 1895. 3 Drafts. Keep, 12 papers; 2 adv. 2 Descr. routine. 2 T. Outerbridge to Wahl, "Confidential," on alleged infringement, 29 April 1895. 10 Keep to Prince, 25 November - 5 August 1895, the last on alleged infringement. 3 Keep to Wahl, 2 May 1893 - 9 April 1894. 8 Wahl to Prince, 29 November 1893 - 19 December 1894. 2 Prince to Keep, 29 November - 8 December 1893. Prince to Wahl, 29 November 1893. Outerbridge to Wahl, 18 December 1894.

1768 Schmidt, Max E., Silsbee, Joseph L. Chicago, Illinois. Multiple Speed and Traction Co. (Applicant). Chicago. Movable Sidewalk. Spencer Fullerton, J. Logan Fitts, C. L. Prince, D. E. Crosby, L. F. Rondinella. A narrow stationary platform runs the entire length of an endless or belt railway. From any point of this sidewalk a passenger can safely step upon a continuous moving platform having a speed of about 3 miles-per-hour. From this platform the passenger can step upon the 6 miles-per-hour platform, consisting of a continuous train of constantly moving cars extending the whole length of the road. Their Pt attorney's report indicates the general construction of the multiple speed railway is far from novel; their main invention is the continuous flexible travelling rails. A practical demonstration in Chicago supports their claims. Longstreth Medal. 3 January 1894. Multiple Speed & Traction Co. to CSA, 18 October 1893. Pt. Pt Attorney Report, 25 January 1892. Ronaldson to Wahl, on Schmidt's writing for Appl, 21 September 1893. Ronaldson to Wahl, his experience on "Movable Sidewalk." 7 December 1893. Rondinella to Wahl, 1 December 1893. Speer to Fullerton, on being "too far ahead of the times," 23 November 1893. Np, Electrical Engineer 1893, Western Electrician 1893. Co. to CSA, 3 October 1893. 6 Co. to FI, 22 September 1893 - 19 March 1894. 9 pages of quotes from Journals.

1769 DeVoe, William R. Shreveport, Louisiana. Underground conduit for Railway Conductors. J. M. Emanuel, N. H. Edgerton, Paul A. N. Winand, Arthur Beardsley, C. Billberg. This invention is an improvement of others mentioned and consists in simplifying the parts, making the scheme more efficient and cost of construction and maintenance very much reduced. The conduit is made V shape, thus securing perfect drainage. A dirt-arrester is placed under the slot and over the trolley, to prevent dirt from falling on the trolley and to prevent short circuit. Longstreth Medal. 7 February 1894. DeVoe to CSA, nd, Approved 13 October 1893. 3 Pt. Draft. 2 Emanuel to Wahl, 22 October 1893 - 24 January 1894. 3 DeVoe to Wahl, 25 September 1893 - 24 March 1894.

1770 Scanlon, Frank J. Philadelphia. Cable-Grip. Thomas P. Conard, H. F. Colvin, John L. Gill, Jr., Samuel R. Marshall. Theoretically the inventor is correct, but Comm is of the opinion that the invention is entirely impracticable and worthless. Report Advisory. 6 December 1893. Scanlon to CSA, requesting Advisory Report, 13 October 1893. Pt. 2 Scanlon to Wahl, 13 October - 16 December 1893.

1771 Pontrichet, F. New York. Printing Process. Francis Leclere, William H. Wahl, J. M. Emanuel. Renewal of CSA 1717. Pontrichet to CSA, Renewal of original Appl (17 October 1892, CSA 1717), 17 October 1893. Directions for Printing. 3 Pontrichet to Wahl, 17 October 1893 - 9 June 1894. Wahl to Grimshaw, 18 September 1893, with reply, 24 September 1893. Wahl to Heyl, 25 September 1893. Draft of Introduction. 21 Illus. For Report and Supplement, 2 December 1893, see CSA 1717. Guiriu to FI, 7 June 1894.

1772 Bradley, Parker Richardson. Boston, Massachusetts. Pantasote Leather Co. (Applicant). New York. Leather Substitute. William C. Head, H. F. Colvin, E. F. Moody. A composition (of which the ingredients are not disclosed) is applied to the surface of leather, fabrics of various kinds of paper. For description of process of manufacture, see communication furnished by the Company and accompanying Report. There appeared to Comm to be only 1 way of verifying the claims of durable pliability, versatility, and indifference to the products of water, namely: by test of actual service. Comm has corresponded during the last 2 years with a number of manufacturers, builders, and others having these products in use. The replies, marked Exhibit A, are uniformly favorable and indicate that, as a substitute for leather for upholstery and carriage work, the pantasote products have undoubted merit. With Appendix. Longstreth Medal. 5 February 1896. JFI, August 1898. Outerbridge, Co., to CSA, renewing Appl, 14 October 1893 (See CSA 1698). Pt, Bradley. Draft. 6 Pantasote Co. to FI, 17 October ;893 - 12 March 1896, with sample. Exhibit A: 25 Ltrs, 16 January 1893 - 25 May 1895 and 13 Adv. Wahl to Bains and Sons, 2 April 1894.

1773 Kent, Robert S. Gloucester City, New Jersey. Furnace. Appl Rej. 20 October 1893. Kent to CSA, 16 October 1893. Descr. 14 March 1893. Pt. 2 Blueprints.

1774 Parvin, Albert B. Philadelphia. Tele-Photo Lens. Samuel Sartain, William N. Jennings, Julius Sachse, John Carbutt, George A. Hoadley. When an image made with the Parvin Lens, designed to cover a 5x8 plate, is compared with that made with a Rapid Rectilinear Lens designed for the same size plate, the magnification is found to be in favor of the Parvin Lens from 3 to 3½ times, but to do this the Parvin Lens requires a camera with an extra long bellows. Certificate of Merit. 2 January 1895. Sartain to Wahl, 18 December 1893. 3 Parvin to Wahl, 24 October 1893 - 13 February 1895. Carbutt to Wahl, 29 December 1894.

1775 Branson, David, Thornburgh, Robert D, Starr, John E., Fuller, J. Ensign. Refrigeration. Samuel P. Sadtler, D. E. Crosby, Otto C. Wolf. Anhydrous Liquid Ammonia is distributed through a pipe-line laid in a street conduit to a number of expansion coils in the refrigerators or cooling chambers of individual customers; the vapor is returned through a larger pipe in the same conduit to an absorption vessel at the same central station. A third pipe, a safety or vacuum line, can be opened to speedily empty the other 2 pipes into the third, for repair or adjustment. The difficulty of handling a constantly changing refrigerating load was met by the use of a series of reservoirs. Scott Medal. 4 April 1894. International Cooling Co. to CSA, 4 December 1893, with Comm. 3 Co. to Wahl, 4 December 1893 - 24 November 1894. Flad, Report to St. Louis Automatic Refrigerating Co., 29 December 1890. Pamphlet. Np, Manufacture and Builder, 1893. Crosby to Wahl, 18 January 1894. 2 Wolf to Wahl, 10-14 February 1894. Wahl to Sadtler, 16 February 1894. Goldschmid to Wahl, 11 January 1894. Flad to Miss. Valley Commission, 21 June 1893. Introduction of Branson, 16 December 1889. Branson to Wahl, on his paper in JFI (February 1894), 13 December 1893.

1776 Daugherty, James Denny. Kittanning, Pennsylvania. Typewriter. Clarence B. Schultz, L. F. Rondinella, Edward F. Moody, Henry Brinton, Samuel Sartain. This is a strong and simple machine, which will do good service and probably wear well, but an item by item discussion of its claims shows that it has no feature superior to many of the high grade machines in the market. The principal objection is that because of the cam connection of the key-levers and the type-levers, all the keys do not push down vertically, those at the sides move outwardly inclined. It lacks a number of conveniences found on other machines. On motion made Advisory. 2 May 1894. Daugherty to CSA, 3 January 1894. Descr. 3 Daugherty Pt. 6 Pamphlets, other companies. 2 Daugherty to Wahl, 26 January - 14 May 1894, asking that the report not be published. Wahl, "The Daugherty Typewriter Co." 20 Pt.

1777 Hargreaves, William. Philadelphia. Fireproof Stage. William McDevitt, J. Logan Fitts, W. N. Jennings, L. F. Rondinella. A curtain or shield constructed of wood sheathed on the inner side with metal forms a wooden wall, when lowered, enclosing the proscenium opening. A series of perforated water pipes are installed above the stage. Comm believes that neither of the appliances would prove effective for the purposes intended. Made Advisory. 7 March 1894. Hargreaves to CSA, 2 January 1894. Pt. Fitts to Wahl, 2 February 1894. Adv. Hargreaves to Chm, CSA, on the Report, 31 March 1894.

1778 Weber, William and George. Philadelphia. Telephone Speaking Attachment. G. Morgan Eldridge, William H. Wahl, N. H. Edgerton. The flexible tube connects to the mouth-piece of a telephone transmitter at one end and at the other a metal frame and mouth-piece, allowing the user any position within the range of the length of the tube. Certificate of Merit. 2 May 1894. Weber to CSA, 31 January 1894. Pt. Shinn, Atty, Amendments in Pt Appl, 3 January 1894. Adv. Stern & Co. to Wahl, on attachments, 2 August 1894. Weber & Bros. to Wahl, 22 June 1894. Card, Weber & Bro. Adv.

1779 Mattes, William F. and Lewis, John F. Scranton, Pennsylvania. Lackawanna Lubricating Co. (Applicant). Scranton, Pennsylvania. Lubricator. Henry F. Colvin, John H. Cooper, Frank P. Brown, D. E. Crosby. There are but few internal tubes and all can be cleaned out by blowing steam through them. The state of the art shows this to be ahead of its competitors in its simplicity and perfect working under varied conditions. Longstreth Medal. 6 June 1894. Lackawanna Co. to CSA, 12 January 1894. 2 Adv. Pt. Draft. Cambria Iron Co. to Cooper on not having used it, 27 February 1886; Lunkerheimer's Np, Am. J. Railway Appliances, 1885. Pa. Steel Co to Cooper, T, 8 March 1894. 9 Lackawanna Co. to FI: 5 January - 14 September 1894, with T.

1780 Quint, Alanson D. Hartford, Connecticut. Drilling Machine. Hugo Bilgram, William H. Thorne, Spencer Fullerton, J. Logan Fitts. This multiple drill press has six drill spindles mounted in a turret. Each spindle is provided with an independent stop for regulating the depth of the hole to be drilled. The invention complicates the operator's work by requiring him to revolve the turret and to readjust the speed

1780 (continued) of the countershaft, if the sizes of the drills are so much different as to require different speed. Comm feels that only in exceptional cases will the advantages outweigh the disadvantages. Report made Advisory. With Appendix on vertical adjustment of spindles. 7 March 1894. Quint to CSA, 15 January 1894. Pt. Blueprint. 3 Drafts of Appendix, signed by Comm members. Bilgram to Wahl, 21 February 1894. Bilgram to Wahl, with Appendix to be signed by other Comm members, 27 March 1894. 2 Adv. 4 Quint to FI, 8 January - 17 March 1894. Copy Quint to FI, 17 March 1894.

1781-1 Beichhel, E. P., Machlet, George, Jr. New York. American Gas Furnace Co. (Applicant). New York. Method of Making Fuel Gas. Arthur Kitson, Thomas P. Conard, William H. Wahl, William M. Sweet, Henry F. Colvin, Charles E. Ronaldson, John E. Codman, D. E. Crosby. This system produces a rich fuel gas in quantities determined in each case by the demand and which is consumed in the furnaces as it is generated without the necessity of using storage reservoirs. The mixture of gas and air is injected under regulated pressure as a definitely proportioned mixture into a combustion chamber. Taken as a whole, it is an efficient, perfectly controllable, and economical system of generating and utilizing fuel gas. Scott Medal. 28 June 1894. JFI November 1894. Am. Co to CSA, 3 January 1894. 3 Pt. Sweet to Wahl, 11 April 1894. Ronaldson to Wahl, 27 June 1894 with Draft. 15 Am. Co. to FI: 3 January - 12 November 1894, including 2 Descr, References. Illus. Corres with interested parties: 10: 11 April - 22 May 1894. T.

1781-2 Reichhel and Machlet. Method of Making Fuel Gas. 7 Pamphlets (not all were microfilmed). 2 Catalogues. 6 Illus. Open letter with Descr and References. Letter to Patrons.

1782 Fay, Henry R. Boston, Massachusetts. Engine Valve. Henry F. Colvin, Arthus Church, John H. Cooper, Spencer Fullerton. The claim is made that the improvement reduces compression to enable the engine to run more steadily; if there is any reduction, it is so small a factor that it cannot be measured by means ordinarily used for such purposes. It does not appear to have any commercial value. Recommend Report be Advisory. 4 April 1894. Fay to CSA, 17 January 1894. 3 Blueprints. Pt. Np, Am. Eng. and R.R. Jour. 1894. 5 Adv. Copy of Colvin to Fay, 3 March 1894. 5 Fay to FI, 17 January - 2 March 1894. 2 T. Woodbury, test data, 24 February 1894. Woodbury to FI, 17 January 1894. Woodbury to London builders, 9 January 1894. T.

1783 Gutierrez, Manuel Fernandez. Altoona, Pennsylvania. Piston-Packing. H. W. Spangler, Henry F. Colvin, D. E. Crosby. In place of the ordinary split ring, the end of the ring is cut to fit into a curved piece which fills the space between the ends so that no steam can pass. A device of this sort is better than the ordinary split ring for this purpose but there are numerous devices which should be just as satisfactory. 2 May 1894. Gutierrez to CSA, 22 January 1894. Pt. 4 Gutierrez to Wahl, 13 January - 12 May 1894.

1784 Wilkinson, W. L. Philadelphia. Life Boats(Submarine). C. B. Schultz, William C. Head, J. H. Emanuel. Appl Withdrawn. Comm Disc. 7 March 1894. Descr. Sketch of Report.

1785 Crafts, Francis H. Buffalo, New York. Engine Lathe. Hugo Bilgram, Coleman Sellers, Jr., William H. Thorne. The possible advantages gained afford no adequate compensation for the increased complication of the mechanism. Comm believes that the substantial equivalent of this invention has been used for forty years. Made Advisory. 7 March 1894. Crafts to CSA, 29 January 1894. Pt. 8 Adv. Draft. 7 Crafts to Wahl, 2 January - 19 March 1894. List of those present during experimental trials, 8 May 1893.

1786-1 Wurts, Alexander Jay. Pittsburgh, Pennsylvania. Lightning Arrester. E. G. Willyoung, Carl Hering, L. F. Rondinella, Paul A. N. Winand. The various arresters are intended for the production of electrical lightning and power circuits from direct and indirect damage from lightning discharges. The non-arcing metal alternating arrester consists of seven cylinders and when a static discharge takes place, the flash is instantaneous and not followed by an arc. The arrester for electric railway circuits consists of a spark gap, joined by a non-inductive high resistance; the discharge passes to ground rather quietly. For the protection of direct circuits of high potential, Wurts places impedance coils of low resistance at various points in the circuit. This is still in the experimental stage. Scott Medal. 2 May 1894. JFI October 1894. Wurts to CSA, 30 January 1894. 7 Pt. Np: Elec. Eng., 1891. 9 Wurts to FI, 4 January - 12 November 1894. Adv. 3 Pamphlets. 3 Pt Office Reports.

1786-2 Wurts, Alexander Jay. Lightning Arrester.

1787 Opperman, Jesse. St. Louis, Missouri. Magneto Electrometer. Comm Appnt. 5 July 1894. Comm Disc. 15 March 1894. Opperman to CSA, 1 February 1894. Pt. 3 Adv. Np, 6 Opperman to FI, 8 January - 10 December 1894.

1788 Bruening, William. East Orange, New Jersey. Phonograph. Hugo Bilgram. No Report. Comm Disc 11 December 1895. Bruening to CSA, 2 February 1894. Bruening to CSA, with Descr, 2 February 1894. 4 Pt. Report of Pt Office, 1 March 1892. 2 Np: The Electric World, 1888, July 4, 14. 2 Bruening to Wahl, 10 January - 22 February 1894.

1789 Dunham, Joseph M. and McKemmie, John. Metallic Drawing Roll Co. (Applicant). Indian Orchard, Massachusetts. Metallic Drawing Roll. Luther L. Cheney, John Shinn, Theodore C. Search, Philip H. Fowler. The invention consists in certain improvements in the construction of the drawing heads for elongating, evening, and reducing slivers of fibrous materials, preparatory to spinning or twisting the same. Evidence collected from every establishment where the invention has been sufficiently long in use to determine its value indicates that the

1789 (continued) fluted metallic drawing rolls are yielding the most satisfactory results giving increased production, superior yarn, less waste, and at greatly reduced cost. Scott Medal. 28 June 1894. Metallic Co. to CSA, 31 January 1894. "Memorandum for FI" - Descr. Draft. 2 Lists, "Orders Received." Wahl to Beardsley, with reply. 19 February 1894. Atkinson to Wahl, 8 May 1894. Webber to Wahl, on drawing rolls and Atkinson, with Np, 5 May 1894. 3 Adv. Np, Boston Jour. of Commerce, May 1893. 4 Metallic Co. to Wahl, 4 January - 8 October 1894, with 2 Blueprints. 2 Wahl to company using invention, 25 May 1894, with replies. 28 T for establishments using invention, replying to Wahl's Ltr 25 May 1894, 27 May - 15 June 1894. Pt.

1790 Monk, Henry. Chicago, Illinois. Locomotive. Henry F. Colvin, John H. Cooper, J. M. Emanuel, Thomas P. Conard. The steam cylinders are placed parallel and close together, with one side valve distributing the steam to and from both dylinders. This gets better distribution of steam than is now done with the four cylinder compound locomotive but complicates the vital mechanism. With much simpler machinery available which sufficiently answers the purpose, it would be unwise to recommend this complex arrangement for railroad service. 6 June 1894, Monk to CSA, 27 January 1894. Br. and U. S. Pt. Monk to Secy, FI, Descr, nd. Blueprint. Comparative Test Data. Cooper to Wahl, 1 May 1894. 2 Monk to Colvin, 24-27 March 1894.

1791 Just, John A. Syracuse, New York. Process for Making Chlorine. Reuben Haines, D. K. Tuttle, H. Pemberton, Jr., William C. Day, William Bower. This has not yet reached practical application on a commercial scale. Sufficient data has not been provided to enable Comm to ascertain to what extent this process differs from that originally proposed by Schlossing for the same purpose or to ascertain the practical merits of Just's process compared to others in practical use. Comm requests disc. without prejudice to Just. Made Advisory, 6 June 1894. 6 Just to Wahl, 22 January - 28 April 1894. 2 Haines to Wahl, 5-25 April 1894. Haines to Just, 5 April 1894. 2 Pt. Just, Notes and General Information.

1792-1 Burton, George D. Boston, Massachusetts. Electric Liquid Heating Process and Apparatus. T. Carpenter Smith, Carl Hering, William H. Wahl, Pedro G. Salom. The metal to be heated is immersed in a conducting aqueous solution and an electric current passing through both causes an incandescent gas envelope to surround the metal. This system, in connection with apparatus already installed for the purpose of electric lighting, affords an apparatus continuous use, heating metals during the day and producing light at night. Comm, having examined the state of the art, declares itself satisfied with Burton's originality, the question of priority being left to the Pt Office. Report referred back to Comm to investigate alleged anticipation by Hoho and Lagrange, 4 April 1894, with extract, Hoho to Hering, 7 June 1894.

Smith, Wahl, Hering, Salom. Comm has vainly endeavored to obtain from Burton specific answers to certain inquiries having important bearing on the origination of the idea. Comm Disc, 5 June 1901.

1792-1 (continued)
Investigation ordered by FI, 17 January 1894. 15 Pt. 6 Adv. 3 Brief and Testimony, in Pt Interference No. 16,562. Minutes, Comm Meeting, 26 April. Illus from Elec. World, January 1898. Np: Elec. Eng., January 1894, Elec. World, May 1894, a Boston newspaper, 1892 Stationary Engineer, 1892, Modern Machinery, October 1897. 3 Photo. 32 Burton to Wahl, 3 February 1893 - 10 October 1900.

1792-2 Burton, George D. Electric Liquid Heating Process and Apparatus. 3 Wahl to Burton, 18February 1896 with reply - 17 June 1897. Burton to Wahl, 17 December 1893, with Judge's Report (extract), awarding Medal to Electrical Forging Co. 2 T. C. Smith to Wahl, 11 May 1894 - 1 May 1895. Hering to Wahl, 17 September 1894. 2 Salom to Wahl: 16-20 February 1894. 3 Somes to Burton, 21 January (with 5 Pt claims) - 8 February 1894. Report of Examiner. Test Data, December 1894, with 2 T. See also CSA 1626.

1792-3 Burton, George D. Electric Liquid Heating Process and Apparatus.

1793 Richards, Joseph W. Philadelphia. Solder for Aluminum. William C. Head, Luther L. Cheney, N. H. Edgerton, J. Logan Fitts, H. R. Heyl. The rapid growth of the eluminum industry in recent years, following the invention of the cheap electrolytic method of reducing it from its oxide, has made the finding of a practical and satisfactory solder for the metal an important problem to solve. None of the specimens prepared with the Richards' solder have suffered spontaneous disintegration, which has occurred with specimen joints of other solders Comm observed. When used with proper care it has the desirable quality of fusing at a temperature low enough to permit of its use with the soldering iron and is cheap enough for general use. Scott Medal. 6 November 1895. With 22 T and data. Appl, 17 January 1894, ordered by Resolution of Institute. Draft. 4 Adv. Pt. Richards to Head, 17 April 1894. Richards to CSA, 7 February 1895. 2 Richards, Delaware Metal Refinery, to Wahl, 5 February 1894 - 12 March 1896. Catagloue, Pittsburgh Reduction Co.

1794 Dunbar, J. H. Youngstown, Ohio. Packing Ring. J. M. Emanuel, Henry F. Colvin, D. E. Crosby. The object is an approximately true circle, ground from a pattern model. The deformed shape of the rings prepared by Dunbar are more expensive to make, and take a longer time to make, and when finished, are no better than ordinary rings in general use. Comm recommends Report be Advisory. 6 June 1894. Dunbar to CSA, 3 February 1894. 2 Drafts. Emanuel to Wahl, 16 March 1894. 3 Adv, Np. Descr. 3 Dunbar to FI, 8 February 1894 - 9 March 1896.

1795 Duvinage, Louis. Brooklyn, New York. Anchoring Buildings. John C. Trautwine, Jr., Howard S. Richards, C. John Hexamer, William McDevitt, Edward F. Moody. This improvement in self-releasing arrangement of the ends of wooden floor beams consists in using one or more cylindrical

1795 (continued) lugs which project upward from the wall-plate, and fit into corresponding holes bored by means of an auger in the underside of the beams. The inventor applies this useful improvement to all joints between timbers. 28 June 1894. Duvinage to CSA, 12 February 1894. Pt. Duvinage, Duvinage & Co., to Wahl, 12 February 1894. Illus. 2 Catalogues, Adv

1796 DaCosta, Albert, Terry, Eugene. Brooklyn and Ithaca, New York. Grant, Schuyler (Applicant), Ithaca, New York. Typoguide. Appl Rej. 24 February 1894. Grant to CSA, 21 February 1894. Terry Pt. DaCosta Pt. 7 T. 4 Adv. Catalogue, The Typoguide Co. Typoguide Co. to Wahl, 9 February 1894. 2 Charts.

1797 Lunken, Edmund H. Lunkenheimer Co. (Applicant). Cincinnati, Ohio. Seat Gate Valve. John E. Codman, Frank P. Brown, D. E. Crosby, Luther L. Cheney, John L. Gill, Jr. This valve may prove to be very good and serviceable but no data has been furnished from which an opinion can be formed of its durability. Report made Advisory. 6 June 1894. Lunkenheimer to CSA, 23 February 1894. Draft. List of Pt. for straightway valves since 1884. 5 Lunken (Prior to Judicial Change, Lunkenheimer) Pt. 2 Lunkenheimer Co. to FI, 23 February - 13 March 1894. 2 Adv. Gill to Wahl, with amendments, 6 June 1894.

1798 Bottome, Turner D. Hoosac, New York. Tibbits, John B. (Applicant). Hoosac, New York. White Lead Manufacture. Paul A. N. Winand, William H. Wahl, N. H. Edgerton. A solution of an alkaline nitrate is electrolyzed with leaden anodes while the bath is kept saturated with carbon dioxide. The quality of the product is not uniform. Comm recommends report be Advisory and that the Appl be given the privilege of renewing his Appl at any future time without prejudice. With chemical analysis. 28 June 1894. Tibbits to CSA, 24 February 1894. Bottome Pt. Descr. Illus. Draft. T, with note, Tibbits. 2 Tibbits to Wahl, 22 May - 21 July 1894.

1799 Liming, John. Philadelphia. Fluid Pump. Frank P. Brown, John E. Codman, J. Logan Fitts. Applicant has not made a demonstration which would enable Comm to make a satisfactory Report. Comm Disc. 7 November 1894. Liming to CSA, 28 February 1894. Pt. T. Draft. Brown to Wahl, 23 May 1894. Liming to FI, 10 March 1894.

1800 Orser, Levi. Boston, Massachusetts. Harmonic Organ. H. R. Heyl. No Report. Comm Disc 11 December 1895. Orser to CSA, 28 February 1894. 2 Pt: Orser, Tanaka. 6 Adv. 4 Orser to Wahl, 28 February 1894 - 15 July 1896. Heyl to Wahl, 26 March 1894. Wahl to Heyl, on Comm, 5 March 1894. See CSA 1821.

1801 Hornbostel, Charles. New York. Steam Boiler and Furnace. Appl Rej. 7 March 1894. Hornbostel to CSA, 1 March 1894. 2 Hornbostel to Wahl, 11 February - 1 March 1894 with Illus. Descr. Adv.

1802 Cleborne, Christopher James. U. S. Naval Hospital, Chelsea, Massachusetts. Bedstead. H. R. Heyl, G. Morgan Eldridge, William C. Head, Edward F. Moody, N. H. Edgerton. This is constructed chiefly of metal tubes and adapted to the use of a woven wire mattress. Bayonet-catch joints connect the side rails with the end posts; the extreme simplicity of the whole construction augments the safety of the bed. The saving of time and the convenience in transforming it into a stretcher, without distress to the patient, are points of excellence. With data from Time Tests in setting up and taking apart Iron Ward-Bedsteads. Scott Medal. 6 June 1894. Cleborne to CSA, with Illus, 28 February 1894. Extracts from the Official Report of U. S. Board of Inspectors. Copy, Cleborne to Surgeon General of the Navy. Draft. 7 Cleborne to Wahl, 9 February - 17 November 1894. Bureau of Navigation, Navy Dept., to Wahl, on forwarding Comm Report and Medal to Cleborne, 13 November 1894. Heyl to Wahl, 26 March 1894. Large Illus.

1803-1 Tweddell, Ralph Hart. Westminster, England. System of Applying Hydraulic Power to Mechanical Work. James Christie, William H. Burr, DeVolson Wood, Charles E. Emery, Thomas C. Clarke, William H. Thorne, Coleman Sellers, Jr. Tweddell gave his attention to the production of machines for use in the hydraulic process of punching, shearing, and riveting metals, his most notable production being a class of portable hydraulic rivets. Comm recommends Scott Medal in consideration of his efforts and skill in extending and promoting the application of hydraulic pressure to machine tools. 6 June 1894. Tweddell to Wahl, 20 February 1894. Tweddell to CSA, notes on Tweddell's System of Hydraulic Machine Tools, with list of Pts. Draft. Wood to Wahl, 11 May 1894. Clarke to Wahl, 11 May 1894. Emery to Wahl, 12 May 1894. Christie to Wahl, on British Pts, 5 April 1894. (FI) to Christie, with list of British Pts, 9 April 1894. Spangler to Wahl, 17 March 1894. 2 Sellers to Wahl, 6-8 March 1894, Emery to Wahl, 8 March 1894. 2 Christie to Wahl, 21-22 March 1894. Richards to Wahl, 24 March 1894. British Consul to Secy, FI, forwarding Tweddell's Medal, 12 November 1894. Tweddell to Wahl, 24 October 1894. Tweddell, "The Employment of Hydraulic Machinery," 1885, read before Society of Arts; "The Appl of Water-Pressure to Machine Tools and Appliances," read before Society of Engineers, 1890; "The Appl of Hydraulic Pressure," read before North East Coast Institute of Engineers and Shipbuilders, 1886; "On the Appl of Water Pressure," read before Institute of Mechanical Engineers, 1874; "Forging by Hydraulic Pressure," read before Institute of Civil Engineers, 1894; "Direct-Acting Hydraulic Machinery," read before Society of Engineers, 1877 and "McDonnell, Machine-Tools," read before I.C.E., 1883. Berrier-Fontaine, "On Hydraulic Machinery." Tweddell commenting, read before I.M.E., 1878. "Portraits, No. 5: Ralph Hart Tweddell, C. E." Np: Machinery Market, 1880.

1803-2 Tweddell, Ralph Hart. System of Applying Hydraulic Power to Mechanical Work. A sampling of Tweddell papers on Hydraulic Machinery was microfilmed.

1804 Andrew, Moses L. Cincinnati, Ohio. Drill and Auger Bit Chuck. Hugo Bilgram, Spencer Fullerton, Luther L. Cheney. This chuck consists of a socket into which the shank of a drill is fitted, with only one jaw being used. The advantage consists in the positive bite; the disadvantage being that all drills must have a uniformly sized shank fitted to the chuck and provided with the key seat. It is questionable whether the advantages are sufficiently important to offset its greater cost. 28 June 1894. Andrew to CSA, 3 March 1894. Adv. M. L. Andrew & Co. Wahl to Bilgram, 16 April 1894. 6 Andrew to Wahl, 3 March - 23 July 1894.

1805 Bloede, V. G. Process of Tinting Fabric. Longstreth Medal. 1894. Folder Missing.

1806 Phillips, Mrs. J. L. Hillsboro, Texas. Spool Attachment. Miss Alice G. Middleton. No Report. Comm Appnt 7 March 1894. Phillips to CSA, 7 March 1894. Phillips to Wahl, 2 March 1894. Phillips to Wahl, no specimen available due to lack of funds to have it manufactured, 13 March 1894.

1807 Dentz, Henry. Baltimore, Maryland. Street Car Fender. Comm not Appt. Appl Rej. Dentz to CSA, 26 February 1894. 4 Dentz to Wahl, 18 January - 15 March 1894. 2 Dentz to CSA, 26 February - March 1894. Illus.

1808 DeRycke, Joseph. New York. Steam Separator. L. F. Rondinella, J. Logan Fitts, John L. Gill, Jr., D. E. Crosby, Clarence B. Schultz. It is an important matter of economy to prevent the presence of any impurities in the steam, or to remove them before it reaches the engine. This is a hollow cast iron conoid-cylindrical shell whose smaller end is filled by a double ended cone. While the subject of this Appl does not contain any essentially novel principles (for Pt list, see CSA 1818), the method of construction and efficiency of its operation entitle it to our recognition. With 2 Illus. Certificate of Merit. 3 October 1894. DeRycke to CSA, 5 March 1894. 3 Pt. 2 Blueprints. Amendments, Rondinella. 8 DeRycke to Wahl, 7 February - 31 October 1894. Wahl, Adams Express Co. Receipt, 7 April 1894. 4 T. 5 catalogues. 1 Adv.

1809 Winther, Charles. Boston, Massachusetts. Star Brass Manufacturing Co. (Applicant). Boston, Massachusetts. Steam Gauge. Thomas P. Conard, Henry F. Colvin. This gauge, of the well known Bourdon-tube type, is provided with one or more corrugations on its long or flat sides, to permit the use of thinner metal in its construction, thereby increasing its elasticity while maintaining its strength. Following exhaustive tests of this gauge in relation to its resistance to rust and injury, the U.S. Navy Dept. made a very favorable report on it (copy appended). Longstreth Medal. 6 June 1894. Star Brass Manufacturing Co. to CSA, 5 March 1894. 2 Winther Pts. 5 Star Co. to Wahl, 3 February - 20 July 1894.

1810 Bramwell, William Calvert. Hyde Park, Massachusetts. Automatic Card Feed. G. Morgan Eldridge, Luther L. Cheney, Theodore C. Search. This has entirely superseded the old method of feeding by hand, being more economical and much more effective. The construction of the weighing apparatus prevents too much wool reaching the scale by devices which automatically stop the motion of the whole delivery system when the scale has received its quantity and until it is emptied of its load. A series of operations results in a continuous and uniform sheet of wool on its passage to the card. Scott Medal. 28 June 1894. Bramwell to CSA, 6 March 1894. 4 Pt. Bramwell to Wahl, on the history of his invention, 6 March 1884. 3 Bramwell to Wahl: 27 February - 8 October 1894. 3 Adv. Bramwell's card. 2 Search to Wahl: 26 April - 28 May 1894. Bramwell's book, The Wool-Carders' Vade Mecum (Boston, 1881, 3rd ed. enl), was not microfilmed.

1811 Henderson, William M. Philadelphia. Calculating Horse-Power of Steam Boilers. T. Carpenter Smith, John L. Gill, Jr., John E. Codman, John H. Cooper. This method, rating a boiler by the work which is does in driving out the steam against the pressure of the atmosphere, was considered and rejected by the Am. Soc. of Mechanical Engineers (1884) and to make any changes tending to the adoption of another standard would not in the opinion of Comm be wise. Report made Advisory. 5 December 1894. Henderson to CSA, 9 March 1894. Draft. 2 Descr 7-13 March 1894. Spangler to Wahl, 12 April 1894. Henderson to Wahl, 20 April 1894. 2 Wahl to Smith, 7-27 September 1894. See CSA 1818, Smith to Wahl, 30 March 1894.

1812 Holly, E. P. Providence, Rhode Island. Gravity Return System. H. W. Spangler, D. E. Crosby, John L. Gill, Jr. The water in the reservoir is raised to such a level by the condensation of steam in the radiator that the height is more than sufficient to overcome the difference in pressure between the boiler and the end of the system which is in communication with the reservoir. Comm is unable to find anything in this system which is not already fully covered by Pts issued to other parties. Advisory. 6 June 1894. Holly to CSA, 7 March 1894. Draft. 3 Blueprints. Holly, A Mechanical Paradox, 1893. Holly, Address before FI. Spangler to Wahl, 2 June 1894. 2 Holly to Wahl, 7 March - 14 June 1894.

1813 Rosebrugh, Abner Mulholland. Toronto, Canada. Window. Thomas P. Conard, Edward F. Moody. A shield placed at the head of a window frame permits the passage of air without causing unpleasant draughts. It can scarcely be considered an important invention but rather, a "happy thought," that may be utilized by the public to a limited extent. Advisory. 2 May 1894. Rosebrugh to CSA, 3 March 1894. Pt. Comm Minutes, 2 May 1894. Ornamental Window Ventilator Co., Bad Air and Bad Health (1892?).

1814-1 Pelton, Lester A. Pelton Water Wheel Co. (Applicant). San Francisco, California. Water Wheel. John H. Cooper, S. Lucien Berry, Clarles G. Darrach, John Richards. The Pelton Wheel is an impulse reaction wheel, the power of which is derived from the pressure afforded by a head of water. The manner of utilizing this pressure is the distinguishing feature of the invention and the secret of its success. A Pelton wheel, six feet in diameter, will develop the same power as the large (seventy-two feet, six inches in diameter) overshot wheel at Laxey, on the Isle of Man, with much less water and with a great saving in first cost of wheel and installation. Discussion of the literature on water wheels and of other wheels (e.g. Poncelet, 1827; Madame de Girard, 1843; Zuppinger, 1845; DeCanson, 1847) and Jearum Atkins' wheel does not show any likeness to the Pelton wheel. It possesses all of the advantages of simplicity of construction, adaptability to extreme heads of water, of transportability, of close and sensitive automatic regulation, and of high speeds which belong to other wheels of its class which preceded it but in point of efficiency it has excelled all others. Cresson Medal. 6 February 1895. JFI September 1895. Appendix presents more in detail the data, dates and authorities relating to the curved buckets of water wheels and includes results from tests conducted at M.I.T., University of California, U. S. Navel Academy. 3 Drafts.

1814-2 Pelton, Lester A. Water Wheel. 9 Pelton Co. to Wahl, 3 March 1894 - 10 September 1895, with copy of Navy Report. 5 Pelton Co. to Cooper, 16 November 1894 - 29 April 1895. Copy of Haeseler to Pelton Co., 9 and 17 March 1895. 10 Cooper to Wahl, 25 June 1894 - 13 May 1895, with 2 Lt. Haeseler, U. S. Naval Academy, to Wahl, 28 April - 11 May 1895. 2 Berry to Wahl, 29 March - 24 November 1894. Berry to Cooper, 23 June 1894. Darrach to Wahl, 22 March 1894. 3 Dodge Manufacturing Co. to Wahl, 21-30 November 1894, with Atkins' blue-prints, specifications. 3 Richards to Wahl, 20 March 1894 - 22 January 1895, with Richards, Pressure and Impulse in Motive Engines, réad before Technical Society of the Pacific Coast, 1895. Cooper to Wahl, on Zuppinger wheel, 4 May 1895, with Societe Anonyme des Ateliers de Constructions Mecaniques to FI, 12 June 1895. Comm Minutes: 26 May, 28 September, 30 November 1894. M.I.T. to Cooper, 15 July 1895, with Atkins' Pt. Cooper and Berry, 9 January 1895, Amendments.

1814-3 Pelton, Lester A. Water Wheel. 21 Illus. 22 Adv and Reprints, Np. 2 Catalogues: 1891, 1894. Pelton, "Origin of the Pelton Water Wheel." 1897. U. Cal., College of Mechanics, Tangential and Hurdy Gurdy Water Wheels (Berkeley, 1883). Richards, "Tangential Water Wheels," 1894. Joseph Moor, "The California Tangential Water Wheels and Reaction Buckets," 1897. Extract from Haeseler's Report, "Water Motors as Marine Dynamo Drivers," 11 May 1895. Richards, 25 April 1894, Draft with Adv, Illus. Translation of Architecture Hydraulique, 1819. Franch Pt Report.

1815 Cross, Charles Frederick, Bevan, Edward John, Beadley, Clayton. London, England. Cellulose Products. Samuel P. Sadtler, Reuben Haines, Charles S. Boyer, Lyman F. Kebler. The discovery whereby cellulose, which has been treated with caustic soda, can be changed by the action of carbon disulphide vapor into cellulose xanthate soluble in water is one of great importance, both from a theoretical and practical point of view. The dense cellulose in the mass after washing and drying may be used as a substitute for horn, vulcanite, etc., in the manufacture of buttons, tool handles and turned goods of all kinds. Comm reproduced the fundamental reaction, finding the procedure simple and feasible. Scott Medal. 5 December 1894. Appl, 19 March 1894, recommended for investigation by Wm. H. Wahl, approved by CSA, 7 March 1894. Pt. 2 Drafts. Haines to Wahl, 29 October 1894. Sadtler to Wahl, 28 September 1894. 2 Am. Viscose Co. to Wahl, 5-21 January 1894. 3 Cross, Bevan and Beadle to FI, 24 April - 9 July 1895. 4 Little to Wahl, 22 March - 12 April 1894. 2 State Dept. to Wahl, 22 June - 6 August 1895, on forwarding medals. See JFI, August 1894.

1816 DeLaval. Wiley and Phelps (Agents). Chicago, Illinois. Steam Turbine. H. W. Spangler, Clarence B. Schultz, Hugo Bilgram, G. Morgan Eldridge. Comm is advised by Am representative of the manufacturers that there will be some delay before a machine can be provided for an examination. Comm suggests Appl be dismissed, without prejudice, until such time as the representatives of the invention can meet Comm's requirements. 5 December 1894. Appl, 19 March 1894, recommended by Eldridge and approved by Comm, 7 March 1894. Lewis to Wahl, 20 March 1894. 2 Spangler to Wahl, 10 November - 1 December 1894. 3 Wiley and Phelps, 19 February - 21 November 1894. 3 Dup.

1817 Willans, Peter William. Thames-Ditton, England. M. C. Bullock Manfg. Co. (American Agent). Chicago, Illinois. Steam Engine. James Christie, John H. Cooper. The engine so far as Comm has observed runs steadily and silently at rotative speeds that are uncommon in good practice elsewhere; the engine is controlled in speed by a throttling governor. It has gained an exceptional record for the economical use of steam. Scott Medal. 3 October 1894. Appl, 8 March 1894, recommended by James Christie and approved by CSA, 7 March 1894. 4 Pt: Willians (3), Willians and Robinson. Draft. Photo. 2 Illus. Np, Ltr to Ed., the London Electrician, 1894. Large chart. Columbian Circular #27: Willians Patent Central Valve Engine. 2 Willians & Robinson, Ltd. to Secy, FI, 29 March 1894 - 29 March 1895. 7 Christie to Wahl, 15 March - 29 September 1894. Adv. 2 Bullock Co. to Wahl, 11-12 April 1894. Bullock Co. to CSA, Descr with efficiency test data and on international interchangeability of parts, 12 April 1894. British Consul to Wahl, on forwarding the late Mr. Willian's medal, 9 May 1895.

1818 Simpson, William L. Philadelphia. Steam Separator. L. F. Rondinella; Frank P. Brown, D. E. Crosby. This and many other forms of steam separator depend on water and other impurities being of greater specific gravity than pure steam. This vertical cast iron cylinder has ribs extending up its inner sides and a pipe which enters near the top, making a quarter turn and extending vertically down to

1818 (continued) within about one-third of the bottom. Cast around the vertical part of this pipe is a spiral wing. The centrifugal force imparted to the wet steam travelling down the spiral separates the heavier particles of impurities from the steam. Certificate of Merit. With Pt list. 3 October 1894. Simpson to CSA, 23 March 1894. Blueprint. Smith to Wahl, declining Appnt to Comm, 30 March 1894. 3 Simpson to Wahl, 9 February - 10 October 1894. 2 Rondinella to Wahl, 22 May - 14 June 1894. Pt.

1819 Crowell, Gilmer. Brooklyn, New York. Rotary Air Pump. Thomas P. Conard, L. F. Rondinella, J. M. Emanuel, Spencer Fullerton, D. E. Crosby. The joint made by the contact of the revolving drum with the internal surface of the cylinder is poor and would inevitably leak badly. In view of the defects and as better and more efficient devices of the same nature were previously patented, notably by John Rowbotham, Comm recommends Report be Advisory. 2 May 1894. Crowell to CSA, 19 March 1894. 3 Pt. 5 Crowell to Wahl, 8 March - 23 April 1894. 2 Conard to Wahl, 20-25 April 1894. 6 Adv. Illus.

1820 Baush, Christian H. Holyoke, Massachusetts. C. H. Baush & Sons (Applicant). Holyoke, Massachusetts. Radial Drilling Press. Hugo Bilgram, William H. Thorne, H. R. Heyl. The trunnions on which the arm swings are supplied with anti-friction bearings; the ends of the trunnion are turned smaller than the holes of the bearing, the difference being supplemented by a series of cylindrical rollers. The resistance to the swinging motion of the arm being reduced from a sliding to a rolling friction, the lateral adjustment of the drill is materially facilitated. Longstreth Medal. 28 June 1894. Baush & Sons to CSA, 29 March 1894. Marshall to Wahl, 23 April 1894. 6 Baush and Sons to Wahl, 19 April - 21 November 1894.

1821 Orser, Levi. Boston, Massachusetts. Writing Music. Henry R. Heyl, William C. Day, George A. Hoadley, Clarence B. Schultz, C. J. Hexamer. No Report. Appl dismissed 11 December 1895. Orsen to CSA, 5 April 1894. Orser, "Natural Music Notation," read before World's Musical Congress, Chicago 1893. Wahl to Heyl, on Comm, 20 April 1894. Orser to CSA, 18 April 1894. Orser to Wahl, 17 April 1894. Orser to Wahl, 5 April 1894. 4 Adv. Orser, The Natural Method of Writing Music, 1893/ See CSA 1800.

1822 Wattles, Cyra B. Elizabeth, New Jersey. Gas Engine. Arthur Kitson. No Report. Appl Withdrawn, 1 May 1894. Wattles to CSA, 31 March 1894. 2 Blueprints. Descr. Pt. 3 Wattles Gas Engine Co. to FI, 19 April - 1 May 1894.

1823 Ward, John M. Philadelphia. Underground Electrical System. Appl dismissed. 11 December 1895. Ward to CSA, 16 April 1894. Claims filed in Ward's Appl for Pt on Electric Railway.

1824 Harbolshimer, John. Philadelphia. Garbage Box. G. Morgan Eldridge, William C. Head, H. R. Heyl. A hod, similar in general form to a coal hod, having trunnions resting on supporting strips in a box, is attached to the inner side of a yard fence in which is a door, opening outward. The garbage is put into the hod from the inside of the yard and the gatherer opens the door in the fence and, the hod turns on its trunnions to empty it, not being obliged to enter the yard to do this. The hod is not liable to be stolen as it cannot be removed. Certificate of Merit. 28 June 1894. Harbolshimer to CSA, with Np, 12 April 1894. Head, 12 May 1894. Pt.

1825 Lewis, Wallace James. Kellar, John A. (Applicant). St. Louis, Missouri. Valve Gear. Henry F. Colvin. No Report. Comm Disc 8 January 1896. Kellar to CSA, 18 April 1894. 3 Blueprints. 3 Pt: Lewis (2), Matton. Descr. 2 Illus. Adv. 3 Descr. Np: Eng. News, 1894; Railroad Gazette, 1894. Catalogue, Lamplough Valve Gear. 9 Kellar, Lewis Valve Gear Co. to Colvin, 31 March - 29 September 1894. Kellar to Wahl, 17 April 1895. Terre Haute-Indianapolis R. R. Co. to Colvin, 7 May 1894. Borden to Colvin, on Lamplough Valve Gear, 28 June 1894.

1826 Collin, George W. Macon, Georgia. Boiler Attachment. John E. Codman, John H. Cooper, D. E. Crosby, T. Carpenter Smith, J. L. Gill, Jr. Collin to CSA, 23 April 1894. Pt. Suplee to Wahl, on sending Appl to Collin, 16 April 1894. Findlay Iron Works to FI, T, 25 April 1895. Collin to FI, 23 April 1894. Collin to Wahl, 16 October 1894. Collin to FI, on the history of his invention. 26 September 1894. 2 Adv. Photo. The object of the invention is to form a substantial arch support for brick work at the back of the boiler, to serve as water purifyer or mechanical boiler cleaner and a feed water heater. Water tubes have been used in various ways around boilers for supports. Comm thinks that for many places this device may be used with advantage. Report read 5 September 1894 but not adopted.

1827 Bates, Albert J. Bates Machine Co. (Applicant). Joilet, Illinois. Engine. Hugo Bilgram, Henry F. Colvin, T. Carpenter Smith, John H. Cooper. The engine made by the Bates Co. is of the Corliss type and possesses many commendable features, of which, however, Comm feels, only one comes within the range of original invention. The special construction of the tripping device avoids the chief source of annoyance on the trip motion of Corliss Engines and is highly ingenious. Scott Medal. 6 February 1895, with note on amendment. Bates Co. to CSA, 1 May 1894. 2 Pt. Bates Co. to CSA, with 7 Blueprints and Descr, 1 May 1894. 5 Bilgram to Wahl, 11 May - 27 December 1894. U. S. Judge's Report on Award to Corliss Engine, 20 March 1894. 7 Bates Co. to Wahl, 24 March - 26 September 1895. See CSA 1816, Spangler to Wahl, 10 November 1894.

1828 Wickersham, William. Worcester, Massachusetts. Printer's Quoin. Spencer Fullerton, H. R. Heyl, Edward Stern. This consists of two outside blocks with cavities in their adjacent sides adapted to receive a cam with a key. Should the type be set in narrow columns and it be desired to submit each column to the pressure of a separate quoin, this Wickersham could be used when it would be impossible to use either the Keystone or Hempel which require double the length of space. Certificate of Merit. 5 December 1894. Wahl to Fullerton, 27 September 1894. Wahl to Stern, 18 May 1894. Fullerton to Wahl, 23 June 1894. 4 Wickersham to Wahl, 20 April 1894 - 25 December 1894 - 9 March 1895. 2 Wickersham Quoin Co. to FI, 6 August - 22 December 1894. Wickersham to Wahl, 30 July 1894; forwarded to Fullerton with reply. Pt.

1829 Little, Christopher James. London, England. System of Signalling on Railways. Appl Accepted, 6 June 1894. No Report. See CSA 1453. Little to CSA, 4 May 1894. 3 Little to Wahl, 27 February - 4 June 1894, with discussion of earlier Report and his system having been made compulsory in England, 1889 and copies of Corres with Board of Trade, London, 1893. Copies of 6 Ltrs between Little and British and French governments, on Little's system and his request for compensation, December 1893 - May 1894, and on Pt, 1866. Copy of Corres in the Engineer, 20 October - 24 November 1865. 4 Adv. 11 Np, 1889-93.

1830 Stackhouse, Thomas H. Philadelphia. Diagraph. H. R. Heyl, G. Morgan Eldridge, William McDevitt, N. H. Edgerton. The machine is designed to supplant the tedious method of printing from stencils by passing an inked hand roller over the stencil to deposit the ink through the latter upon a sheet of paper lying under it. It is designed as the companion of the typewriter in every office and is built for speed and durability, making 1500 or 2000 impressions an hour is not unusual. Scott Medal. 5 December 1894. Draft. Stackhouse, Pt. Fuerth Pt. Catalogue. Descr with sample. Adv, Pomeroy Duplex Duplicator. Stackhouse to Heyl, 20 June 1895. 2 Stackhouse to Wahl, 15 April 1895. Stackhouse and Krumbhaar to Wahl, 18 May 1894.

1831 Meyer, Albert. Aussersihl, Switzerland. Multiple Punching or Perforating Machine. H. R. Heyl, Spencer Fullerton, Hugo Bilgram. Comm finds the machine so faulty in construction and devoid of valuable novel features that they recommend that the appl be dismissed, 5 December 1894. Meyer to CSA, 8 May 1894. Thorne to Wahl, approving Appl as a proper subject for investigation, 23 May 1894. Bourry-Seguin, Swiss and International Pt Agency, to Secy FI, on Appl and Pt, 9 May 1894. Pt. Meyer-Stahel to Secy FI, 19 February 1894, in German. 3 Adv: English, French, German. German Np.

1832 Von Szabel, Moritz Ritter. Vienna, Austria-Hungary. Navigable Vessel. Clarence B. Schultz, Thomas P. Conard, G. Morgan Eldridge, A. Bod, J. M. Emanuel, Hugo Bilgram, John E. Codman. Two specially constructed half-vessels can be folded up or separated to suit the available width or depth of the water. The folding and unfolding of

1832 (continued) a vessel of 400 tons by 4 men, cannot possibly be effected with economy and dispatch. Recognizing the ingenuity of this invention, but convinced of its impracticability, Comm requests Report be Advisory and to be discharged. 5 December 1894. v. Szabel to CSA, 5 September 1894. v. Szabel to Secy FI, Descr. October 1894. v.Szabel to Wahl, 3 September 1894. (v. Szabel) to Secy FI, 9 January 1893. Conard to Wahl, 22 November 1894. Pt (U.S.). 2 "Beilage" (supplements) to German Pt.

1833 Alsite Aluminum Co. (Applicant). New York. Aluminnm Solder. Appl dismissed, 11 December 1895. William C. Head. 4 Alsite Aluminum Co. to Wahl, 5 May - 30 July 1894.

1834 Kunstman, William Henry Robert. Chicago, Illinois. Kiln. F. Lynwood Garrison, H. L. Gantt, William S. Moorehead. In view of the exceptional and redical claims advanced for this invention, Comm deemed it essential that some practical results confirmatory of these advantages be submitted. The design has not yet been carried out in practice. Comm requests discharge. 7 November 1894. 4 Kunstman, Columbian Pottery and Brick Kiln Co., to Wahl, 15 October - 13 November 1894, with data. Blueprint. Kunstman to Secy FI, Descr and history of his invention. 25 October 1894. Draft. Pt. Kunstman to Secy FI, 1 June 1894. Adv. Catalog.

1835 Eaton, William S. Sag Harbor, New York. Printing Plates. Samuel Sartain, Louis E. Levy, L. W. Miller, D. Anson Partridge. Eaton's process resembles in many particulars older well known processes such as the Palmer, Joyce, and Kaolotype, but requires fewer appliances. In the hands of an expert zinc-etcher, the Eaton process furnishes a means of obtaining cheaply, printing blocks for newspaper illustrations in places too remote from the larger cities to use the facilities there existing for producing the better photo-mechanical process blocks. 6 February 1895. Eaton to CSA, 18 June 1894. Draft. 3 Eaton to Wahl, 6 March - 2 April 1894. (Eaton), Descr of a New Method of Producing Designs on Zinc and Like Surfaces. (Eaton), An Improved Process for the Production of Printing Plates.

1836 Hunter, Rudolph M. Philadelphia. Series-Multiple Controller for Controlling Speed and Power of Electric Cars. E. Alexander Scott, A. Langstaff Johnson, Richard Gilpin, Elmer G. Willyoung. For Report see CSA 1837. Hunter to CSA, 21 June 1894. 2 Hunter to Wahl, 12-13 October 1894. Descr.

1837 Hunter, Rudolph M. Philadelphia. Electric Railway. E. Alexander Scott, A. Langstaff Johnston, Richard Gilpin, Elmer G. Willyoung. In Hunter's Appl, he states that he has taken out between two-and three-hundred Pts upon his inventions in the electrical arts, calling especial attention to two features of modern electric railways. These are the trolley system of electrical transmission employing the suspended conductor, rail return, trolley carried upon the car making an underrunning contact with suspended conductor, and a means of controlling the speed

1837 (continued) and power of the electric cars. The subject was carefully considered by Comm in light of the fact that other inventors, both American and foreign, who have worked in the same field, are popularly credited with the invention of one or more of the essential parts of the trolley system. Comm unanimously reports that they deem it inexpedient and impracticable to pursue an investigation to determine priority of conception of the inventions constituting the electric trolley railway system as it exists today. Report made Advisory, 5 December 1894. Hunter to CSA, 21 June 1894. Descr. Digest of Import- and Pts of R. M. Hunter. 7 Hunter to Wahl, 15 June 1894 - 11 January 1895, on Appl and on "farcial so called 'Report'" (15 December). Hunter to CSA, 18 June 1894. 2 Wahl to Scott, 9 October - 14 November 1894. Np: Phila. Press, 1893.

1838 Noreiga, Eloy. Mexico City, Mexico. Telephone. G. Morgan Eldridge. It would be impracticable to give the subject any proper consideration unless furnished with the apparatus in proper working order for full test and experiment. In default thereof the Appl should be dismissed without prejudice to its renewal. Comm Disc, 6 May 1896. Np, Scientific American. Envelope with Comm, 29 August 1894. 4 U.S. Pt. 2 Mexican Pt. Eldridge to Wahl, 2 November 1894. 2 Pamphlets, in Spanish.

1839 Locke, Nathaniel C. Salem, Massachusetts. Damper-Regulator. C. L. Prince, Luther L. Cheney, T. Carpenter Smith, L. F. Rondinella. The device of Locke has been carefully studied and repeatedly examined at work by Comm who are satisfied that it possesses much merit. He appears to have been the first to apply successfully an independent motor operated by water pressure from an outside source to the movement of the damper, this being a distinct advantage. Scott Medal. (See CSA 1740). Read 6 February 1895.

Hugo Bilgram, John L. Gill, Jr. Minority Report. Comm met with Locke who admitted that he was not the inventor of the following valve and that he had been anticipated in combining a sensitive diaphragm with an independent motor. His invention consists in substituting water for steam pressure, a substitution Comm does not feel is an invention. Recommendation for medal should be expunged.

Prince, Rondinella, Smith. Comm has gone over the matter very carefully and sees no reason to change recommendation. Reports accepted and Comm Disc 6 November 1895. 9 Locke, Locke Regulator Co. to FI, 22)ctober 1894 - 20 September 1895. 2 Locke, Locke Regulator Co. to fi, 1 August - 3 September 1894. Barrus to Locke Co., comparative test results with notarized certificate, 23 February 1888. Christie to Wahl, on earlier Comm and brief summary, 26 August 1895. Locke Co. Business Card, C. P. Atwood. 2 Pt. 3 Prince to Wahl, 29 August - 5 November 1895. 5 Prince to Wahl, 18 November 1894 - 28 May 1895. Rondinella to Wahl, 24 April 1895. Smith to Wahl, 10 June 1895. See also CSA 2043.

1840 Dunbar, J. H. Youngstown, Ohio. Steam Engine Indicator. T. Carpenter Smith, Hugo Bilgram, Spencer Fullerton, Clarence B. Schultz, Arthur L. Church. This is a device for overcoming the longitudinal friction of the piston on a steam engine indicator by producing a rotary motion in same by means of a small auxiliary steam turbine. While longitudinal friction is practically eliminated, it is evident from an examination of the drawing submitted, that the errors introduced by the necessary additional complication far outweigh the slight advantage. Report made Advisory, 5 December 1894. Dunbar to CSA, 18 August 1894. Blueprint. Descr. Draft. Cooper to Wahl, 31 August 1894. Dunbar, Am. Packing Rings, to Wahl, 15 December 1894.

1841 Stancliff, Edwin. New York. Stancliff-Orgill Mfg. Co. (Applicant). Brooklyn, New York. Nut Locking Bolt. James Christie, Henry F. Colvin, Hugo Bilgram. The nut screws forward freely but instantly offers considerable frictional resistance to unscrewing throughout the length of the screw. To unscrew the nut on the Stancliff bolt, it is necessary to insert a keeper in the wedge-shaped orifice to prevent the loose segment of the screw from rotating, with the nut, when the lock is no longer in action. Comm recommends action be deferred on this Appl, pending the complete practical and commercial development of the device, and the presentation of same for further consideration. Report made Advisory. 5 December 1894. Stancliff-Orgill Mfg. Co., to CSA, 27 September 1894. 2 Pt. Wahl to Christie, with Comm, 1 October 1894. Vibration Proof Nut Co. to Wahl, on acquiring Stancliff Nut Bolt and reducing cost of manufacture, 14 March 1895. Bilgram to Wahl, 24 August 1895. 3 Wahl to Christie, 13-19 October 1894. 5 Christie to Wahl, 12 October 1894 - 21 May 1895. 4 Ronaldson to Wahl, 24 September 1894 - 12 December 1895. Telegram, Vibration Co. to Wahl, 29 May 1895, Stancliff to Wahl, 25 May 1895. 9 Orgill to Wahl, 16 October 1894 - 25 February 1896. Adv, with note, C. E. R. to (Wahl), 2 December 1895.

1842 Taintor, Charles C. Elizabeth, New Jersey. Saw-Set. H. R. Heyl, Darwin E. Crosby, Spencer Fullerton, John McDowell, John Kile. The form of the tool is that of pliers having an adjustable anvil or rotary die, provided with a series of beveled facets, which is secured in the tool opposed to the moving setting punch and bending punch. This tool is light and strong; it may be easily and successfully operated by any mechanic, even if he has not the skill to set a saw with a punch and hammer. Longstreth Medal. 2 January 1895. Taintor to CSA, 27 September 1894. 3 Taintor, Taintor Mfg. Co., to Wahl, 27 September 1894 - 12 February 1895. Heyl to Wahl, 3 December 1894. Gerard to Wahl, 24 September 1894. 4 Pt. Adv.

1843 Desant, William F. Z. New York. Artificial Respiration. William O. Griggs, M. D., Samuel G. Dixon, M. D. Owing to the death of the inventor and numerous professional engagements, Comm at this time finds it impossible to make the investigation but proposes to continue our experiments in the fall, as we consider the apparatus of sufficient merit in the interest of humanity to undertake the task ourselves. Comm Disc. 6 May 1896. Desant to CSA, 8 September 1894. 5 Desant to Wahl, 28 September 1894 - 8 February 1895. 2 Campbell, Desant Electric Co to FI,

1843 (continued) 1-3 April 1894. 3 Desant, Desant Co. to FI, 7 August - 11 December 1894. Mattern, Corner's Office to Wahl, 21 November 1894. Pt. Head to Wahl, nd. 2 Campbell to Wahl, 2 September 1895 - 20 April 1896, on tests and requesting case be dismissed temporarily following Desant's death.

1844 Westman, Gustaf M. New York. Researches in Thermo-Chemistry. H. W. Spangler, Joseph W. Richards, Hugo Bilgram. These refer to certain fundamental thermo-chemical relations which Westman claims to have discovered but Comm recommends that the papers be returned to Westman with a request that a clear, logical statement of his premises, train of reasoning, and conclusions be set forth. The terms he uses when applied in order than the usually accepted sense should be exactly defined and the reasons for adopting constants which are frequently used in the text, when other than those generally accepted by scientific men, should be clearly stated. Report made Advisory. 4 November 1896. Westman to Wahl, 2 October 1894. Westman to Secy FI, 20 September 1894. 6 Westman to Wahl, 8 October 1894 - 30 November 1896. Kitson to Wahl, 30 October 1894. 3 Bilgram to Wahl, 14 August - 18 April 1896. Data. Macy to Wahl, 12 September 1895. Winand to Wahl, 25 October 1895. 2 Reed to Wahl, 22 May - 20 October 1896. 2 Richards to Wahl, 8-15 April 1896. 10 Spangler to Wahl, 11 November 1895 - 14 September 1896. Westman, "The Heat."

1845 Morsell, William F. C. Philadelphia. Researches on Form as a Mode of Motion. Hugo Bilgram, C. F. Brackett, John A. Ryder, Mansfield Merriman, M. B. Snyder, A. Stanley MacKenzie, W. P. Wilson. In presenting his theory, Morsell has failed to convince Comm that he has discovered anything more than mere analogies between forms found in nature, forms described by moving bodies and forms which appear to the eye in purely subjective phenomena. Not infrequently, he used scientific terms in a sense, differing from the commonly accepted, thereby rendering his explanations so vague as to be to some extent unintelligible to Comm. Report made Advisory. 5 December 1894. Morsell to CSA, 18 October 1894. 2 Rondinella to Wahl, 22 November - 5 December 1894. Brackett to Wahl, 22 October 1894. Telegram, Brackett to Wahl, 5 December 1894. MacKenzie to Wahl, 23 November 1894. Bilgram to Wahl, 20 November 1894. 4 Wilson to Wahl, 26 October - 5 December 1894. Merriman to Wahl, with signed Draft, 22 November 1894. 4 Drafts, each signed by Wilson, MacKenzie, Snyder, or Ryder. 2 Morsell to Bilgram, 23-26 November 1894. Data in envelope with notebook, Illus. Descr. A New Method of Measuring. 3 Morsell to Wahl, 31 October - 14 December 1894. The Correlation of Cohesion. Meehan to Wahl, not on Comm, 26 October 1894. See also CSA 1827, Bilgram to Wahl, 9 November 1894.

1846 Goldstein, Albert. Philadelphia. Fire Alarm. G. Morgan Eldridge, William McDevitt, J. Logan Fitts, W. L. Boswell. This is entirely pneumatic and mechanical within the building protected, and embodies a magneto-electric machine for the transmission of the telegraphic alarm. The system consists of three parts, viz: A thermostat, an annunciator

1846 (continued) and a transmitter connected to the existing telephone wire. The telegraphic fire alarm number is audibly communicated fifteen times successively, in regular periodic impulses, readily distinguishable by the telephone operator at the exchange. Scott Medal. 6 February 1895. JFI, August 1895. Goldstein to CSA, 25 October 1894. Draft. Dup. Boswell to Wahl, 27 December 1894. McDevitt to Wahl, 27 December. Wahl to Chm, 30 November. Goldstein, "A Standard System of Automatic Fire Alarm Protection," read before FI, 18 September 1894. Adv with test data. 8 Pt: Goldstein (5), Vander Weyde (3),. Descr. 5 Goldstein, Pneumatic Fire Alarm Telegraph Co., to FI, 19 October 1894 - 15 June 1895. Abstract of Pts.

1847 White, Alexander. Norristown, Pennsylvania. Continuous or Perpetual Motion. No Report. Appl Dismissed, 31 October 1894. White to CSA, requesting Advisory Report, 1 October 1894. 5 White to Wahl, 27 September - 29 October 1894, with Descr.

1848 Cooper, William S. William S. Cooper Brass Works (Applicant). Philadelphia. Aluminum Castings. Elmer Willyoung, William C. Head, Thomas P. Conard. Comm subjected these alloys to various rough tests and finds that Cooper has succeeded in producing a series of aluminum alloys, all containing more than 85% aluminum. These alloys furthermore admit of being tapped and screw-threaded, a matter which has baffled a great many aluminum workers. Amended to award Longstreth Medal. 6 February 1895. Cooper Brass Works to CSA, 9 November 1894. Conard to Wahl, 1 December 1894. Fullerton to Wahl, resigning from Comm, 13 November 1894. Head to Wahl, 2 January 1895. Willyoung to Wahl, 31 December 1894. Cooper to Wahl, 15 March 1895. Cowles Electric Smelting and Aluminum Co. to Conard, on Aluminum Alloys, 24 November 1894. Pittsburgh Reduction Co. to Conard, on manufacturers of and manufacturing aluminum alloys, 23 November 1894 with Adv.

1849-1 Lanston, Tolbert. Washington, D. C. Typewriter. Hugo Bilgram, H. R. Heyl, Louis E. Levy, Spencer Fullerton, Edward Stern. Comm witnessed the operation of a machine at the printing office of the Philadelphia Inquirer, and found it to work exceedingly well. Matter set up by the machine admits of subsequent corrections, being fully equivalent in this respect to matter set by hand. This machine has solved the problem of the justification of the lines by making the work space type of a variable thickness after first determining by an ingenious plan, the thickness of the word-spaces requisite to make each line of the proper length. This determination must precede the casting of the line and this was presumably the initial reason for dividing the process into two operations. Cresson Medal. 8 April 1896. JFI September 1896. Lanston to CSA, 12 November 1894. 4 Pt. Adv. Draft. Lanston to Wahl, with Mp, Paper and Press, February 1894, 12 March 1894. Circular, 1:1 Lanston Monotype Machine Co. Managing Editor, Phila. Inquirer to President, Phila. Inquirer, Report on Lanston Monotype, 15 November 1895. 4 Adv. Prospectus, Stahl, The Lanston Type Machine, 1889. Catalogue. Fehrenbatch, Lanston Type Machine, 1890.

1849-2 Lanston, Tolbert. Monotype Machine. 6 Pt. Paper and Press, XXXI:VI (December 1895).

1850 Holly, Edgar P. Providence, Rhode Island. Regulating Valve. Henry F. Colvin, Spencer Fullerton, D. E. Crosby, Frank P. Brown, Hugo Bilgram. This is in the form of a globe and operates on the same principle by which a ball is kept suspended by a current of air or water. This valve is the acme of simplicity and will operate very satisfactorily under conditions where a uniform pressure is carried and a uniform amount of steam is required to be delivered, but it utterly fails to fill the requirements of a good regulating valve, under opposite conditions. Report made Advisory. Comm Disc, 6 March 1895. Holly to CSA, 12 November 1894. 3 Blueprints. Wahl to Colvin, 28 November 1894, with Colvin, approving Appl for investigation. 3 Holly to Wahl, 30 October - 12 December 1894. Holly to Colvin, 3 December 1894. 4 Drafts, signed by Colvin, Brown, Crosby, Fullerton.

1851 Peckover, James. Philadelphia. Stone Saw. G. Morgan Eldridge, Reinhold G. Ledig, L. F. Rondinella, William L. Simpson. Comparative tests showed that, both in eveness of surface and in smoothness and finish of face, the work done by the Peckover saw is far superior to that of the ordinary saw on all the stones tried. With test data signed by Simpson, M. E. Amended to award Cresson Medal. 3 April 1895. Peckover to CSA, 3 December 1894, with Descr, Johnson. 4 Pt. Draft. Ledig to Wahl, 19 January 1894. 3 Peckover to Wahl, 2 November 1893 - 13 August 1895. Howson and Howson, Pt attny, to Johnson, on Peckover's Pt Appl and similar Pt, 23 March 1895 with Pfister Pt. Howson and Howson to Peckover, on anticipation of his Pt claims, 11 December 1855. 15 Pt: Chapman, Sweeney, Cherry, Pfister, Disston, Sherman, Young and Young (2), Thompson, Emerson, Brislin and Vinnal, Hunt, Frenier, Proctor, Harrison. Eldridge to Wood, 22 January 1895. Eldridge to Wahl, with letter of Peckover, 16 March 1895. 3 Johnson, Wood Granite and Bluestone Co. to Wahl, 3 December 1894 - 25 February 1895. Wood, Wood & Co. to Eldridge, 4 February 1895.

1852 Johnston, Andrew Langstaff. Richmond, Virginia. Rail Bond. Elmer G. Willyoung, C. O. C. Billberg, Carl Hering, George A. Hoadley, E. Alexander Scott. The improvement claimed is the increased surface of contact obtained between Bond and Rail and the greater rigidity and perfection in the contact joint. Comm knows of no other method of Bonding, in public use at the time of Johnston's invention, in which the contact surface is so good and so rigid. While believing that this should give excellent results at the start, Comm does not feel certain these results will be maintained. Comm suggests inventor withdraw Appl and renew same with exact data on Bond's durability. Made Advisory. 6 March 1895.

Supplementary Report. Comm made a very careful examination of a joint which had been in actual service for nearly a year and a half; sharp strokes with a hammer upon rail and bond gave a clear resonant

1852 (continued) ring indicative of tightness. Comm saw no reason to believe that the joint could possibly have been made more tightly had it been made anew. Scott Medal, 11 December 1895.

Johnston to CSA, 6 December 1894. Pt. Np: Electrical Engineer, v.XVII. Catalogue. 3 Johnston, Richmond Traction Co., to Wahl, 29 October 1895 - 25 May 1896. T: Hestonville, Mantau and Fairmount Passenger Railroad Co. to Wahl, 31 October 1895; The Car Equipment Co. of Philadelphia to Wahl, 5 November 1895. Norfolk and Ocean View Railroad Co. to Wahl, 6 November 1895. 5 Willyoung to Wahl, 7 January - 5 November 1895, with Draft of 5 November 1895. 2 Wahl to Willyoung, 4 October - 16 November 1895, with copy, Wahl to Johnston, 2 October 1895. Conard to Wahl, with Rowland to Conard (28 March 1896), protesting award, 31 March 1896. Wahl to "Mr. H.", on Report, nd. Photo and Illus, "Wharton of Johnston System."

1853 Naber, Henri Adrien. Amsterday, Holland. Gas Voltameters. C. O. C. Billberg, Elmer Willyoung, Carl Hering, T. Carpenter Smith, N. H. Edgerton. Gas voltameters consist generally, of a vessel containing 2 platinum electrodes in a weak solution of sulphuric acid. A graduate tube is inverted over each or both electrodes. The principal improvement in this voltameter over the old ones seems to lie in the fact that Naber has made the lower part of his apparatus in 2 parts, thus obtaining the great advantage of easily adjusting the pressure of the gases in the burette with liquid for the next measurement. It is quite portable, the whole being enclosed in a single outside tube. Certificate of Merit. 1 May 1895. Naber to CSA, 14 December 1894. British Pt. 2 Naber to Wahl, 10 August 1894 - 20 June 1895.

Naber's book, Standard Methods in Physics and Electricity Criticised, and a Test for Electric Meters Proposed (London, 1894), was not microfilmed. See also CSA 1857, E. A. Scott to Wahl, 25 February 1895.

1854 Neumeyer, Horace F. Macungie, Pennsylvania. Spray Nozzle. Thomas P. Conard, Henry F. Colvin, Frank P. Brown, William McDevitt. A thumb screw regulates the pressure on the clack value; by tightening it, the value is forced against the issuing jet, causing it to take the form of a thin sheet or mist as the pressure is increased. The pressure on the valve can be set to any desired form of jet and will remain so. Pt records disclose a large number of devices for similar purposes, but so far as Comm can judge, in the absence of exhaustive comparative tests, Neumeyer's nozzle excels the other. Certificate of Merit. 6 March 1895. Neumeyer to CSA, 19 December 1894. Draft. Pt. Adv. 6 Neumeyer to FI, 15 December 1894 - 22 June 1895. Pt survey. Conard to Wahl, 14 January 1895. McDevitt to Wahl, on Draft and Amendment, 2 February 1895.

1855 Hallahan, Michael. New York. Horseshoe and Pad. G. Morgan Eldridge, Spencer Fullerton, Thomas P. Conard, W. Horace Hoskins, James T. McAnulty. The essential element of this shoe is an iron tip with webs of about half the length of the foot. A practical test was made under the directions of Comm on one of a pair of light-draft

1855 (continued) horses which ordinarily wore their shoes equally, working on the streets of Philadelphia. There are special conditions of the foot in which the use of this shoe has been found substantially beneficial, although it does not appear to be advantageously applicable to the normal foot under normal conditions. Certificate of Merit. 11 December 1895. Hallahan to CSA, 11 January 1895. Gerard, The Manufacturer and Builder, to Wahl, forwarding Hallahan Appl, 12 January 1895. Draft. 2 Pt. 5 Hallahan to Wahl, 26 February 1895 - 1 February 1896. Test Descr.

1856 Doehler, Charles. Philadelphia. Knopf and Hood (Applicant). Philadelphia. Fire Escape Ladder. Appl Rej. 31 January 1895. Knopf and Hood to CSA, 18 January 1895. Knopf and Hood to Secy, FI, 18 January 1895. Adv. Doehler Pt. Roed Pt. McDevitt to Wahl, on Doehler's ladder being very little if any different from others and not warranting an investigation or approval by the FI, 31 January 1895.

1857 Jandus, William. Cleveland, Ohio. Manhattan General Construction Co., (Applicant). New York. Electric Arc Lamp. G. Morgan Eldridge, George A. Hoadley, George F. Dtradling, A. Langstaff Johnston, E. Alexander Scott, N.H. Edgerton, C. O. C. Billberg. This is intended to burn on any ordinary direct incandescent circuit; but as the arc is found to be most satisfactory at 80 volts or less, a rheostat is placed in series with the arc to bring higher voltage within this limit. The purpose of the inner globe (a feature peculiar to this lamp) is to surround the arc with an atmosphere of gas which prevents the rapid destruction of the carbon as in lamps hitherto used. A test was made to determine the duration of the carbons and the quantity of current consumed. The light is remarkably steady. Scott Medal. 1 May 1895. Manhattan Co. to CSA, 1 December 1894. Jandus to CSA, 18 April 1896. Jandus Arc Lamp & Electric Co. Ltd. (Kent, Eng.). 14 Manhattan Co. to FI, 24 January - 16 October 1895. Draft. Test data. 5 Dyer, Edmonds & Dyer to Wahl, 21 November - 5 December 1899, on Pt litigation involving Jandus. Wahl to Dyer, Edmonds & Dyer, 22 November 1899. Dyer, Edmonds & Dyer to CSA, on CSA 1857, 23 November 1899. "Instructions" booklet. Catalogue. Scott to Wahl, 19 February 1895. 20 Pt. Jandus (4), Seymour (2), Quimby, & Gilbert & Lundin, Toerring, Wheless, Homans, McTighe & McTighe, Geelharr, Newton, Piette & Krizik, Crain, Sanders & Sanders, Lean, Warner, Drohan, Greene, Stradling to Wahl, 19 February 1895.

1858 Bod, A. Philadelphia. Balanced Rudder. Clarence B. Schultz, John Haug. Comm requests case be dismissed without prejudice until Pts are issued. This way of proceeding is also recommended in behalf of the inventor, for he might have difficulty in procuring his foreign Pt after FI has made an exhaustive report, and by doing so, practically published the invention. 5 June 1895. Bod to CSA, 2 February 1895. Bod, Type of Balanced Rudder (Blueprint Descr and Illus). Bod, Type of Balanced Rudder - Pt applied for-Comparison showing the parts whose alleged resemblance caused the rejection of some of my claims (1895). Draft.

1859-1 Strohm, Samuel D. Philadelphia. Elevator Safety Device. H. E. Heyl, Arthur Beardsley. The power source is controlled automatically to prevent movement of the elevator car while any door leading to the same is open or unlocked. Also, an electric controlling device is located on any landing which, when operated by a person on the landing, will cause the elevator to stop there. The car door latch is the means of making and breaking the circuit controlling the power source. The main supply valve from the pressure tanks to the power cylinders will always be fully closed automatically, so that carelessness or forgetfulness of the attendant can never affect the safety of the device. Scott Medal. First Reading, 5 February 1896. Comm Disc 5 June 1901. See JFI, July 1901. Strohm to CSA, 11 February 1895. Draft. Descr. Pt Descr. 5 Strohm, Strohm Elevator Safety Device Co. to Wahl, 11 December 1895 - 27 May 1898. Adv. 16 Pt Illus (13 Photo). 8 Pt: Curtiss(2), Sawyer (2), Magrane, Butler, Paine, Holmes and Grosvenor. 2 Heyl to Wahl, 29 May - 4 November 1895. Comm Instructions.

1859-2 Strohm, Samuel D. Elevator Safety Device.

1860 J. B. Colt & Co. (Applicant). New York. Microscope. Comm Not Appnt. See CSA 1861 and 1862. Colt Co. to CSA, 19 February 1895. Descr with Illus. Comm Instructions.

1861 Goodyear, Charles Jr. J. B. Colt & Co. (Applicant). New York. Lantern. H. R. Heyl, Samuel P. Sadtler, C. L. Prince, F. M. Sawyer, N. H. Edgerton, D. Anson Partridge. In general appearance, the Criterion Lantern resembles older lanterns of the same type but has a number of adjustments not to be found in the older ones. Some of these new adjustments are undoubted improvements, while others would be regarded by some, as unnecessary complications. It easily permits the interchangeability of the different sizes and combinations of objective and condensing lenses, and of the various forms of illuminants. Longstreth Medal. 5 June 1895. Colt & Co. to CSA, 19 February 1895. Descr, with Illus, 19 February 1895. Pt. Draft with Illus.

1862 Hopkins, Edward P. J. B. Colt & Co. (Applicant). New York. Arc Lamp. H. R. Heyl, C. L. Prince, F. M. Sawyer, Nathan H. Edgerton, Samuel P. Sadtler, D. Anson Partridge. This is especially designed for service in connection with the projecting lantern. The regulating mechanism is controlled by a shunt magnet which permits the lamp to be used on direct currents of widely varying capacity. Thorough testing has proven its reliability and steadiness to Comm. Scott Medal. First read and referred back to Comm, 5 June 1895.

Heyl, Sawyer. Comm has examined more carefully into the title of the alleged invention and does not find any references that are adverse to Applicant's claims are first inventor. Report Adopted, 5 February 1896. J. B. Colt & Co. to CSA, 19 February 1895. Colt to Co. to CSA, Descr with Illus, nd. Colt & Co. to Wahl, on three Appl, 20 February 1895. Dyer to Wahl, 31 August 1895, with 7 Pt: Silvey (2), Krueger,

1862 (continued) Van de Poele, Rushmore, Lee, Pyle. Copy of Claims in Appl for Pt, pending. Copy of Claims allowed Hopkins. 2 Adv. Catalogue. 5 Cole & Co. to Wahl, 25 February - 30 August 1895. Hopkins to Wahl, 23 June 1896. Willyoung to Wahl, 30 March 1895. 2 Drafts.

1863 MacFarlane, Alexander. Austin, Texas. Wire Diagrams for Demonstrating Theorems in Solid Analysis. Comm Disc 11 December 1895. MacFarlane to CSA, 21 February 1895. Descr. 3 MacFarlane to Wahl, 30 January 1894 - 4 March 1895. Pt. MacFarlane, The Principles of Elliptic and Hyperbolic Analysis (1894).

1864 Bertsch, William. Philadelphia. Electric Conduction for Railroads. C. Morgan Eldridge, Paul A. N. Winand. Comm had an interview with the Applicant and examined his invention and advised him thereon as requested. 5 June 1895. Bertsch to CSA, 26 February 1895, requesting Advisory Report, Descr. Bertsch to Wahl, 3 March 1895. Wahl to Bertsch, 25 May 1895.

1865 Ardrey, Samuel Bradley. Bristol, Pennsylvania. Lathe-Chuck. Hugo Bilgram, J. Logan Fitts, Luther L. Cheney, Spencer Fullerton. This is novel as it is adaptable to any lathe, the only requisite being to provide a fulcrum for the shifting lever. The unusually long hub brings the work rather far from the spindle bearings, which is a disadvantage. The lever connections between the shifting sleeve and the jaw screws are complicated. It is not likely that these will find extensive application. Report made Advisory. 5 June 1895. Ardrey to CSA, 26 February 1895 Pt. Draft. Illus. Bilgram to Wahl, 24 March 1895. Ardrey to Wahl, 26 February 1895.

1866 Howe, Henry M. Boston, Massachusetts. Metallurgical Researches. F. Lynwood Garrison, Charles B. Dudley, James deBenneville, Joseph Hartshorne, William R. Webster, Edward K. Landis. Howe's book is more than a meritorious compilation of the work of previous writers and investigators; it was the result of many arduous experiments, lasting through many months. It is the first attempt to determine the effect of heat treatment on steel in which the temperatures employed have been accurately measured. Cresson Medal. 5 June 1895. See also CSA 1690. Howe to CSA, 8 March 1895. Webster to CSA, recommending Howe's experiments on the heat treatment of steel as given in a paper Howe read before the Am. I. of Mining Engineers, to CSA attention, 4 March 1895, with notation, 'Approved. Samuel Sartain, Chm CSA.' List of original investigations. Howe, "Pyrometry and the Heat Treatment of Steel," from Trans. A.I.M.E., Extract from Presidential Address, 1894. 2 Howe to Garrison, 26 March - 6 April 1895. Howe to Wahl, 5 October 1895. Webster to Wahl, 2 April 1895. 2 Dudley to Wahl, 12 March - 30 April 1895. Hartshorne to Wahl, 27 April 1895. 3 Drafts.

1867 Bates, Edwin G. New York. Consecutive-Numbering Machine. Hugo Bilgram, Louis E. Levy, G. Morgan Eldridge, Luther L. Cheney, William C. Head, William H. Greene. Within a sliding frame and mounted five type wheels of hardened steel which are operated by a pawl. As the machine comes into contact with the paper, the slide is pushed back

1867 (continued) and the pawl retracted so as to drop into the next one of the internal ratchet teeth of the type wheels. Considering that the entire machine occupies a space hardly exceeding a cubic inch, it constitutes an exhibition of great skill in condensing such a complicated mechanism into such a small space. It is made of interchangeable parts and will, when properly used, give excellent satisfaction. Longstreth Medal.4 September 1895. Bates to CSA, 9 March 1895. 6 Bates, Bates Mnfg. Co.,to Wahl, FI, 30 January 1895 - 11 February 1896. 2 Pt. Catalogue. Copies of Bilgram to Bates Co., on tests and machine breaking, 10-13 April 1895, with replies, Bates Co. to Bilgram, 12-15 April 1895, with samples of printed numbers. Adv. 2 Drafts.

1868-1 Herschel, Clemens. Holyoke, Massachusetts. Connet, Frederick N., Jackson, Walter W. Providence, Rhose Island. Builders Iron Foundry (Applicant). Providence, Rhose Island. Venturi Meter. John C. Trautwine, Jr., John E. Codman, Rudolph Hering. The Venturi tube, for pipes not over 60 inches in diameter, is formed of several short sections of case iron pipe, having the required taper, and furnished with flanges, by means of which the sections are bolted together to form the two truncated cones required. With a perfect (i.e. frictionless) fluid, the indications of the piezometers of the Venturi tube would form an infallible and exact index to the velocity, and the pressure lost during the contraction of the stream would be perfectly restored during its subsequent expansion. The registering apparatus is an elaborate piece of machinery, composed of many delicate moving parts. The Venturi differs radically in principle from all existing forms of meters and is a distinct innovation. Comm regards Venturi meter as one of the most important of recent inventions and recommends Cresson Medal to its inventor, Mr. Herschel. The highly ingenious and meritorious registering apparatus, invented by Messrs. Connet and Jackson, is entitled to Scott Medal for having made the meter available for a host of purposes. With equations and Illus. 22 June 1898. JFI February 1899.

Trautwine. Comm has for some time been actively studying the Venturi meter and registering device applied to it. Tests are being made by Bureau of Water and University of Penn. Read 30 November 1896. Builders Iron Foundry to CSA, 16 March 1895. 2 Pt: Herschel, Connet and Jackson. 2 Herschel to FI, 13 February 1895 - 24 December 1898. 6 Builders Foundry to Wahl, 14 February 1895 - 7 November 1898. Tillinghast, Foundry's Atty, to Foundry on Pt literature search, 23 February 1895. 46 Trautwine to Wahl, 30 March 1895 - 25 October 1898, on Comm's progress. Wahl to Trautwine, 18 February 1896, with reply. Wahl to Codman, with reply, 21 May 1895. 2 Codman to Wahl, 15 April - 10 May 1895. Hering to Wahl, 18 April 1895.

1868-2 Herschel; Connet; Jackson. Builders Iron Foundry. Venturi Meter. 28 Photo. 8 Illus. Test Data. 2 Adv. Builders Iron Foundry, The Venturi Meter (1893 and 1895). 4 Blueprints.

1869 Fiechter, Frederick. Philadelphia. Street Car Fender. William McDevitt, T. Carpenter Smith. Comm is impressed with the fact that in the case of an invention having for its object the saving of life, nothing less than a demonstration in actual service would justify an expression of opinion upon its merits. Comm suggests Appl be dismissed without prejudice to Applicant should he desire to renew it once he can equip a car with his apparatus. Report made Advisory. 5 June 1895. Fiechter to CSA, 20 March 1895. Pt. Office to Fiechter, 23 January 1895, with Pt Appl. Pt Office Report to Fiechter, 13 February 1895. Fiechter's Atty to Commissioner of Pts, Amendments, 19 February, with Pt Office Report, 26 February 1895. Fiechter's Atty to Commissioner Pts, Amendments, 28 February, with Pt Office Report, 5 March 1895. Fiechter's Atty to Commissioner of Pts, Amendments, 6 March, with Pt Office Report, 16 March 1895. Illus. 3 Fiechter's Atty to Commissioner of Pts, 18027 March, with Pt Office Report, 29 March 1895. Fiechter's Atty to Commissioner of Pt, 31 March 1895. Draft. 2 McDevitt to Wahl, 15-23 April 1895.

1870 Cheney, Walter Lee. Meriden, Connecticut. Lathe Tool and Support. Henry F. Colvin, Hugo Bilgram, Luther L. Cheney, Spencer Fullerton, D. E. Crosby. This consists of a combination of devices whereby the tool is caused to make a plurality of cuts by a single movement of the operator. The manner of making the tool is simple and economical and permits the making of several tools at a slight advance on the cost of making only one. More work can be done in a given time and with a higher grade of finish than with any other form, or make of tool and support, known to Comm. Longstreth Medal. 5 June 1895. Cheney to CSA, 22 March 1894. Pt. 5 Cheney, Meridan Machine Tool Co., to Wahl, 4 January 1894 - 3 February 1896. Henry H. Suplee to Wahl, requesting Appl to send to Cheney, 20 February 1894. Catalogue. 8 Pt: Alvord, Bogert, Chapman, Currier and Black, Flower, Forrest, Horton, Libby. Draft.

1871 Hammill, Joshua M. Philadelphia. Trolley, Under-Surface. G. Morgan Eldridge, A. Langstaff Johnston, N. H. Edgerton, E. A. Scott. This conduit has in it a slot for the major part of the conduit, in which the trolley wire and the goose neck carrying the trolley being bent sidewise to meet the wire. There are some ingenious mechanical details but there is no adequate provision for insulation of the wire. Report made Advisory. 6 November 1895. Hammill to CSA, 16 April 1895. Pt. 5 Hammill to Wahl, 20 April - 20 October 1895. Scott to Eldridge, 29 May 1895. Copy of Eldridge to Johnston, 30 October 1895. Johnston to Wahl, 31 October 1895. 2 Drafts. See also CSA 1902.

1872 McMonagle, Bernard. Philadelphia. H. Gawthorpe & Co. (Applicant). Philadelphia. Car Coupling. H. F. Colvin, Spencer Fullerton, Thomas P. Conard. Comm Disc 11 December 1895. No Report. Gawthorpe, H. Gawthorpe & Co., to Wahl, 27 April 1895.

1873 Grant, George B. Lexington, Massachusetts. Calculator. Hugo Bilgram, Edward F. Moody, H. F. Helffrich, Luigi d'Auria. The mechanism is distinguished from that of other calculating machines by the almost total absence of work-performing springs and by its simplicity. When compared with calculating machines adapted for additions only, it does not compare favorably as to speed. Since it is adapted to perform other operations, such as multiplication and division, a comparison with machines capable of performing only addition is no proper criterion. Amended to award Scott Medal. 11 December 1895. Grant to FI, with state of the art, 6 May 1895. Grant to CSA, Descr with Np including part of CSA 1042. 4 Adv. Pamphlet and Proof for new pamphlet. 6 Grant to Wahl, FI, 17 January 1895 - 1 July 1896. Wahl to Grant, 25 June 1895, with reply. Grant to Bilgram, 23 August 1895. Phila. Trust Safe Deposit and Ins. Co. to Wahl (?), 13 June 1895. Moody to Wahl, 26 August 1895. 2 Bilgram to Wahl, 18-23 September 1895. 2 Provident Life and Trust Co. of Phila., to Wahl, 1 July - 4 September 1895, on supplying machine. See CSA 1042.

1874 Pollock, Charles V. Des Moines, Iowa. Nozzle. William McDevitt, Arthur Beardsley, Charles A. Hexamer. Comm has conducted a trial of the Ball Nozzle and has received from Frank Ashley a protest, in which he claims to be the original inventor. Comm recommended postponing the presentation of a final report until a decision has been reached in the interference proceedings now pending in Pt Office. Appl dismissed without prejudice, 22 June 1898. Appl referred to CSA at the stated meeting of the FI, 16 May 1895. Ashley to Secy, FI, 14 May 1894. Ashley to McDevitt, 25 November 1895. Foster & Freeman to Secy, FI, on Arthur Kitson's ball nozzle, 13 May 1895, with Illus. Lawyer, Edwards & Ryan to Wahl, on testimony presenting a good case for Ashley, 30 April 1896. Np on Pollock's nozzle, Marble & Sons to Kitson, forwarding Pollock's Pt at Am. Ball Co. request, 5 June 1895. 2 Am. Co. to Wahl, 12 June 1895 - ? September 1896, with Np, 2 Adv, pamphlet. 2 National Co. to Wahl, 24 December 189? and 13 October 1896, Np, Fire and Water (March 1895), on Pollock's nozzle mnfd by Am. Co. with Np. Wahl to Am. Co., 28 June 1898, with note, ltr came back as undelivered, 1 August 1898. 9 McDevitt to Wahl, 31 July (1895) - 17 April 1896.

1875 Gray, Elisha. Highland Park, Illinois. Telautograph. Elmer G. Willyoung, Carl Hering. The first facsimile telegraph apparatus was completed by Prof. Gray in 1887. In this the inventor had adopted as the operative principle the method of "variable resistance," an expedient well-known to electricians and which figures as an essential feature in the Cowper-Robertson device (see CSA 1407). This method was abandoned for the step-by-step plan in the 1888 and 1892 telautographs. In its present form there are 2 instruments at each end of the line - a transmitter and receiver. In transmitting, the sender writes or draws his message with an ordinary lead pencil on a sheet of paper, and simultaneously another pencil at the receiving end reproduces every movement of the sender's pencil on a similar sheet of paper. It enables communication to be made with absolute secrecy and insures absolute correctness in transmission, which neither the telephone nor the telegraph insures. The telautograph will not, of course

1875 (continued) supersede the latter but will occupy a place side by side with them. Amended to award Cresson Medal. 2 December 1896. Gray to CSA, 20 May 1895. Draft. Ronaldson to Wahl, recommending Gray's Telautograph Co. for investigation, 13 March 1893. 2 Phillip, Munson & Phelps to Wahl, 27 May 1895 - 5 November 1896. 6 Gray to Wahl, 19 April 1895 - 30 July 1897. 13 Pt. Willyoung to Wahl, 10 March 1896. Willyoung to Wahl, on CSA, 1761, 1875, and 1883, 30 July 1895. Voisenat, 'Telautographe d'Elisha Gray,' Societe Internationale des Electriciens, 1895. Catalogue. 2 Adv. See also CSA 1919, Willyoung to Wahl, 5 August - 1 September 1896.

1876 Cole, Walter. London, England. Kirkbride, George (Applicant). Philadelphia. Manufacture of Butter. G. Morgan Eldridge, W. C. Head, Spencer Fullerton. Case dismissed at request of Applicant. 7 October 1896. Kirkbride to CSA, 27 May 1895. Pt. Digest of the Advantages of Cole's Process of Butter Making Over Present Methods. 4 Kirkbride to Wahl, 27 November 1895 - 14 March 1896. Wagner to Wahl, 1 July 1895, with note, 'What is this about? W.'

1877 Crehore, Albert Cushing, Squier, George Owen. Hanover, New Hampshire. Polarizing Photo-Chronograph. H. W. Spangler, George A. Hoadley, Coleman Sellers. This is intended to measure the time interval between the occurrences of two phenomena. A ray of light is interrupted by the prong of a tuning fork and the waving shadow gives the time intervals on the sensitized plate which is caused to rotate in order to make a continuous image. The phenomena to be registered interrupts an electric current, thus cutting off the light from the sensitized plate and leaving a sharp image. After the circuit is again independently established, the second phenomenon again breaks the circuit. From the time record as registered by the tuning fork on the same plate the time interval between the two phenomena canbe determined. Scott Medal. 6 November 1895. Crehore and Squier to CSA, 27 May 1895. Squier to CSA, 30 May 1895. Squier and Crehore to Secy, FI, April 1895 - 13 March 1896. Lt. Squier to Secy, FI, through Land with Endorsement by Adjutant General, U.S.A., 9 May 1896. Adjutant General to Wahl, 25 September 1896. H.W.S. to Wahl, 25 September 1895. 2 Hoadley to Wahl, 12-30 September 1895. Spangler to Wahl, 14 September 1895. Np, Elec. World (10 August 1895). 2 Photo. Reprint, Journal of U.S. Artillery (July 1895). 19 Illus.

1878 Bloede, Victor G. Baltimore, Maryland. Process of Dyeing and Printing. Reuben Haines. Otto Suthy, T. Chalkley Palmer. In this process the fabrics are immersed in an acid solution of a dye and a suitable mordant, the excess liquor is pressed out, and the fabric is then exposed to the action of ammonia gas. A process technically known as padding which has been in common use in this country in recent years is essentially the same as Bloede's. Comm inspected the ordinary process in operation and compared it with the description and samples furnished by Bloede. Comm finds his process in no respect superior to that already in use. Amended and Adopted, 5 February 1896. Bloede to CSA,

1878 (continued) Lengthy Descr, 29 June 1895. Pt. Photo. 9 Bloede to Wahl, 9 May 1895 - 17 March 1896, with lengthy reply to Comm's questions (22 October). Bloede to Wahl, on Comm's having failed to grasp the essential features of the invention and having been a chemist in this branch of business for some 25 years, he knows of no process of dyeing even similar to his in practice except under his licenses. Requests Comm to substantiate report. 14 March 1896. Bloede to Wahl, protests report as an act unworthy of an Association such as FI purports to be. Could not object to an adverse criticism if it were the result of a painstaking and intelligent investigation. Comm did not investigate process, even after Bloede offered to supply the means for this. No medal would be of value to Bloede unless accompanied by feeling that it had been awarded by an intelligent and conscientious Comm. 11 May 1896. 3 Palmer to Wahl, 7 November 1895 - 3 February 1896. Palmer to Haines, 13 December 1896. Suthy to Wahl, 8 June 1895. 8 Haines to Wahl, 29 July 1895 - 21 April 1896, with Comm's questions (28 September).

1879-1 Rew, Henry C. Kansas City, Missouri. Manufacture of Carbureted Water Gas. Arthur Kitson, Charles James, F. Lynwood Garrison, George W. Whyte. Comm inspected the Kansas City Works erected by Mr. Rew, and now being operated by Missouri Gas Co. The Rew Gas Process contemplates the gasification of soft coal by distillation, the conversion of the resulting coke into carbon monoxide and hydrogen,--now popularly known as "water-gas"--and the enrichment of these products with the vapors of oil, all in the same apparatus, at the same time, and with a minimum of labor. It aims to use the cheapest of materials: bituminous coal, crude oil and water. The great importance of an apparatus designed to economically convert this kind of coal into the highest possible grade of illuminating gas can hardly be over-estimated. Comm suggest Secy FI correspond with Mr. Rew and ascertain whether he desires a fuller investigation. Read 6 January 1897.

Kitson, James, Whyte. Comm has received numerous letters from Rew requesting a more complete report be made. The Kansas City Works were but partially completed when Comm visited. The chief feature of Rew's apparatus is the coking chamber in which bituminous coal is fed and where it is supposed to travel by gravity to the generator, becoming thoroughly coked in the meanwhile. The chambers examined, operated, so far as these claims are concerned, in a very unsatisfactory manner. Comm does not feel justified in recommending the award Rew requested. Read 1 December 1897. Referred to Augmented Comm, 5 January 1898.

Kitson, James, William M. Barr, Henry G. Morris, Harry F. Keller. In view of observations actually made, Comm does not feel justified in recommending an award. The present Comm, after a careful reconsideration of all the facts and data submitted to it, finds no reason to modify the foregoing conclusions. 4 May 1898. Rew to CSA, 29 May 1895. Draft. 6 January 1897 Report. Draft, 4 May 1898 Report (amended 5 January 1898 Report). Draft, 2 December - 6 January Report. Pamphlet, Reply of Henry C. Rew to the Report of Comm of FI (Kitson-James-Whyte). Rew to Wahl, 29 May 1895.

1879-2 Rew, Henry C. Carbureted Water Gas. Rew to Wahl - 14, 8 June 1895 - 11 June 1896, with portrait (line drawing); 18, 8 January 1897 - 4 June 1898, with Prospectus, Missouri Gas Co. and article, Larger Improved Gas Works. Rew to Christie, 7 January 1898, with Christie to Wahl, on reply. Catlin to Wahl, on Rew Pt, 6 June 1895. Copy, Pt Atty Bond to Rew, 5 June 1895. Christie to Wahl, 26 August 1895; 13 December 1897 with Draft, Christie to Rew; nd. with Rew to Christie, 11 December 1897, 17 December 1897. Rew to Christie, 15 and 16 December 1897 with copy Rew to R. E. Pattison, Atty, 8 December 1897, Adv: English, Spanish. Copy, Christie, Chm, CSA, to Rew, 17 December 1897. Wahl to Rew, on forwarding ltr to Kitson, 16 November 1897, with Dup 11 November. 17 Kitson to Wahl, 3 September 1895 - 2 May 1898. 5 Whyte to Wahl, 21 May 1896 - 10 February 1898. 3 Dudley to Wahl, 29 August 1895 - 1 May 1896. 2 James to Wahl, 5-8 May 1896; James to Kitson, 17 November 1897. 2 Prince to Wahl, 28 August 1895 - 16 May 1896. 3 Garrison to Wahl, 9 March - 20 December 1897. Note on Comm meeting, 25 May. Comm Minutes, 28 April 1898. Comm list.

1879-3 Rew, Henry C. Carbureted Water Gas. Circular, Mrs. Sarah C. Rorer's Lectures on Practical and Artistic Cooking with Gas, 1896. Cicero Gas Co.'s Book, 1894. Garrison, Report on the Rew Process and Apparatus, 1897. 2 Adv. 2 Np Adv for Missouri Gas Co. Adv. for Cicero Works. Np: 3 Chicago Times - 15-22 July 1894 (1 - nd); Kansas City World, 25 April 1897. 2 Kansas City Journal, 28 March and 5 April 1896; Kansas City Star - 1896; Adv - 29 March 1896 K. C. (?); Chicago Chronicle - 28 May 1897.

1879-4 Rew, Henry C. Carbureted Water Gas. 41 Pts: Rew (3), Kiddes (4), Hanlong (2), Attrill and Farmer (2), Springer (5), Leadley (3), Loomis (2), Granger and Collins, Ring, Browne, Winchester, Ellis, Cameron and Everett, Boyd, Covel, Siemens, Moses, Boone, Grobe, Goodyear, duMotay and Jerzmanowski, Springer and Morse, Gill and Serzmanowski, Pierson, Lilienberg and Dwight, Burden, Dwight.

1880 Hyatt, John W. Newark, New Jersey. Roller Bearing. James Christie, Spencer Fullerton, J. Sellers Bancroft. The sole innovation presented by these rollers is the employment of an elastic, spirally-wound tubular roller, instead of the solid cylinder hitherto used. The undurance and frictional resistances of rollers under varying conditions of dimensions - material and speed - have been the subject of considerable experiment. The spiral rollers are now regularly manufactured and successfully applied in practical use. The high pressure borne by the spiral roller without permanent deformation, its low resistance to motion as compared to the solid roller, and its elastic adaptation to inequalities of surface, were clearly exhibited by the experiments conducted by Spangler and others. Scott Medal 22 June 1898. JFI February 1899. Hyatt to CSA, 31 May 1895. 11 Hyatt to Wahl, 15 May 1894 - 12 October 1898. 4 Pt. 5

1880 (continued) Hyatt to Wahl, 10 March 1894 - 19 September 1898. Hyatt Co. to FI, 13 April 1897, with W.H.W. to H.W.Spangler. Hyatt Co. to FI, 30 March 1897, with test data from Wm. Sellers & Co. 3 Spangler to Wahl, 26 April 1897 - 15 February 1898. Spangler to Fullerton, 28 May 1897. Ronaldson to Wahl, 30 November 1896. Hyatt Co.: Catalogue, 3 Adv. Np: Phila Record (18 June 1897); Iron Age (11 June 1896); Railroad Gazette (2 February 1894). Copy of test data from (?) Cassiers Magazine (May 97). Mossberg and Granville Mnfg Co.: T, business reply card, catalogue, 2 Adv, order form, business card. 7 Christie to Wahl, 12 March - 20 June 1898. Note on information wanted. Fuertes, Cornell U. to Wahl, 9 September 1897. Goss, Purdue U. to Wahl, 16 September 1897. Laura, M.I.T. to Wahl, 29 September 1897. Marston to Wahl, on experiments, 15 October 1897, with Crandall and Marston, "Friction Rollers" Trans Am. Soc. C.E. (August 1894). See also Ronaldson to Wahl, 12 December 1895, in CSA 1841.

1881 Millian, Ernest. Marseilles, France. Analyzing Fats and Oils. Samuel P. Sadtler, William H. Greene, William H. Wahl, Reuben Haines. Milliau is the author of a number of original investigations having for their aim the finding of more sensitive analytical methods for the identification of the commercial oils and fats with especial reference to the ready detection of adulterations. As Director of the (French) Government Testing Laboratory at Marseilles he has had exceptionally good opportunities for studying edible and industrial oils and their adulterations. His methods, used at Marseilles, were described in a paper read before the Chemical Section, FI. In consideration of the utility of his contributions in this field of technical chemistry, and of his labors in U.S. as representative of the official body of chemists of France in the endeavor to encourage the adoption of such uniform, standard analytical methods, FI recommends Scott Medal. 6 November 1895. Milliau to CSA, 6 June 1895, with note Investigation ordered by CSA, 5 June 1895. Greene and Wahl to CSA, recommending an investigation of Mr. Milliau's work, 25 April 1895. Wahl to Greene and Sadtler, nd. Haines to Wahl, on Report, 4 September 1895. 4 Drafts. 2 State Dept. to Wahl, 18 June 1896 - 22 April 1896. 2 Haines to Wahl, 11 June - 2 September 1895. 2 Milliau to Secy FI, 18 May 1895 - 25 March 1896. Milliau to FI, 25 March 1896. Proc. Chemical Section, FI, 1893.

1882 Haines, Robert B., Jr. Philadelphia. Gauge. James Christie, C. L. Prince, Charles James. This automatic micrometer gauge is devised for the convenient gauging of hot plates, where prpmpt operation is desirable. The dials are graduated for the usual standard and special gauge systems. This instrument is in use in about 23 metal plate mills, it being specially adapted for that branch of the industry. Certificate of Merit. 5 February 1896. Haines to CSA, 6 June 1895, with note Investigation ordered by CSA, 5 June 1895.

1882 (continued) Parkesburg Iron Co. to Wahl, on using Haines' gauge, 22 May 1895. Carbon Steel Co. to Wahl, 28 May 1895. Otis Steel Co., Ltd. to FI, 25 May 1895. Spang Steel & Iron Co. to FI, on gauge, 25 May 1895. Carnegie Steel Co., Ltd. to Wahl, 24 May 1895. Cleveland Steel Co. to Wahl, 23 May 1895. Adv. Tables and Instructions (pamphlet). Catalogue, Haines Gauge Co. Haines to Wahl, 12 March 1896. 6 Christie to Wahl, 25 June 1895 - 7 January 1896. Instructions. 2 Drafts. Paxton Rolling Mills to Wahl, on gauge, 4 June 1895. See also Christie to Wahl, 21 January 1896, CSA 1894.

1883 Holt Electric Storage Co. Philadelphia. Edgerton N. H. Philadelphia. Storage Battery. Clayton W. Pike. No Report Case Dismissed 5 June 1901. JFI July 1901. Holt Co. to CSA, 27 June 1895, with note, referred for investigation by FI, 19 June 1895. Edgerton, "An Improved Storage Battery." Masters, Drexel Institute Laboratory, Report of test made with The Edgerton High Tension Storage Battery under the Direction of Prof. Arthur J. Rowland, 8 April 1897. Blueprint. 5 Pt: Edgerton (2), Brush, Shaw, Pieper. Pt list. Comm notes. Wiegand to Wahl, on Pt, 26 July 1895. "The High Tension Storage Battery Mnfg. by Holt Electric Storage Co. under the Edgerton Pt." 4 Edgerton, High Tension Electric Storage Co. to Wahl, 9 October 1897 - 16 June 1898. Edgerton to Wahl, 21 May 1898, with note, W.H.W. to Pike. Reed Electric Co. to Pike, on Pt, 27 November 1896. Note on Am. Pt. Willyoung to Wahl, 5 December 1896. Minutes of Comm meetings: 14 November 1896, 29 January 1897, 20 September 1897.

1884 Shuman, Frank. Philadelphia. Trolley Car Fender. Henry F. Colvin, William C. Head, Thomas P. Conard. Comm finds that the fender has not been put in actual operation on which account the only available means of determining its merits is by reference to Shuman's Pt. Comm finds the invention novel and ingenious but costly; they believe it is utterly unpractical and of no commercial value. Report made Advisory. 4 September 1895. Shuman to CSA, 8 August 1895. Pt. Draft. Shuman, Tacony Iron and Metal Co. to Wahl, 10 October 1895.

1885 Cox, Jacob D., Jr., Armstrong, William Telfer. Cleveland Twist Drill Co. (Applicant). Cleveland, Ohio. Grip Socket. Henry F. Colvin, Spencer Fullerton, Luther L. Cheney, J. Logan Fitts. This invention relates to an improved manner of holding taper shank tools to prevent injury to them or the holder, and to prevent them from becoming detached while in operation. A sleeve near the outer end and a key which is held in place by it, are the vital parts of this invention. A flat key is fitted to a keyway in the socket. When the key is in full the outer end is flush with the outside of the socket while its inner end projects into the hole for the tool shank. When the sleeve is in position it presses the key into the depression formed in the shank of tool holding it firmly. This socket permits the use of drills and other tools that have become useless in the ordinary socket, holding the tool in place when the pressure is either pushing or pulling on same. Longstreth Medal. 8 April 1896. Cleveland Co. to CSA, 6 August

1885 (continued) 1895. 8 Pt: Cox and Armstrong, Woods, Bastow, Hunter, Godsell, Arnold, Larger, Clyde. Draft. 7 Cleveland Co. to FI, 2 August 1895 - 15 May 1896. Bill, showing socket supplied to FI, Gratis, 2 August 1895. Colvin to Wahl, 28 February 1896. 2 Adv.

1886 Taylor, George. Boston, Massachusetts. McLaughlin, Martin Bernard. Malden, Massachusetts. W. F. Morse & Co. (Applicant). New York. Household Garbage Carbonizer. William C. Head, Frank P. Brown, Edward F. Moody. A horizontal cylinder is placed in the stove pipe. Refuse from vegetables that have been prepared for cooking or the waste from the kitchen table is placed in a pan that fits within the cylinder. The heated gases from the fire first dry the stuff, and, in a short time, char it. This porous mass of charcoal may then be thrown upon the fire and burned or used as kindling. No odor escapes into the room and the apparatus requires no attention except to remove the carbonized product when the operation is complete. Col. Waring, the Sanitary Engineer, has said "Removal from the houses by the public service should be limited to clean ashes and such refuse as cannot be burned, sold, or given away." This invention is convenient and useful. Amended to award Certificate of Merit. 6 November 1895. Morse & Co. to CSA, 19 August 1895. 7 Morse & Co. to Wahl, 20 August - 10 December 1895. Morse to Wahl, on being nominated to membership in the FI, 20 August 1895. Pt. Draft, written partly on Adv and with Waring quote. 2 Adv. 8 Illus. Robinson to Wahl, 13 August 1895.

1887 Travis, William D. T. Burlington, New Jersey. Axle-Bearing and Hub. Spencer Fullerton, D. E. Crosby, Edward S. Lippincott, Stacy Reeves. This invention substitutes a metallic hub wheel rigidly secured to the outer end of a short revolving shaft, which turns in two separate boxes held in opposite ends of a shaft chest, for the usual wooden hub wheel revolving about a fixed journal. To repair a wheel, the shaft case must be removed and the upper boxes and shaft taken out. Besides other work, this involves unscrewing 4 or 6 nuts from the axle clips which have fine thread. As the clips are often riveted to prevent the nut from unscrewing, the nuts and often the threads are apt to be so damaged as to be unfit for use even a second time. An ordinary wheel can be removed with much less trouble. Report made Advisory. 6 November 1895. Travis to CSA, 18 August 1895, with Comm list. Pt. Descr. Wahl to Sartain, 14 September 1895, with reply. Travis to Hyle, with note 'Refd to Secy, HLH, 24 July 1895. Travis to Wahl, 11 December 1895. Travis to Fullerton, 26 September 1895. Illus. Sorver to Wahl, 9 September 1895. See also CSA 1916.

1888 Prentiss, Henry S. New York. Prentiss Calendar and Time Co. (Applicant). New York. Calendar. G. Morgan Eldridge, Francis Leclere, Hugo Bilgram. This device is operated each midnight by the clock to which it is attached and shows the day, week, and month, adapting itself automatically to the varying lengths of the months and accommodating itself to leap-year, except for 3 out of 4 of the centurial years. It is impelled by a spring connected to a train of gears carrying a fan by which the movement is regulated. This fan is normally held by a stop, detached by the clock at midnight. Calendars adapted

1888 (continued) to be operated by clocks have been made heretofore, but the present one is exceedingly simple, very compact, and readily adaptable to the movement of any clock. Scott Medal. 11 December 1895. JFI, August 1896. Prentiss Calendar and Time Co to CSA, 29 August 1895. Directions for Setting and Adjusting. Ronaldson to Wahl, on Prentiss Co. and Cross Engine Co., 14 August 1895. 6 Pt. 5 Prentiss to Wahl, 27 May 1895 - 22 October 1895. Draft.

1889 Reagan, James Kitson, George L. Philadelphia. Evans, William. Water Grate. Thomas P. Conard, D. E. Crosby, J. Logan Fitts, Henry F. Colvin, T. Carpenter Smith. This is a combination of a well known feature of the ordinary water grate composed of wrought iron pipes connected with the water space of the boiler, and a modified form of the section cast iron hanking grate. The feed water is introduced at the inflow point of the grate and becomes more or less heated in its passage through the grate. The manufacturers are meeting with considerable success in introducing the grates to the public. It is quite certain with intelligent management they will keep a clean fire with a minimum of labor, and promote a complete and economical consumption of coal. The element of novelty appears to be almost entirely wanting, however. He has skillfully combined the best features of several previously patented devices and has probably done the public a greater service than his predecessors but the cost of the grate may offset, in a great measure, the gain. 5 February 1896. Reagan to CSA, 3 August 1895. 4 Water Circulating Grate Co. to Wahl. 3 September 1895 - 12 March 1896. Spangler, U. Penn, to Reagan, on tests made, 24 December 1894. Draft, 40 Pts: Reagan (2), Kitson and Reagan (2), Evans, Thayer, Watson, King, Shackelford, Stead, Swallow (3), Kirkwood, Niebell, Chisholm and Walker, Winton, Lonergan, Gibbons, Champion, Howe, Wootten, Moore, Bannister, Whelan, Voegtle, Reed, Crawley, Peaslee, Doublers, Shepherd, Seddon, Baush, Barnes, Heintzelman, Murphy, Price, Wackernie, Knox, Fish. 5 Pt Office to Evans, 18 March 1889 - 13 June 1891. Pt Office to Evans, Evans & Reagan, 13 June 1891. Pt Office to Evans and Reagan, 3 July 1889. Pt Atty to Conard, 11 October 189(5). Spangler to Conard, 6 December 1895. Wahl to Conard, 11 October 1895. 2 Conard to Wahl, 5 October - 30 December 1895. Comm Minutes: 9 October 1895 and 4 January 189(6). Pamphlet, Reagan Water Circulating and Shaking Grate.

1890 Carroll, William T. Worcester, Massachusetts. Bearing. Spencer Fullerton, Charles A. Hexamer, Henry F. Colvin, J. Logan Fitts, Stockton Bates. A non-metallic bearing, made of wood, vulcanised fiber, leatheroid, or any suitable material, is thoroughly saturated with wax, such as beeswax, paraffine or myrtle wax (sometimes called 'bayberry tallow'). The heat produced by friction will not cause the wax to ooze or work out as happens with oil-soaked bearing. Comm visited the works of Walter T. Lee where these bearings have been manufactured and tested for several years, and there found a large part of the plant fitted with this device and running in all respects satisfactorily. The Carroll box showed great superiority in several respects; it began to squeak

1890 (continued) under a less amount of pressure, giving notice of abuse. The sparks are very trifling and would not set fire to waste. The absence of oil secures cleanliness and in textile machinery, will prevent damage to yarn from oil spots. Scott Medal. 13 May 1896. Carroll, Appl, nd, Comm Approved, 9 October 1895. Pt. 5 Carroll to Wahl, 2 October 1895 - 4 September 1896. Whiteside to Fullerton, 30 March 1896. Christie to Fullerton, 30 April 1896. 4 Fullerton to Wahl, 25 October 1895 - 28 February 1896. Wahl to Fullerton, 28 December 1895, with reply, 31 December 1895. Wahl to Cheney, 11 March 1896, with Cheney to Fullerton, 15 March 1896. 4 Comm notes. 2 T. For "Report of Special Comm to consider the protest of William T. Carroll against Norman Mellor's alleged improper use of Report No. 1890" see CSA 2373 (not microfilmed).

1891 Schmemand, Frederich, Philadelphia. Bridge, Suspension and Arch. James Christie, Edgar Marburg, L. F. Rondinella, William A. Pratt, Howard S. Richards. The essential features of this plan involve a suspension bridge of the usual type, in which the resistance to deformation of the suspension curve, under the action of a moving or unequally distributed load, is provided for by the addition of an inverted curved member or arch, so connected to the suspension member that the necessary stiffness is supposed to be imparted to the structure. The novelty claimed consists in combination the oppositely curved members, so that freedom to expand or contract, under temperature changes, is maintained. In long span bridges these connections are telescopie and free to slide over each other vertically; the stiffening effect of the arch is not very evident and it is doubtful if it is capable of an exact determination. Bridge design now occupies a very elevated plane, both as a science and as an art, and any design to be acceptable must be capable of rigorous determination and of demonstrable adaptability. Report made Advisory 5 June 1896. Schmemand to CSA, 4 October 1895. Descr. Pt. Blueprint. 2 Richards to Wahl, 21 March - 5 June 1896, with signed Report. 4 Pratt to Wahl, 22 December 1895 - 5 June 1896, with signed Report. Marburg to Wahl, 15 May 1896. 6 Christie to Wahl, 23 December 1895 - 21 May 1896. Wilson to Wahl, 18 December 1895, with 2 Comm notices. Sellers to Wahl, 11 October 1895, with 2 Comm notices.

1892 Methke, Emil. Schwalbe, Henry. Philadelphia. Rocking Chair Fan. William C. Head, Edward F. Moody, D. E. Crosby. This rocking chair is provided with a fan on each side of the head-set which are set in motion by the rocking movement of the chair. A metal strip is attached to the inside of each rocker and the other end rests on the floor, acting as a spring when the chair is rocked. The latter ends of the strips may be placed in brackets on the rockers to throw the fan mechanism out of service. Comm offered suggestions for minor improvements and recommended Report be Advisory. 6 November 1895. Methke and Schwalbe to CSA, 7 October 1895. Draft.

1893 Watson, William H. Cincinnati, Ohio. Watson, Lena (Applicant). Cincinnati, Ohio. Flue Cleaner. Thomas P. Conard, John L. Gill, Jr. This consists of a series of steel knives with curved edges to fit the inner surface of the flues. In the sample shown, the scrapers have too little amplitude of motion for ordinary use. The tool is capable of having its scrapers sharpened when dulled by use but there are other tools fully as effective as this, that are practically self-sharpening. Report made Advisory. 11 December 1895. Miss Watson to CSA, 21 October 1895. Pt. Minutes of Comm, 9 December 1895, with Draft. 2 Conard to Wahl, 6-11 December 1895. Miss Watson to CSA, 10 October 1895, Appl for flue cleaner and governor. See also CSA 1894.

1894 Watson, William H. New Orleans, Louisiana. Watson, Lena (Applicant). Cincinnati, Ohio. Governor. James Christie, J. M. Emanuel, John H. Cooper. This consists essentially of a cylinder containing a long hollow sleeve or piston which forms a passage for the steam in its course to the engine. This piston is divided transversely by a diaphram with suitable orifices for ths steam's passage. A test was made on the governor by the engineer of the recent exposition at Atlanta who testifies that its controlling action was satisfactory on a small steam pump. Comm has been unable to make a sufficient test as the governor must be proportioned to suit the application. Comm is of the opinion that it could not be depended on where a close regulation of speed is essential, but would be adapted as a controller to prevent excessive fluctuations of speed in the many cases where this along is sufficient. Report made Advisory. 4 March 1896. Adopted 8 April 1896. Miss Watson to CSA, 21 October 1895. Descr. Pt. Christie to Comm, 4 March 1896. 4 Christie to Wahl, 30 October 1895 - 24 February 1896. Note to Wahl, on Reville's address. Miss Watson to Wahl, 1 June 1896. 2 Reville to Wahl, 15 May 1896. See also CSA 1893. See also Christie to Wahl, 23 December 1895, CSA 1891.

1895 Castner, Hamilton Y. New York. Electrolytic Decomposition of Alkaline Salts. Louis J. Matos, Joseph W. Richards, John G. Bullock, Samuel P. Sadtler, William H. Wahl. This process concerns the largest chemical industry of our day and as the commercial success of this process would mean the revolutionising of this immense industry, the subject presents itself as worthy of special consideration. Castner uses as a cathode a movable body of mercury which is periodically withdrawn and fresh mercury put in its place. The carbon anodes are heated electrically, embedded in carbon, to a temperature sufficiently intense to "graphitise" the product. The current running through the secondary cell is automatically regulated so that it cannot exceed the output of the primary cell. After a thorough trial, the process is on the eve of going into commercial operation at Niagara Falls, N. Y.,and in England, Germany, and Russia. Cresson Medal. 7 October 1896. Wahl, Richards, Charles J. Reed to CSA, recommending Castner's process for investigation, 21 October 1895. Richards to Wahl, endorsing recommendation, 22 October 1895. Draft. 2 Pt. Test data. Np, "Engineers of Today and Yesterday: XV Hamilton Y. Castner", Engineering Review, 20 September 1894. Memorandum of Association of Castner-Kellner

1895 (continued) Alkali Co., Ltd., 1895. Pr data. Minutes of Proc., Aluminum Co., Ltd., 1895, on shares held in Castner-Kellner. Richards, Memo "Received, Phila., 13 July 1896" - Castner's Pt. 11 Castner to Wahl, 2 November 1895 - 9 July 1897 (one too faint to read date). S. Castner to Wahl, 15 June 1897. Acker Process Co. to Wahl, 20 October 1902. Foster and Freeman, Atty, to Wahl, 29 November 1895. 2 Sadtler to Wahl, 8 April - 5 May 1896. 2 Matos to Wahl, 8 January - 29 April 1896. 2 Reed to Wahl, 8 April - 4 May 1896. 3 Richards to Wahl, 9 February - 29 May 1896. Bullock to Wahl, 8 April 1896. See also Richards to Wahl, 8 April 1896, CSA 1844.

1896 Delany, Patrick Bernard. South Orange, New Jersey. Telegraphy, Automatic. E. A. Scott, Carl Hering, C. J. Reed. The speed and reliability of all so-called high speed systems have heretofore been limited by the static charge of the conductor and magnet coils. Delany has devised a method of avoiding its effects. Using only dots, the message is received in three parallel lines on the ribbons of paper, the dots of the alphabet occupying the center lines, the two outside lines showing the dots which represent the dashes of the alphabet. The line does not accumulate so great a static charge by the brief connection of the battery in producing a dot as in producing a dash. The continental alphabet is used, thus excluding the spaced letters and long dashes peculiar to the Morse alphabet. The inventions described and the many small details not specifically mentioned in this report combine to produce a certainty in the results not hitherto attained in the art of telegraphy and secure a speed in transmission and reception many times greater than by any other method. Cresson Medal. 5 February 1896. JFI August 1896. Appl, referred to CSA by FI, 20 November 1895. 3 Pt. Letter Telegraphy: The Delany Machine System (N. Y. 1895). Delany to Wahl, 5 June 1896. Scott to Wahl, nd. Wahl to Scott, with reply, 28 December 1895. Wahl to Hering, with reply, 27 November 1895.

1897 Kinney, Robert D. Philadelphia. Forced Draft for Steam Power Plants. T. Carpenter Smith, John E. Codman. This apparatus is intended to condense, by an air condenser, the exhaust steam from an engine, and to use the resulting heated air as a means of increasing the draft and gain economy by utilizing the heat units given up to the air used for combustion. Comm suggests that the Appl be held in abeyance or withdrawn without prejudice, until a device is ready for examination and expermental verification of its alleged advantages. Report made Advisory. 8 April 1896. Kinney to CSA, 23 November 1895. Winand to Wahl, 3 January 1896. 2 Kinney to Wahl, 29 January - 8 February 1896. Codman to Wahl, 19 February 1896. "Literature and Data related to Kinney's Forced Air System," Engineering Mechanics (April, May, June 1895); Kinney to Elbridge, Chm CSA, protest, 1 September 1896. Re-Investigation was ordered, 2 September 1896. See CSA 1932.

1898 Morris, Henry G., Salom, Pedro G. Philadelphia. Automobile. Coleman Sellers, Charles A. Hexamer, T. Carpenter Smith, John H. Cooper. It is advisable to consider this invention, the Automobile Vehicle,

1898 (continued) On its own merits, not in comparison with other horseless vehicles as there has been no opportunity to test its action in comparison with vehicles actuated by steam or other engines. In adapting the Direct Current Electric Motor and Storage Battery to vehicles, the inventors have modified the running gear mainly to such motive power. The most noticeable departure from common practice is placing the driving wheels in front with the guiding wheels at the rear. Its points of merit include freedom from vibration incident to motive power and from heat and odor. The power from storage battery is economical in use and cannot be made wasteful in operation. Scott Medal. 2 December 1896. Appl referred to CSA by FI, 18 December 1895. Draft with 4 Illus. Comm list. 2 Salom to Wahl, 11 January - 24 March 1896. 2 Morris to Salom to Wahl, 26 February 1896 - 9 April 1897. Copy, Morris and Salom to Ware Brothers, 19 September 1896. Cooper to Wahl, 4 August 1896. Hexamer to Wahl, 14 August 1896. Smith to Wahl, 27 January 1896. 5 Sellers to Wahl, 12 February - 4 November 1896. Salom, "Automatic Vehicles," JFI April 1876.

1899 Kroll, Gottlieb. Philadelphia. Convertible Carriage. Stacy Reeves, Luther L. Cheney, D. E. Crosby. The top is made in sections to be folded back and the invention consists in certain modifications in the construction of the doors and other parts, whereby the upper parts of the doors may be readily folded when it is desired to convert a closed carriage into an open one, and restored to the original position. The Kroll Landau claims to have obviated the trouble which had heretofore existed in raising and lowering the windows. No storm cover is needed as this is a weather-proof as a permanently closed carriage and neither water nor dust can beat in, an annoyance from which no convertible vehicles have hitherto been free. Amended to award Longstreth Medal. 8 April 1896. Kroll to CSA, 20 January 1896. Reeves, Cheney, Crosby to CSA, brief Comm Report, 21 March 1895 (refers to Pt awarded 7 May 1895). 3 Pt: Kroll, Wells, Thomas. Descr. Np, Journal of Commerce, nd. T. 3 Kroll to Wahl, 17 February - 10 July 1896. Wahl to Kroll, 13 July 1896. Wahl to Reeves, 28 January 1896, with note on Comm meeting. Reeves to Wahl, 28 February 1896. Comm list.

1900 Balzer, Stephen, M. New York. Device for Making Milling Cutters. Thomas P. Conard, Spencer Fullerton, J. Logan Fitts, Hugo Bilgram, Luther L. Cheney, Herman Dock. This is designed to be mounted between the centers of an ordinary lathe for forming and at the same time, backing off the teeth of milling cutters. A number of practical tests were made with uniformly good success. The teeth made in this way may be shapenend by grinding on their faces, without in the least altering their shape, until they are entirely worn out, and in this and other respects, they are fully equal to cutters made by the expensive special machines in general use. Scott Medal. 8 April 1896. JFI, December 1896. Balzer to CSA, 17 January 1896. Pt. 3 Adv. 5 Balzer to Wahl, 12 September 1895 - 13 October 1896. Descr. Draft. Conard to Wahl, 19 February 1896. 2 Dock to Wahl, 25-26 February 1896. Blazer to Conard, 13 February 1896.

1901 Johnson, Moses, C. Hartford, Connecticut. The T. and B. Tool Co. (Applicant). Danbury, Connecticut. Drilling Tool. Henry F. Colvin. No Report. Appl dismissed without prejudice. 1 September 1897, T. and B. Tool Co. to CSA, 28 January 1896. 2 Colvin to Wahl, 15 February - 28 March 1896. T. and B. Co. to CSA, Descr, 30 January 1896. 4 Pt. Blueprint. Adv. Catalogue. 10 T. and B. Co. to Wahl, 25 April 1895 - 28 January 1897.

1902 Hammill, Joshua Milton. Philadelphia. Under-Surface Trolley System. C. J. Reed. No Report. Appl dismissed without prejudice. 6 January 1897. Hammill to CSA, 10 February 1896. 2 Hammill to Wahl, 12 February - 24 June 1896. See also CSA 1871.

1903 Marsden, Mark Warsnop. Philadelphia. Corn-Pith Cellulose. John Haug, John E. Codman, Charles A. Hexamer, Edward F. Moody. Pith has a capacity to absorb over twenty times its own weight of water; in tests conducted by Comm, bricks of cornpith swelled instantly to six or eight times their original size when water was poured on them. The most important use suggested for this produce is as a filling for the compartments of vessels; the influence which this will have on construction and qualities of war vessels has been fully described by Lewis Nixon, in a paper read before FI. The war vessels now being built at Newport News are to be supplied with Marsden's Cornpith Cellulose, the comparative tests made by the Navy Dept. having fully demonstrated its superiority. It is further stated by the inventor that the shell and fibre remaining from the process has some value as food for cattle. Scott Medal. 13 May 1896. With statement of Prof. H. J. Patterson, Vice Director and Chemist of Maryland Agricultural Experimental Station, 13 February 1896. Appl referred to CSA by FI, 18 January 1896. 5 Pt: Marsden, Leduc (2), LaBarriere, Jurgens. Draft. Foster & Freeman, Atty, to Crobin, 3 February 1896. Corbin to Wahl, 4 April 1896. Illus. Nixon, The Marsden Corn-Pith Cellulose, read at FI, 15 January 1896. Marsden to Wahl, 16 September 1896.

1904 Tuckfield, Charles Bird. Salt Lake City, Utah. Stove-Pipe Anchor. William C. Head, Henry R. Heyl, Frank P. Brown. This is to secure the stove pipe in proper position within the opening leading to the flue. Two adjustably-connected iron rods carry the clamping attachments, one secures the end of the stove pipe within the flue-opening and the other locks the several sections firmly together. The apparatus is strong, cheap and not unsightly. The use of this device will lessen danger to buildings from fire, to residents from deadly gases, and may prevent loss of time and temper in "putting up" the pipe. Amended to award Certificate of Merit. 8 April 1896. Tuckfield to CSA, 18 February 1896. 2 Pt. 2 partial Drafts. 2 Tuckfield to Wahl, 6 February - 18 May 1896. Circular. Brown to Wahl, 29 February 1896.

1905 Jarrett, John W. Philadelphia. Filter. Samuel P. Sadtler, Frank P. Brown, Reuben Haines, Samuel Dixon, John E. Codman. When arranged for filtering, the cock is set so that the ports will permit the unfiltered water to enter filter channels by way of the upper head, to pass downward through the filter bed (of sand or other material), then out through

1905 (continued) the lateral pipe. Comm fails to see any element of novelty or originality of sufficient importance to warrant it in making a favorable report and recommendation thereon. Comm Disc 7 April 1897. Jarrett to CSA, 24 February 1896. Pt. Comm list. 2 Drafts. Jarrett to Wahl, 20 May 1897. 8 T; Adv. 2 Sadtler to Wahl, 16 February 1897, 19 September 1896. Dixon to Wahl, February 1897. Note on information.

1906 Ivins, Ellwood. Philadelphia. Tubing. Thomas P. Conard, John H. Cooper, Spencer Fullerton, Luther L. Cheney, A. E. Outerbridge, Jr. The Ellwood Ivins Tube Co. produces a line of steel bicycle tubing having its walls thickened or reinforced at any points desired thus giving strength where needed, and securing the maximum of lightness where extra strength is not necessary. Neither the idea nor the manufacture of reinforced tubing is new, although Ivins is entitled nevertheless to the credit of having first produced reinforced tubing on the commercial scale. While cheerfully according to Ivins all the credit to which his ingenuity and enterprise is entitled, FI having already recognized the superior quality of his tubes by a previous award of Longstreth Medal, does not deem it expedient -- in view of the modus operandi, by which his reinforced tubing is produced is held as a trade secret -- to make a further award. 2 December 1896. See also CSA 1762. Report (1906) read first time 13 May, referred back to Comm 3 June 1896, new Report read 4 November 1896. Ivins to CSA, 11 February 1896. Draft: 30 October, Amended 13 May. Comm Minutes: 11 May, 7 October (+ Draft), 28 October 1896. J.H.C. and Fullerton to Wahl, nd, on Draft. 2 Drafts, 30 October. 5 Conard to Wahl, 15 April - 20 October 1896. Wahl to Conard, 19 May 1896, with copy Eldridge, 19 May 1896. Eldridge to Wahl, 19 May 1896. Garrison to Conard, on microscopic examination of tubes, 5 October 1896. George M. Pierce & Co. to Conard, T, 11 April 1896. Lamb Mnfg. Co. to Conard, T, 30 April 1896. Barnes Cycle Co. to Conard, T, 30 April 1896. 4 Ellwood Ivins' Tube Co. to Wahl, 31 January - 29 April 1896. 2 Adv. Wahl to Ivins, 25 March 1896. Wahl to Conard, 5 October 1896. 2 Pittsburgh Trolley Pole Co. to Conard, 15-19 August 1896 with Adv. Ellwood Weldless Tube Co. to Conard, 26 August 1896 with Adv. 2 Pope Tube Co. to Conard, 26 September - 9 October 1896. 2 Seemless Structural Tube Co. to Conard, 22 October - 5 November 1896. Warwick Tube Co. to Conard, 25 September 1896, Np. Iron Age, 16 April 1896. 2 Waterbury Farrell Foundry & Machine Co. to Conard, 11-14 September 1896, 4 Adv. Waterbury Machine Co. to Conard, 11 September 1896.

1907 Burroughs, William S. St. Louis, Missouri. American Arithmometer Co. (Applicant). St. Louis, Missouri. Calculator. Hugo Bilgram, Edward Moody, Henry B. Helffrick. This is specifically designed to be used in adding accounts. The key board is so constructed that each key, if depressed, will be retained in the depressed condition by a catch, which is released either by the full stroke of the operating lever, or by the depression of the "total key." The machine is provided with various safety devices having the object of preventing, as much as possible, faulty or incomplete movements of the operator and otherwise

1907 (continued) facilitating his labor. The machine as a whole is very complicated, and a mechanic is apt to be at first glance unfavorably impressed with the almost countless number of springs which operate the printing hammers. It seems, however, that in practice they give little or no trouble. Scott Medal. 4 November 1896. American A. Co. to CSA, 2 March 1896. 2 Pt. 2 Pamphlets. Draft. 7 Wyeth to Wahl, 16 March 1896 - 26 April 1897, with business card, Phila Agent for Am. A. Co. 5 Am. A. Co. to Wahl, 16 March 1896 - 6 May 1897. Am. A. Co. to FI, requesting duplicate medal, 5 January 1900. Burroughs to FI, 23 September 1897. Wahl to Moody, with reply, 13 March 1896. 2 Helffrick to Wahl, 12-16 March 1896. 7 Bilgram to Wahl, 15 April 1896 - 22 April 1897.

1908 Roentgen, Wilhelm Konard. Luzern, Switzerland. Investigations of New Kind of Ray. Elmer G. Willyoung, Edward P. Davis, John Carbutt, Arthur W. Goodspeed, Edward A. Partridge, W. F. Magie, W. W. Keen. (A historical resume of the study of the passage of electricity through gases, from Picard in 1675 to Hertz in 1892 and Lenard in 1894, precedes discussion of Roentgen's discovery.) Roentgen, late in 1895, made the discovery that, together with the cathode rays outside the tube, which it is convenient to call Lenard rays, there exists another kind of ray. He showed that these differ from Lenard rays in that they are not deflected by a magnet, and in that air and all other substances are far more transparent to these than to Lenard rays. This discovery bids fair to promote a more accurate understanding of the great fundamental laws of physical science. The benefits which have already been derived and which seem likely to be derived in the future, are so great as to stamp Prof. Rosentgen's discovery as one of the great discoveries of the century, entitling him to the warmest thanks of the civilized world. Cresson Medal. 4 November 1896. Appl, 4 March 1896, with note Investigation Approved by CSA, 4 March 1896. Comm Resolution, with Draft. Illus. Magie to Wahl, with Resolution, 9 September 1896. Goodspeed, copy of resume with suggestions. Davis to Wahl, with resume, 3 November 1896. Keen to Wahl, with resume and corrections, 3 November 1896. Carbutt to Wahl, with resume and minor changes, 3 November 1896. Copy, résume. Heyl to CSA, recommending investigation, 4 April 1896. Davis to Wahl, 25 March 1896. Goodspeed to Wahl, 10 March 1896. Carbutt to Wahl, 3 September 1896. Notes on addresses of Keen and Magie. 5 Keen to Wahl, 10-25 March 1896. 3 Magie to Wahl, 10-24 March 1896. Wahl to Willyoung, 10 September 1896, with reply. 3 Willyoung to Wahl, 14 March, 2 November 1896. Roentgen to Wahl, 6 August 1897. See also CSA, 1909, Conard to Wahl, 9 March 1896. See also CSA 1919, Willyoung to Wahl, 5 August and 1 September 1896.

1909-1 McLaughlin, James F. Philadelphia. Electro-Magnetic Railway System. L. F. Rondinella, Clayton W. Pike, Carl Hering, A. Langstaff Johnston. This system used an insulated underground conductor to convey an electric current to the 2 or more electrically disconnected sections of a third rail, this being laid flush with the street surface.

1901-1 (continued) The Chief points of novelty in this system are the junction boxes containing the switches and the method of carrying electro-magnets under the car to operate these switches. Although the system will require further improvements before it can be said to afford a complete solution of the problem, it exhibits commendable progress. Longstreth Medal, 3 June 1896.

Rondinella, Pike, Johnston. After the original Report was adopted members of Comm obtained information of other systems which made them consider the end of the Report too commendatory. An amended Report came up for adoption 2 December and the motions to adopt were lost, Report being referred back. A member of the General Comm who had claimed the system had no novelty has provided the Comm with a complete list of U. S. Pt for Closed Conduit Electric Railways. Comm examined copies of all of these Pts; the mechanical arrangement of the switch employed by McLaughlin, and his method of carrying the magnets under the car, do not appear to have been anticipated. 3 February 1897. Appl recommended by Thomas P. Conard, 3 March 1896. McLaughlin to CSA, 17 March 1896. 2 McLaughlin to Wahl, 24 March 1896 - 10 March 1897. 3 Electro-Magnetic Traction Co. to Wahl, 11 March - 16 May 1896. Draft, 13 May 1896. W. J. Carruthers Wain, "Report on the Electro-Magnetic Traction Co.'s. Street Railway System." nd. Joseph Lyons to McLaughlin,"Report on the Electro-Magnetic Traction Co.'s. Street Railway System,"18 November 1895. 2 C. J. Reed to Wahl; 8-24 December 1896, with list of U. S. Pt, prior to Wahl, 4-21 December 1896.

1909-2 McLaughlin, James F. Electro-Magnetic Street Railway System. 2 Pike to Wahl, 16-19 September 1896. 2 Hering to Wahl, 17-18 September 1896. 2 Johnston to Wahl, 9 April - 16 April 1896. Johnston to CSA, 24 June 1896. Johnston to Wahl, 27 April 1896, forwarded to Rondinella. Wahl to Johnston, 18 September 1896, with reply, 14 October 1896. Conard to Wahl, 9 March 1896. 11 Rondinella to Wahl, 17 March - 19 September 1896, with note on Comm. Draft, 3 February 1897. 2 Catalogues, 9 Pt: McLaughlin (4), Hunter, Van Depolel (3), Johnston, Pt. Illus.

1910-1 Outerbridge, A. E. Jr. Philadelphia. Investigations in the Molecular Physics of Cast Iron. Charles L. Prince, Gus C. Henning, William C. Henderson, Francis Schuman. Certain deviations from the expected strength of test bars made in connection with his work led Outerbridge to make an investigation as to their previous treatment. He found that the only assignable cause for the increased strength was that they had been rumbled in a mill in order to clean them. He followed up this observation with a careful and scientific investigation regarding the effect of vibration on cast iron, confined, however, to a limited range. So far as Comm has been able to learn, Outerbridge has been the first to make a careful study of the effect of molecular change on internal strain, and to note that the change may be hastened by impact. Scott Medal. 2 June 1897. JFI July, November 1897, July 1898. Appl, approved by CSA, 4 March 1896. 12 Outerbridge to Wahl, 27 May 1896 - 24 January 1898. Appl recommended 2 March 1896 (Webster). Copy to Pemberton Smith to A.E.O., 18 August 1896, with Memo. Henderson to

1910-1 (continued) Wahl, 10 May 1897. Davis to Prince, 27 March 1897. Cox, for Schuman, to Wahl, 30 July 1897. Copy: Hannover to A.E.O., on Report, 11 January 1898 (?). Data. Schuman to Wahl, 28 September 1896. 2 Henning to Wahl, 28 September 1897. Henning to Webster, 26 1896. 2 Wahl to Prince, 8 June 1896 - 8 February 1897. 11 Prince to Wahl, 4 May 1896 - 12 August 1897. Np: Iron Trade Review (28 January 1897). The Railway Review, XXXVI:15 (11 April 1896). Copy, Outerbridge to Wahl, 24 July 1897. Schuman to Wahl, with Amended Report, 1 October 1897. Note, Outerbridge with Amended Report, 3 August 1897. Note on activity. Secy, Am. I. Mining Engineers to Outerbridge, 15 February 1896, with Np. Outerbridge to Wahl, with copy Report and Ltr to Wm. Sellers & Co., Inc. (11 February 1896), "The Mobility of Molecules of Cast Iron," 9 March 1896. Notes of Comm meetings: 24 September - 1 October 1896.

1910-2 Outerbridge, A. E. Jr. Investigations in the Molecular Physics of Cast Iron.

1911-1 Fowden, Robert A. Philadelphia. Telegraph. George A. Hoadley. No Report. Comm Disc. 7 October 1896. Appl, 4 March, recommended by Rondinella, 2 March 1896, with instructions to Chm Comm. 2 Rondinella to Wahl, 4-9 March 1896. Rondinella, "Report on the Fowden Printing Telegraph," 24 November 1894. 2 Fowden Co. to Wahl, 4 May - 28 September 1896. Pamphlet. E. A. Scott to Wahl, 16 September 1896. Hoadley to Wahl, 28 April 1896. 9 Pt: Hathaway, Linville (4), Davis & Fowden (2), Fowden (2).

1911-2 Fowden, Robert A. Printing Telegraph. Digests of Files of Pt: Hathaway, Fowden (2), Linville (5), Davis & Fowden (2), Phelps (4), van Hoevenbergh (4), Anders (4), Edison (10 + 1 Reissue), Pope & Edison (1 Reissue), Wood & Brower, Gallagher, Plush & Phelps, Burke, Sheehy (2), Delany (2), Brown, Farmer (2).

1912 Barnes, J. B. Springfield, Illinois. Tonnage Formula. H. W. Spangler, S. M. Vauclain, Henry F. Colvin. Comm has endeavored to obtain results of reliable experiments in this line and the data is in such shape that a large amount of time and money will have to be expended to obtain any satisfactory results. The results thus obtained would probably be of little more value than the well-known rules now at the command of any engineer. Comm recommends discharge. 6 January 1897. Appl, 4 April 1896, with note on referral by CSA. Wahl to Spangler, 31 December 1896, with reply. 4 Spangler to Wahl, 27 October - 21 December 1896. 2 Barnes to Wahl, 2 March 1896 - 8 February 1897. Comm Minutes: 18 September, 3 November, 28 December 1896. Dudley, Pa. R. R. Co., to Wahl, on transportation for Comm, 4 November 1896. Ely, Pa. R. R. Co. to Wahl on providing transportation, 7 November 1896.

1913 Steiert, Albert. Philadelphia. Street-Car Fender. Comm not Appnt. Appl Dismissed. 6 January 1897. Appl, 9 March 1896, with instructions to Chm Comm. Digest of the Albert Steiert Case (pt). 9 Pt: Steiert, del Valle, Peck, Essex, van Gestel, Cherry, Kato, Leightham, Madden.

1914 Rosenfeld, Ike. Philadelphia. Calendar. Hugo Bilgram, Francis Leclere. This is an attachment to a clock designed to indicate the day of the week and month, and the months, automatically taking account of the variable number of days in each month, including that of the leap year. Considering the complicated function this mechanism in intended to perform, it is exceedingly simple. But it is hardly more so than other century calendars that have been in use for probably more than a century. Comm requests Report be Advisory. 3 June 1896. Rosenfeld to CSA, 11 March 1896. Pt.

1915 Vibration Proof Nut Co. New York. Nut Locking Bolt. James Christie, Henry F. Colvin. This invention was fully described in a previous report of this Comm (1841). The efficiency of the device as a secure nut lock was conceded, but some doubt was expressed as to the bolt becoming available in a commercial sense, owing to its peculiar construction. Comm still remains undecided and requests the General Comm, either to dispose of the subject finally by its decision, or else submit it to a new Comm. 3 June 1896. Orgill, Mgr. Vibration Proof Nut Co. to CSA, with note, case re-opened by CSA, 3 April 1895. 3 Orgill to Wahl, 11 February - 29 September 1896, with 15 pages of letters and endorsements and note from Wahl. 2 Wahl to Christie, 12 February - 10 March 1896. Copy: Wahl, to Orgill, 12 February 1896. 4 Christie to Wahl, 13 March - 1 May 1896. Bilgram to Wahl, returning Report without signing it, 2 May 1896.

1916 Travis, William D. T. Burlington, New Jersey. Axle-Bearing and Hub. Spencer Fullerton, Stacy Reeves, D. E. Crosby, E. S. Lippencott. Luther L. Cheney, Frank P. Brown. A metallic hub wheel is rigidly secured to the outer end of a short revolving shaft, which turns in 2 separate boxes held in opposite ends of a shaft chest. The root idea of the wheels being regidly fixed to short revolving shafts came under the observation of one of the members of CSA about 1850 when he used a wagon fitted with this device by Isaac M. Slack. All other parts of Travis' invention are minor details naturally growing out of the root idea. Comm recommends Appl be dismissed for lack of novelty and Report be Advisory. 13 May 1896. Appl, with note CSA's action to reconsider CSA 1887 and on Adopting that Report as Advisory, 5 February 1896. Travis to Fullerton, 23 April 1896. Fullerton to Wahl, 30 April 1896. 2 Amendments to prior Reports and Appendix. Fullerton, Cheney, Reeves, 'prior Report', 31 March 1896.

1917 Getty, John K. Camden, New Jersey. Brown & Getty (Applicant). Camden, New Jersey. Bicycle Support. J. M. Emanuel, Charles L. Prince, Frank P. Brown, J. Logan Fitts. This is intended to be a support for a bicycle when not in use, which shall be so attached to the bicycle as to be carried with it. Comm concludes that the invention is a practical, efficient, and safe support, fully responding to the requirements of such an invention, as one of Comm has had this attached to his wheels in constant use for a year and has found it always reliable. It automatically fastens and locks itself, thus securing the wheel from falling. Certificate of Merit. 3 June 1896. Brown & Getty to CSA, 26 March 1896. J. Brown for Getty, to Commissioner of Pts, 26 January 1895. 5 Pt: Getty, Smart, Wyndham, Ross, Hertel & Beck. Adv. Circular. F. Brown to Wahl, 23 April 1896. Getty to Wahl, 24 July 1896. Emanuel, Draft, 13 April 1896. Emanuel to Wahl, 5 May 1896. Comm list.

1918 Berliner, Emile. Washington, D. C. Gramophone. Samuel Sartain, Louis E. Levy, Edward F. Moody, C. J. Reed, George F. Stradling. The invention consists essentially of two separate mechanisms, the first of which produces a graphic record of the sound by which it is affected and the second retranslates the graphic record into sound. The inventor has here effected a graphic record of sound vibration by means which permit the record to be absolutely accurate. The record is made on a plane, whereon the movement of the recording stylus has an absolutely uniform resistance, which, in the ingenious method employed by the inventor, is practically reduced to nothing. Scott Medal. 4 November 1896. Berliner to CSA, 31 March 1896. 8 Berliner to Wahl, 25 March - 30 October 1896. Berliner Gramophone Co. to Wahl, 2 June 1896. 4 Pt. Comm Minutes, 1 June 1896. Comm list. Stradling to Wahl, 1 April 1896. Berliner, The Gramophone (read before FI, 16 May 1888, printed 1894). See also CSA 1755.

1919 Edison, Thomas A. Newark, New Jersey, Brown, Harold P. New York. Rail Bond. Elmer G. Willyoung. No Report. Appl dismissed. 7 October 1896. Brown to CSA, 13 March 1896, with note on appointing Comm from CSA 1852 (Johnston's Rail Bonds). Brown to Sheble, 13 April 1896. Brown to Wahl, 7 November 1896. 2 Willyoung to Wahl, 5 August - 1 September 1896. Brown to Wahl, 21 May 1896. See also CSA 1920 and 1947.

1920 Brown, Harold P. (Applicant). New York. Protest Against the Award of the Johnston Bond, CSA 1852. Elmer G. Willyoung, George A. Hoadley, E. A. Scott, C.O.C. Billberg. Comm has carefully examined the grounds of protest as advanced by Brown, and while agreeing in the main with Brown as to the requirements of a "perfect rail-bond," does not see that this formulated definition is of any special relevance to the award in question. Comm did not advise the award on the ground that the Johnston Rail-Bond was a perfect bond; they advised the award to this bond as a meritorious advance, and can find nothing advanced in the protest of Brown to induce a change of opinion. 8 April 1896. Appl, Protest received by CSA and referred to Special Comm of members of CSA 1852 Comm, 1 Apeil 1896. Sheble to Wahl, with Brown's protest and on 'Exhibit A', 26 March 1896. Brown to Wahl, protest with descr of "perfect railbond" and data on rail joint tests conducted at Edison Laboratory, 25 March 1896. Test data, Report, with business card, Sheble. 2 Hering to Wahl, 27-29 April 1896, on Harrington's paper, with Ltr, Fagan to Sheble, on Johnston Bond, 13 April 1896. 2 Johnston to Wahl, 3 April - 18 May 1896, with copy, Mitchell, Electrician, to Johnston with test data, 19 September 1894. Wahl to Willyoung, 29 April 1896, with reply.

1921 Committee on Science and the Arts. Amendment of Regulations of CSA. Spencer Fullerton, William H. Wahl, Thomas P. Conard, Samuel Sartain, H. R. Heyl. The regulations on page 28 and 30 provide that at the expiration of 3 months from date of 1st publication of an invention being deemed worthy of the award of Cresson or Scott Medals, that the Applicant will be entitled to receive such award unless within

1921 (continued) that time satisfactory evidence shall have been submitted to Comm of the "want of originality." Question has arisen whether this shall be the sole cause for refusing award after the expiration of the 2 months during which reconsideration of a report may be lawfully made; or whether other causes, such as lack of merit or unimportance of the invention or discovery, may not be justly urged. The regulations are apparently perfectly clear, and provide only for presentation of evidence of "want of originality" as sole ground for objection, the question of merit being decided during the process of Appl, Report by Preliminary Comm, Comm, first and second readings before general Comm. Comm fails to find any valid ground for amending the regulations or extending the field of objections. 3 June 1896. Appl, with note, A Special Comm was Appointed to Report upon the Advisability of Amending the Regulations of the Comm in Reference to Awards, 1 April 1896. Comm list. Fullerton to Wahl, 3 May 1896. Wahl to Fullerton and Comm, nd.

1922-1 Webster, William R. Philadelphia. Observations on Steel. F. Lynwood Garrison, James S. de Benneville, Tinius Olsen. In his 3 publications, Webster enunciates a scheme for correlating the results of chemical analyses and physical tests of basic-steel made by the Pottstown Iron Co. The data he has so far published, has been derived from but one establishment manufacturing exclusively basic-bessemer and basic-open-hearth steel. Comm suggest case be postponed until a larger range of facts be collected. Referred back to enlarged Comm, 7 October 1896.

James Christie, A. E. Outerbridge, Jr. During 1890-1893, Webster began a systematic series of observations on the steel produced at these works (Pottstown Co.). The chemical analysis and tensile strength of a large number of heats were charted, and after a careful study of his deductions, he assigned to each of certain elements a definite potency for elevating the tensile strength of the metal. Webster is entitled to commendation for the free publicity he has given to his subject, and the open invitation to criticism of the same. A strong argument in his favor is that, since the publication of this paper, we know of no adverse criticism which weakens his conclusions. Scott Medal. 3 February 1897. Webster to CSA, 15 April 1896. 3 partial Drafts. 4 Webster to Wahl, 13 November 1896 - 16 July 1897. Webster to Wahl, resigning from CSA at expiration of his term, 17 November 1896. Wahl to Eldridge, 28 September 1896. Olsen to Wahl, 28 September 1896. deBenneville to Wahl, 28 September 1896. Garrison to Wahl, 23 September 1896. Garrison to Eldridge, requesting disc, as Chm, 17 November 1896. 2 Dudley to Wahl, 24 October 1896 - 2 January 1897, on Reports. Howe to Wahl, 'confidential.' with opinion of observations, 21 October 1896. Howe to Wahl, on not signing Report, 2 January 1897. 10 Christie to Wahl, 28 September 1896 - 25 July 1897. Christie to CSA, on definition of Invention, with definition from Century Dictionary, from Eldridge, 1 February 1897. City Trusts to Wahl, 12 July 1897. Webster to McClenahan, with additional data, 15 December 1925. Webster, "Observations on the Relations Between the Chemical Constitution and Ultimate Strength of Steel" (from J. Iron and Steel Institute, 1894). Webster, "Observations" (from Trans. Am. I. Mining Engineers 1892). Webster, "Further Observations" (from Trans, Am. I. M.E. 1893). 5 pages data. Comm Minutes: 1 October, 26 December 1896.

1922-2 Webster, William R. Observations on Steel. 2 Webster to McClenahan, 15 December 1925, with a discussion of Webster's research on the relations between chemical constitution, and the ultimate strength of steel.

1923 Clement, J. F. Philadelphia. Pneumatic Tool. William C. Head. No Report. Comm Disc 22 June 1898. Appl, with recommendation from John Codman, approved by General Comm, 6 May 1896. Codman to CSA, 3 April 1896. Comm list. Clement to Wahl, 16 April 1896. 2 Clement Pneumatic Tool Co. to Wahl, 4 June - 5 August 1896.

1924 Schrader, Henry. Philadelphia. Gas Fixture. Appl Rej. Schrader to CSA, 20 April 1896. Pt. 2 Adv.

1925-1 Reagan, Harry C. Jr. Philadelphia. Electric Railway. Clayton W. Pike, A. Longstaff Johnston, Carl Hering. This would do away with the overhead trolley wire. An iron rail in insulated sections 5 feet long, is supported in a conduit of wood and asphalt, with its upper surface flush with the ground. Current is taken off the live sections by a brush contact carried by the car, and runs through the car motor to the rails and back to the station. The contact device does not require another magnet to reverse the action of the first. The cars may be reversed without shifting the position of the magnet. Comm believes several modifications must be made before it will be suitable for practical use in the streets and doubts if conduit as designed is sufficiently strong mechanically. Referred back to Comm. In Supplemental Report, Comm recommends the inventor be awarded Certificate of Merit for the method of connecting the buried feed main to the rail sections by means of his contact rotatable around the main as an axis, actuated by a magnet carried on the car. Amended to award Longstreth Medal. 3 February 1897. Reagan to CSA, 12 May 1896. 2 Reagan to Wahl, 21 July 1896 - 8 March 1897. 3 Pike to Wahl, 27 July 1896 - 25 January 1897. Comm Minutes: 22 September 1896, 26 January 1897. Pt. Descr. 6 Illus. 2 notes on Report. 5 Blueprints.

1925-2 Reagan, Harry C. Jr. Electric Railway. 23 Pts: Reagan (3), copy of allowed claims (10 pages), Wynne (4), Wilcox & Wilcox (3), Smith (2), Nicholson & McElroy, Dion, von Siemens (3), Blair, Heron, Riker, Henry (2), Hesse. 6 Blueprints. Reagan, Descr & Illus.

1926 Morrell, Charles. Chicago, Illinois. Trisection of Lines and Angles. Edgar Marburg, Hugo Bilgram, Edwin S. Crawley, L. F. Rondinella. Comm has applied this method to angles selected at random, and has thus proven its incorrectness by analytic and graphic methods. Comm requests discharge. JFI July 1897. Morrell to CSA, 21 May 1896, Comm Appnt, 28 May 1896. Morrell to CSA, 24 February 1897, Comm not Appnt. Comm Minutes: 29 April 1897. 2 Illus. Morrell, The Trisection of Lines and Angles: Answer to the Inquiry of the Comm. Copy of Wahl to Morrell, 8 February 1897. 2 Marburg to Wahl, 30 March - 21 April 1897, with receipt for Ms, 25 March 1897. 14 Morrell to Wahl: 21 May 1896 - 7 April 1897. See also CSA 2023.

1926 (continued)

Morrell also submitted 3 manuscripts which were not filmed: A System of Metrology, Part Three: Geometry (1896); A System of Phonoscript and Phonotype (Chicago, 1896); The Trisection of Lines and Angles, with Addendum (nd, part of this was microfilmed).

1927-1 Brown, Edward. Philadelphia. Pyrometers. James Christie, John M. Hartman, William Claude Henderson, Alex. E. Outerbridge, Jr., William R. Webster, C. L. Prince. Pyrometers fitted for practical use have been a subject of study and experiment with Brown for nearly thirty years. Previous to his efforts, the only pyrometer available for practical purposes, was one depending on the difference of expansion of two dissimilar metals. In Brown's pyrometer for registering the temperature of the hot-blast of iron furnaces, a strip of thin metal is subjected to a current of heated air or gas, and the expansion registered by a manometer. The extensive work done by Brown, and the satisfactory assurances received from those who have used his instruments, as to their merit and usefulness, renders any further test unnecessary by Comm. Scott Medal. 4 November 1896. Brown to CSA, 1 June 1896. 2 Brown to Wahl, 21 October 1896 - 8 March 1897. 2 Christie to Wahl, 25 September - 23 October 1896. Shuman to Wahl, 25 September 1896. Webster to Wahl, 23 September 1896. Comm Minutes, 23 September 1896. Brown, Index to Edward Browns (18) Pt on Pyrometers (4 pages with Illus), 27 May 1896. Np: The Bulletin of the Am. Iron and Steel Association, 2 June 1894; Am. Manufacturer. 2 Alex. A. C. Klaucke & Co., Atty, to Brown, 15-16 April 1870. 4 Pt. Office to Brown, 30 November 1869- April 1870. Copy of Brown to Commissioner of Pt, 29 October 1870, with Argument 19 March 1870, and 2 Amendments, Brown to Klaucke & Co., 7 January 1870, with Amendment. Report from Pt Office, 23 March 1869. Certificates of the Novelty and Utility of E. Brown's Pyrometer (7 pages T). 11 Pt. and Reissue. 9 Descr of Pt. 6 Adv. 5 T, 2 pages test data, Illus.

1927-2 Brown, Edward. Pyrometers.

1928 Heilprin, Angelo. Philadelphia. Car Window, Ventilating. Samuel Sartain, William McDevitt, Stacy Reeves. The sash is centrally pivoted on a line with the vertical center of the window-frame opening, so that either the right or left side of the sash can be pulled inwards. A sliding bolt is thrown backwards or opposite to the direction in which the car is moving, by means of a key carried by the attendant; the result being that the sash can be opened inwards on the side next to the forward end of the car. While air can pass through the partially-opened window, the current will mostly be drawn outwards, and the cinders will be deflected outwards, by the oblique surface of the sash and glass. This window has been so recently invented, that there has not yet been sufficient time to have it practically tested on railway trains; nevertheless Comm is well pleased with the principle of the invention and with the completeness of mechanical details. Longstreth Medal. 3 February 1897. With note, 1st Reading, 7 October '96. 2nd - 4 November 1896. Referred back. Heilprin to CSA, 11 June 1896. Pt. Sartain to CSA, Comm

1928 (continued) Report with further information, on Rail Road Company Officers and Car Building firms being naturally shy of praising or commending an un-tested invention for fear such praise will raise the inventor's estimate of its monetary value and with letter from Superintendent of Construction of Western Division of Penn. R. R., on the safety of the device. 4 Heilprin to Wahl, 11 June 1896 - 10 March 1897. 4 Sartain to Wahl, 24 July 1896 - 31 October 1896. Illus.

1929 Fisher, H. H. Corpus Christi, Texas. Aerial Navigation. Spencer Fullerton, O. Chanute, A. F. Zahm, Henrik V. Loss, A. M. Herring. This proposition has not advanced beyond the hypothetical stage. Fundamentally, the air-ship proposed consists of a spindle-shaped balloon, beneath which he proposes to suspend a rigid rectangular frame-work containing a motor and also a complex system of propellers intended to act either vertically or horizontally, and to be able to move the apparatus in any desired direction at the will of the operator, thus dispensing with the need of a rudder. The propeller system has been proposed by many inventors, but the correctness of the principle remains yet to be demonstrated. Comm is compelled to conclude, from its examination of the data submitted by the Applicant, that he has devised nothing of value that is new in his scheme for a dirigible air-ship, and that the only things worthy of commendation are his zeal and sincerity. 1 June 1898. JFI August 1898. Herring to Wahl, 16 June 1898. Zahm to CSA, his views as to the merit of Fisher's scheme, nd. Forney to Wahl, 13 January 1897. 3 Zahm to Wahl, 23 July 1896 - 16 May 1898. Herring to Wahl, 28 July 1896. 3 Chanute to Wahl, 28 July 1896 - 18 May 1898. 4 Fisher to Wahl, 20 April 1898 - 9 August 1898. Copy of 5 Fisher to Wahl, 9 April - 20 July 1896, lengthy Descr.

1930 Fischer, Ellen Jane. Philadelphia. Enameling Marble. H. R. Heyl, J. M. Emanuel, Edward F. Moody, Thomas P. Conard. The action of the dilute acid upon marble immersed in it is to attack every part of the surface, causing the face to assume a very smooth and glossy appearance without relatively changing its shape. The effect produced is not different from mechanical polishing except that it is more complete and perfect. 3 February 1897. Fischer to CSA, 4 August 1896. Fischer to (CSA), 4 August 1896. Wahl to Fischer, 26 October 1896. Wahl to Heyl, 31 December 1896, with reply Fischer to Wahl, 27 October 1896, with note, HLH, 28 October 1896. Fischer to Heyl, 25 January 1897. 2 Fischer to Wahl, 1 August 1896 - 8 March 1897. Pt. 4 Pt Office to Fischer, 29 October - 5 December 1895. Comm Minutes, 28 October 1896.

1931 Wiesner, Henry W. Philadelphia. Electric Generator. C. J. Reed, Clayton W. Pike, L. F. Rondinella. After listening to the inventor explain his invention, it was the opinion of Comm that the inventor was mistaken in thinking that his apparatus was an electric generator. After some discussion, the inventor also took this view, and decided to withdraw his Appl. Report made Advisory. 2 December 1896. Wiesner to CSA, 31 August 1896. Descr. Illus. 2 Wiesner to Wahl, 3 October 1896 - 13 January 1897. Comm Minutes, 2 October 1896. Notice to Reed, on Comm, 1 September 1896. 2 Wahl to Reed, 16-28 September 1896. Reed to Wahl, 20 October 1896. Pike to Wahl, 9 October 1896.

1932 Kinney, Robert D. Philadelphia. System of Forced Draft for Steam Power Plants. James Christie, Thomas P. Conard, R. H. Thurston, John Haug, J. E. Denton. It has been the custom of the Comm where there exists reasonable grounds for doubt as to the probable success or failure of an untried invention, and when this uncertainty could only be resolved by actual experiment, to withhold opinion on the subject, and suggest an experimental test, as was done in the Advisory Report dated 3 March 1896. When, however, we have in practice several analogies, which offer examples from which reasonable conjectures can be derived, we may be justified in hazarding an opinion, especially when such opinion is expressly desired by the party most interested. For the purpose of illustration, Comm assumed an example conforming to the conditions of average practice and compared Kinney's proposed system. Judging from such evidence, as Comm has on the subject, it would, therefore, seem that the system proposed would be impracticable. 4 November 1896. Re-investigation ordered by CSA, 2 September 1896. See CSA 1897. 3 Denton to Wahl, 23 September - 5 October 1896. 2 Thurston to Wahl, 14-30 September 1896. Copy of Wahl to Thurston, 12 September 1896. 2 Christie to Wahl, 16-28 September 1896. Wahl to Christie, 17 September 1896. Pt. 3 Kinney to Wahl, 11 June - 11 December 1896. Wahl to Kinney, 15 June 1896. See also Christie to Wahl, 25 September 1896, in CSA 1927.

1933 Hunter, Rudolph M. Philadelphia. Step-Up and Step-Down Transformer System of Electrical Distribution. Clayton W. Pike, E. A. Scott, Carl Hering, Thomas Spencer, H. W. Spangler, L. F. Rondinella, Paul A. N. Winand. The use of 2 transformers, one to raise the electric motive force, the second to lower it, is by no means recent, the experiment being recorded and illustrated by Joseph Henry, in Trans. A. P. S. (2 November 1838). Therefore any subsequent inventor could only claim the merit of pointing out the use of this combination to transmit power economically. In the opinion of the Comm, the language of the Pt Appl of Depree and Carpentier covered broadly the method of transmitting power by means of the step-up and step-down transformer, and Comm therefore concludes that Hunter is not entitled to the credit of having first pointed out the value of this combination. 1 September 1897. JFI October 1897. Pike to Chm, CSA, with supplementary Report following Hunter's objections, 26 March 1897.

Pike, Spangler, Rondinella, Winand, Spencer, Hering, Scott. It seems to Comm that there are but 2 things which would merit an award in this case: the discovery that the use of the step-up and step-down transformers is a means of economy in the transmission of electrical energy however generated and the making of important improvements in such apparatus constructed according to already known principles. It is perfectly clear that Hunter was not the first to discover the first of these two and Comm is not aware of his having done enough under the second to warrant him an award. 2 Appl, 2 June 1896. 9 Hunter to Wahl, 2 June 1896 - 16 October 1897, with objections and 7 pages Illus, 2 pages Illus and Descr. Hunter to FI, 19 November 1896. 2 Pt. 5 Comm Minutes: 2 October 1896 - 3 May 1897. Marks to Wahl, 8 September 1896. Sellers to Wahl, 12 September 1896. Kennelly to Wahl, 17 September 1896. Spangler to Wahl, 7 October 1896. Spencer to Wahl, 8 April 1897. Pike

1933 (continued) to Spangler, 23 April 1897, forwarded to H.W.S., with reply by Winand. 2 Pike to Wahl, 20 February - 25 March 1897. Pike, Rondinella. As Comm believes that the interests of the Institute would be best served by granting Hunter's request to withdraw his Appl, Comm recommends he be allowed to do so. Not accepted by CSA, 2 June 1897. Prospectus. Argument for R. M. Hunter, Pt Office, Interference No. 14, 765.

1934 Murjahn, Edward. Philadelphia. Rust-Protection. F. Lynwood Garrison, Edward F. Moody, Lee K. Frankel, Samuel P. Sadtler. In view of the indisposition of the Applicant to have a chemical examination made of these products, Comm deems it inexpedient to make the investigation. Appl dismissed. 6 January 1897. Murjahn to CSA, 15 September 1896. Haines to Murjahn, Chemical Analysis, 27 June 1895. 2 Murjahn, Amphibolin Chemical Works, to Wahl, 16 September - 2 December 1896. 3 Adv. Haupt to Wahl, 15 October 1896. Instructions to Chm, Comm with note on Popular Science Monthly (October 1896).

1935 Penn Acetylene Light Co. (Applicant). Philadelphia. Acetylene Gas Generator. Appl dismissed without prejudice. 2 November 1898. Appl., 17 October 1896. Adv.

1936 James, John Faraday. Willet Point, L. I., New York. Pharmaceutical Preparations. No Report. Appl dismissed, 4 November 1896. James to CSA, 22 October 1896. James to CSA, Descr. 22 October 1896.

1937 Uehling, Edward A., Steinbart, Alfred. Birmingham, Alabama. Pyrometer, Pneumatic. H. W. Spangler, John M. Hartman, A. E. Outerbridge, Jr. Comm has been desirous of making a practical test of the machine to determine whether the calibration remains constant in use, but because of the conditions under which it is used, has found this impracticable. Hartman has visited fifteen plants having the apparatus in use and has in every case received favorable reports of its working. The principle on which the pyrometer acts is theoretically correct and has not been heretofore used for this purpose. Scott Medal. 3 November 1897. JFI December 1897, Uehling, Steinbart and Co., Ltd., to CSA, 31 October 1896. Norton, Stevens Institute of Technology, to Wahl, on Uehling's pyrometer, 19 September 1896. Hexamer to CSA, recommending this pyrometer, 16 September 1896. Comm Minutes 26 March 1897, with instructions on Chm, Comm, 2 lists of Comm. Hexamer to Wahl, 18 September 1896. List of users of the Pneumatic Pyrometer, with 11 T. Hartman, on Draft, 30 September 1897, with Illus. 6 Spangler to Wahl, 30 December 1896 - 6 October 1897, with Draft, CSA Minutes, on back of 5 October. Outerbridge to Spangler, 5 October 1897. Reprint, Uehling, "The Pneumatic Pyrometer," Stevens Indicator, April 1894. 4 Pamphlets with 3 pages T. 6 Uehling, Steinbart and Co., Ltd. to Wahl, 18 September 1896 - 8 March 1898. 2 Pt.

1938 Levy, Max. Philadelphia. Screens for Photo-Mechanical Engraving. Appl. Rej. Levy to CSA, 7 November 1896. 2 Pt. See also JFI July 1897. See also CSA 1939.

1939 Levy, Louis E. and Max. Philadelphia. Screens for Photo Mechanical Engraving. D. Anson Partridge, Samuel Sartain, Hugo Bilgram, Coleman Sellers, John Sartain. The Levys' overcame the lack of sharpness in line by ruling through a ground laid upon plate glass, etching the lines thus laid bare, and, after cleaning off the remaining ground, filling the lines so etched with an opaque pigment. The lines are beautifully sharp and quite opaque. The value of this improvement has been widely recognized by workers in half-tone, and give a world-wide renown to the Levy screens. Scott Medal. 2 June 1897. JFI July 1897. Louis E. and Max Levy to CSA, November 1896, referred for investigation by CSA by action of FI, 7 October 1896. 2 Pt. Comm Minutes, 1 April 1897. 3 Sellers to Wahl, 2 January - 26 March 1897. 2 M. Levy to Wahl, 13 October - 7 November 1896. 2 Catalogues, 1 Price List, 6 Illus. The Process - Photogram (January 1896), "Max Levy and His Work".

1940 Leclere, Francis. Philadelphia. Black Printing Process. Louis E. Levy, Samuel Sartain, Arthur Beardsley, John Haug. The invention embodied in Leclere's Black Prints consists of a copying process whereby a position copy can be obtained directly from a position original, which, however, must be transparent, or at least translucent. The inventor has given Comm a full description of his course of procedure which, together with the exhibits submitted suffices to indicate clearly the nature of the process in general, the details being withheld from publicity by the inventor, for commercial reasons. The work submitted appears to leave nothing to be desired in point of quality. The price is somewhat higher than the market rate for corresponding sizes of blueprints; but where a positive, and especially a black print copy is requisite, the process may be regarded as economical. Scott Medal. 7 April 1897. JFI May 1897. Leclere to CSA, 26 November 1896. Rondinella to CSA, recommending Leclere's Black Print Process, 17 October 1896. Appl, referred for investigation by vote of CSA. 4 Leclere to Wahl, 28 October 1896 - 12 August 1897, with Illus and business card. 2 Announcements. Leclere to Rigling, 12 December 1896. Adv. Copy, Secy, to Leclere, 16 December 1896. 2 Levy to Wahl, 17-31 December 1896. Levy, Draft. Draft. Haupt to Wahl, 7 December 1896. Comm Minutes, 11 December 1896, with Comm List.

1941 Rowand, Lewis G. Camden, New Jersey. Universal Fire Alarm Co. (Applicant). Philadelphia. Automatic Safety Device for Electric Circuits. E. A. Scott. C. H. Bedell, C. W. Pike. This is particularly adapted to cut off the current from a section of a trolley line, which, from any cause, may, become broken, or from which it may be desirable to cut off the current. The device consists of an electro-magnet with double winding, these being in opposite directions. A wire common to both these windings connects the magnet with the source of supply of the trolley wire, and another wire common to both windings connects it to the ground. The magnet is therefore normally neutral, whether a current is flowing or not. The wire which supplies the current is also the wire which supplies the trolley section, and winding A includes the trolley section in its circuit. If, therefore, the trolley wire should break, wire B only would have a current flowing and it would energize

1941 (continued) the magnet and draw up a switch which cuts off the source. Comm is of the opinion that the apparatus accomplishes all that is claimed for it. The cost of properly equipping a trolley road with these devices would be prohibitive. Certificate of Merit. 2 June 1897. JFI July 1897. Appl, nd, with Comm. Universal Fire Alarm Co. to CSA, 23 November 1896. Comm Minutes, 26 December 1896, with Instructions to Chm Comm and Comm List. Scott to Wahl, 22 December 1896. Bedell to Wahl, 24 December 1896. Draft. 2 Pt with note on George J. Harding being available to Comm for information on Pt. Universal Fire Alarm Co. to CSA, 23 November 1896. Rowand to Wahl, 25 January 1897. See also CSA 1942.

1942 Rowand, Lewis G. Camden, New Jersey. Universal Fire Alarm Co. (Applicant). Camden, New Jersey. Fire Alarm System. W. Sonneberg. Appl dismissed without prejudice. 22 June 1898. Universal Fire Alarm Co. to CSA, 24 November 1896. Hexamer to Wahl, 22 December 1896. 3 Scott to Wahl, October 1897 - February 1898. Comm Minutes: 11 March 1898, Sonneberg, Chm Pro Tem, with Comm List. 2 Universal Co. to Wahl, 25 November - 4 December 1896. Adv. T. 3 Np: New York World (20 December 1895); Ardmore Chronicle (28 February 1896); Elec. Engineer (15 May 1895). 9 Pt. Catalogue. Comm to Rowand, requesting information, nd.

1943 Heintz, Antoine. Deville le Rouen, France. Haines, William (Applicant). Philadelphia. Steam Trap. Arthur M. Greene, Jr. (Pro Tem), J. M. Emanuel, Frank P. Brown, Robert D. Kinney, Henry F. Colvin. When steam comes to the trap, the tube elongates as the heat vaporizes the hydrocarbon within it, thus producing pressure. The tube is, in reality, nothing but the old form of Bourdon Tube. The traps have been in use in some of the buildings of the University of Pennsylvania for over a year and have given entire satisfaction. Heintz does not appear to be the original inventor of the bent tube containing a volatile liquid. 22 June 1898. Ordered to be reconsidered, 7 September 1898. Adopted 4 January 1899. JFI July, November 1898 and February 1899. Haines to CSA, 1 December 1896, referred to FI. Greene to Haines, Draft on results of examining supplemental data, 15 September 1898. Comm Minutes: 9 December 1896 (Spangler, Chm) - 29 November 1898 (Greene, Chm 23 May 1898 on.) 2 Drafts. Descr. 6 pages, test data, U. Penna. Heintz, decriptive memorandum (Fr. and Eng.) 14 June 1883, with Illus. Peyer, statement as to Heintz' originality (Fr. and Eng.) 22 July 1898. Spangler to Wahl, 29 April 1897 on CSA 1937 and 1943. See also 2 Spangler to Wahl, 25 January - 20 February 1897, CSA 1937. Emanuel to Wahl, 13 September 1898. Taber to Wahl, on Heintz trap, 19 November 1898. 13 Haines to Wahl, 27 November 1896 - 27 January 1899. Pamphlet. Invitation to reception, Wm. S. Haines Co., nd. 3 Adv. 1 Illus. E. F. Houghton & Co. to Colvin, with 2 Adv "Sirius" trap, and envelope, 17 September 1898.

1944 Peacock, Edward F. Philadelphia. Piston-Packing. Henry F. Colvin, J. M. Emanuel, J. Logan Fitts, T. Carpenter Smith. The "break-joint" is one of the many devices for preventing the escape of steam through the cut in the well-known Ramsbottom ring. When made according to the model shown, it resolves itself into an exact copy of one section of the well-known Dunbar Packing Ring, differing only in making it of greater width than the other part of the ring, and making the opening of the piston wider at the place where this is to be located, so as to prevent it from turning round while in use. Comm believes this affords a way of doing something that has already been done quite as well by pre-existing devices, but with greater cost and less value than these. 7 April 1897. Comm, having examined Peacock's protest, resolved that nothing had been shown that could in any way change the former report, 22 March 1897. JFI May 1897.

John Haug. Minority Report. The inventor's device consists of a block let into a recess in the piston, adjacent to the packing ring groove, said block having flanges which prevent any steam passing through the cut of the ring, or around same. The joint-block has no loose pieces which might become detached and so damage. This piston-packing is an improvement over that now generally in use in locomotives. Peacock to CSA, 18 November 1896. Pt. Comm Minutes: 31 December 1896 - 20 March 1897, Colvin Chm Pro Tem, in Haug's absence. Fitts to Wahl, 16 January 1897. 2 Peacock to Wahl, 7 January - 8 June 1897. Peacock to CSA, lengthy protest, 3 March 1897. Descr, 2 Illus with Descr. Draft, 17 January and 22 March. 2 Haug to Wahl, 8-18 January 1897, with Draft. 2 Pamphlets.

1945 Blondel, Andre, Psaroudaki, Spiridion. Paris, France. George A. Macbeth Co. (Applicant). Pittsburgh, Pennsylvania. Holophane Globes. George A. Hoadley, George F. Stradling, G. A. G. Holman, Edward A. Partridge, Clayton W. Pike, George Strawbridge. The object of the invention is to secure diffusion of the light and to distribute the light in the space below a horizontal plane passing through the source of the light. In this globe, reflection and refraction are used to secure diffusion and distribution; the globe being of transparent material, absorption is reduced to a minimum. Comm found that when the light from an arc lamp was passed through the globe the effect upon a vertical screen showed a decrease in the amount of light passing in a straight line through the upper part of the globe and a definite increase of light on a horizontal plane, and al all angles below that plane. Scott Medal. 3 November 1897. JFI December 1897; April 1898. Geo A. Macbeth Co. to CSA, 21 January 1897. Pt. 4 Macbeth Co. to Wahl, 21 January - 8 December 1897. Descr with remarks by Psaroudaki (16 pages), and discussion of Pt lit (9 pages). Hering to Wahl, 29 January 1897. Spencer to Wahl, 26 January 1897. 7 Hoadley to Wahl, 29 January - 6 August 1897. Pike to Wahl, 30 March 1897. Comm Minutes: 2 February - 28 April 1897. Macbeth Co. to Wahl, on Mygatt and with Ltr, 23 February 1898. Mygatt to Secy, FI, 17 February 1898. Blondel, "Public Lighting by Arc Lamps" (2, nd).

1946 Jenkins, Charles Francis. Washington, D. C. Phantoscope. Henry R. Heyl, George A. Hoadley, John Carbutt. This is a perfected apparatus for projecting upon a screen of photographs of moving objects taken in such rapid succession that when reproduced upon the screen, the scenes and movements are in effect realistic. The earliest efforts in this direction, so far as Comm can discover, were all within a period of the last thirty years. About 1890, Jenkins began to reduce his conceptions to practice, and they comprised the instruments that are necessary first to take photographs in rapid succession on a moving ribbon of flexible negative film, and two forms of Phantoscope. By gradual and intelligent steps, the Phantoscope of today has become a marvel of simplicity and perfection. It does appear to Comm, from the records of Pt Office that the principles upon which Jenkins has worked out his successful mechanism have been previously employed. Cresson Medal. 1 December 1897. JFI January 1898. Jenkins to CSA, 18 December 1896. 3 Pt. 2 Adv. Np: Sci. Am. (31 October 1896). Jenkins to Heyl, on information relative to his claim of priority of invention, 27 August 1897. Jenkins to Heyl, 27 August 1896. Jenkins to CSA, 5 January 1897. Draft, with note, Moody on award. Comm Minutes: 15 February - 4 October 1897. 7 Jenkins to Wahl: 17 September - 22 October 1898 and 27 January 1897. Jenkins to Heyl, 17 September 1898, with H.R.H. to Wahl, 20 September 1898.2 Hoadley to Wahl, 16 February - 4 October 1897. Levy to Heyl, with data. 30 August 1897. 2 Wahl to Heyl, 3-28 August 1897. 4 Ltrs, 13 November 1914 - 5 November 1919.

1947-1 Edison, Thomas A., Brown, Harold P. Orange, New Jersey. New York. Rail Bonds. George F. Stradling, Thomas Spencer, William C. L. Eglin, E. A. Scott. A plastic amalgam or alloy of mercury is placed between the surfaces of contact of the bonding conductors to enhance this contact. An elastic washer forms a tight joint around the space occupied by the alloy, to protect the conducting materials from the access of moisture, but also to prevent mercury from being squeezed out by the pressure. This is more apt to occur in summertime when the plastic alloy becomes almost liquid. Judging by the testimony of several railway engineers, it would seem that this danger does not often materialize in practice. Tests show that the resistance of the usual bond is larger than that of those bonds made according to the Edison and Brown methods, when the total resistance is taken into account. The foregoing was drafted as a provisional report (1 December 1897), the subject being held under advisement while data and observations were compiled. In the interval, the art has made substantial progress, and it would be unjust to the applicant to overlook the fact that at the time this invention was made, it was a decided step in advance in rail-bonding. Longstreth Medal. 7 June 1899. Brown to CSA, 28 December 1896, Pts allowed but not issued with note: Appl Withdrawn at request of Applicant, by action of CSA, 3 March 1897, with permission to substitute new Appl. Brown to CSA, 1 March 1897, with Edison's Pt number and Brown's Pt Appl number (allowed, not yet issued). 2 Drafts: 5 April 1897, 1 June 1899. 3 Comm Minutes: 26 January - 5 February 1897. Edison, note on bond's reliability, 2 March 1895. Brown to Sheble, Edison-Brown Bond Phila. Agent, 18 February 1897, with Edison Pt. 3 Pike to Wahl, 20 May - 13

1947-1 (continued) August 1898, with Adv, T, Illus, and Brown to Faulkenau Engineering Co., 19 May 1898. 8 Eglin to Wahl, 5 July 1898 - 2 May 1899, with Fairmount Park Transportation Co. to Wahl, 29 June 1898. Reed to Eldridge, resigning as Chm, 14 January 1897. Copy of Brown's Pt claims and Illus. 5 T (replies to Wahl's request). Spencer to Wahl, 20 June 1897.

1947-2 Edison, Thomas A. and Brown, Harold P. Rail Bonds. 3 Winand to Wahl, 19 February 1897 - 24 March 1898. Stradling to Wahl, 24 February 1897. 2 Sheble to Winand, 16-22 March 1897. Fairmount Co. to Wahl, 21 July 1898, with Ltr introduction for FI Comm to conduct tests on Co.'s lines. Fairmount Co. to Winand, 2 April 1897, See also CSA 1919. 5 Harrington, Pres, FI ES, to Wahl, 16 December 1897 - 8 October 1898, on Comm and ES activities, Harrington to Eglin, 19 November 1898. Johnston to Hering, with railway bond data and note on discussion, 21 December 1896. 2 Brown to Wahl, 2 March 1897 - 18 July 1899. Brown's office to FI, 14 July 1899. 12 pages data. 7 T. 7 Adv, 3 Illus. Pamphlet. 3 Illus.

1948 Kent, Arthur A. Worcester, Massachusetts. Battery Motor. Charles J. Reed, Thomas Spencer, William C. L. Eglin, W. Sonneberg. This is a series wound motor. The armature, which is the part of the machine which it is claimed has special features, is made of cast iron with projecting poles. The applicant claims that the number of these poles reduces the friction on the bearings. The Graham ring, Siemens drum or Pacinotti type of armature, all possess this feature in a more marked degree than is shown in this particular design. Comm finds that this design is not of sufficient importance to entitle it to special mention. 5 May 1897. JFI June 1897. Kent to CSA, 28 December 1896. 2 Adv. 11 Kent, Kent Electric Manufacturing Co. to Wahl, 22 December 1896 - 28 May 1897. Comm Minutes: 10 February - 10 March 1897. Draft, 10 March 1897. 2 Reed to Wahl, 20 February - 24 March 1897. 5 Wahl to Reed, 25 January - 3 April 1897. Reed Electric Co., for Reed, to Eglin, 5 April 1897. Catalogue.

1949 Williams, Brown & Earle (Applicant). Philadelphia. Acetylene Generator. Appl Withdrawn, 22 June 1897. 2 Williams, Brown & Earle to Wahl, 30 January - 22 June 1897.

1950 Almond, Thomas R. New York. Flexible Tube. Hugo Bilgram, Robert D. Kinney, T. Carpenter Smith, Luther L. Cheney, J. Logan Fitts. This flexible metal tube consists of two helical coils, one inside the other. In the samples submitted, the inside coil is round, while the outside coil is made of wire of a triangular section, the base of the triangle being on the outside, the apex on the inside of the coil. Comm found the tubes designed for conducting fluids almost perfectly tight against leakage. Scott Medal. 7 April 1897. See JFI May 1897. Almond to CSA, 12 January 1897. 2 Pt. Np: Am. Machinist (9 April 1896); Trans. Am. Society Mech. Engineers (1890, vol XII). 3 Almond to Wahl, 9 December 1896 - 10 August 1897. Ronaldson to Wahl, 12 August 1896. Bilgram to Wahl, 24 February 1897. Draft. Comm Minutes, 15 February 1897, with Comm list. Mailing Label. 2 Adv.

1951 Koepcke, Calus. Dresden, Germany. Railway Track. Lewis M. Haupt, Edgar Marburg, James Christie, Henry F. Colvin, John L. Gill, Jr., Samuel M. Vauclain. An auxiliary track, of standard gauge, is laid alongside the main track and connected therewith by the usual switches and signals, but at a slightly lower level and submerged in sand, so confined by lateral stringers as to constitute a trough into which a "wild train" is directed by the switch. Comm recommends that the attention of railway managers be invited to this method of increasing the security of the lives and property consigned to them for transportation. 7 April 1897. JFI May 1897. Koepcke to CSA, 8 January 1897, with his card. Np: Glasers Annalen fur Gewerbe and Bauwesen (1 May 1896), with reprint (Berlin: 1896); Centralblatt der Bauverwaltung (11 March 1896). Reprint, Civil Engenieur (XXXIX:I); Levoins Herald (27 September 1896). Comm Minutes, 1 February 1897. Draft. Pt. Koepcke, A railroad train stopped by a sand track, February 1896. Koepcke to FI, 21 May 1897. 3 Photo.

1952 Robertson, John. Pottsville, Pennsylvania. Bread. Appl Rej. 29 January 1897. Robertson to CSA, 28 January 1897, with envelope with note on rejection. Pt.

1953 Moissan, Henri. Paris, France. Chemical Investigations with the Electric Furnace. Paul A. N. Winand, Charles J. Reed, Harry F. Keller. The application of the high temperatures attainable by means of the electric arc, for the purpose of producing physical and chemical effects, is my no means of recent date. The presence of the arc of vapors of carbon and other substances, emanating from the electrodes, and the attendant electrical action, constitute five modifications of a furnace which subjects bodies to the highest temperatures of the arc, under simple and controllable conditions. It appears that Moissan was the first to produce the crystallized calcium carbide in the electric furnace. He believes that analogous reactions play an important role in the formation of natural gas, petroleum and other natural hydrocarbons and has advanced a new theory in regard to this. Cresson Medal. 1 December 1897. JFI January, July 1898. Appl, approved for investigation by CSA, 3 February 1897. Winand to Wahl, with draft, 1 November 1897. Sartain to Wahl, on medal engraving, 3 June 1898 with sketch. Moissan (to FI), 23 April 1898. Comm Minutes: 16-24 March 1897.

1954 Praul, John G. Philadelphia. Praul Aeromotor Co. (Applicant). Philadelphia. Flying Machine. William M. Barr, John H. Cooper, Tinius Olsen. Power is applied directly to the screw vanes by a differential piston engine which produces a differential movement of vanes, i.e., a quick revolving down and a slow up stroke. The screws revolve in opposite directions at the same rate of speed, acting to both propel and support the machine in the air. Praul exhibited a model at the second Comm meeting; this model was crudely made and failed of its object as a practical demonstration. Comm feels that the claims of the inventor have not been sustained in presence of this Comm. 2 June 1897. JFI, July 1897. Praul Aeromotor Co. to CSA, 26 February 1897. Cooper to

1954 (continued) Wahl, 5 May 1897. Praul to Barr, 29 April 1897. Praul to Wahl, descr with note, 5 March 1897. Praul Co. to Wahl, 8 July 1897. Barr to Wahl, 25 March 1897. Comm Minutes: 22-30 April 1897. Copy of Maxim to Praul, 19 January 1896. 2 notes on addresses, models, nd.

1955 Richards, George M. Erie, Pennsylvania. Automatic Fluid-Pressure Friction Clutch. Tinius Olsen, William M. Barr, Thomas P. Conard, John H. Cooper. This is to transmit motion from one shaft to another and is an improvement upon previous devices which have been patented as fluid friction-clutches. The frictional contact necessary to communicate motion from the housing and driver to the friction flange and shaft is obtained by means of fluid-pressure forcing the housing and flange together, the friction being automatically produced by a pump operated through the relative difference of motion of the flange and the housing. This new clutch displays much ingenuity and Comm especially commends that feature by which the friction is automatically increased as needed. The design is somewhat complicated and could not readily be repaired by the class of mechanics that generally is in charge of such devices; nevertheless, there may be situations where the Richards Clutch could be used with advantage. 2 June 1897. Longstreth Medal. JFI July 1897. Richards to CSA, 5 March 1897. Descr. Pt. Draft. Olsen to Wahl, 4 October 1897. Catalogue, Automatic Friction Clutch Co. (1896). 8 Richards to Wahl, 5 March 1897 - 25 March 1898 (one with date questioned by FI). Draft, 28 April 1897. Comm Minutes: 9 April - 9 September 1897.

1956-1 Williams, John N. Newark, New Jersey and Brooklyn, New York. Williams Typewriter Co. (Applicant). New York. Typewriter. G. Morgan Eldridge, Hugo Bilgram, J. Logan Fitts, William C. Head. This is a key-board, type-bar machine. The type-bar is set on edge, carrying a type on the end of the upper limb which rests on an inked pad when in position. The printing is in full view of the operator, and, being done direct from the type, has a sharpness not attainable with a ribbon. It is an excellent manifolder and cannot fail to make first-class stencils for mimeographic work. There appears to be no reason why it should not be quite satisfactorily durable. Scott Medal to Williams. Amended by CSA, 2 June 1897. JFI, July 1897, July 1898. The Williams Typewriter Co. to CSA, 19 January 1897. Williams to Andrews, Pres., Williams Co., 29 March 1897. Williams Co. to Wahl, 9 April 1897. 2 Williams Co. to Lovell Clock Co., 12-15 March 1897, with note Lovell Co. to Secy, FI, 16 March. Lovell Co. to Typewriter Comm, 1 April 1897. Lovell Co. to Eldridge, 18 May 1897, with suggested amendments. Draft. 6 Pts: Williams (3), Brady, Brooks, Crandall 2 Comm Minutes: 17 March - 22 April 1897. Adv, Catalogue. 2 T, with list of schools using the Williams machine. Descr. 17 Samples. Illus: "The Williams in the Field."

1956-2 Williams, John N. Typewriter.

1957 Marsh, Edward B. Amherst, Massachusetts. Metallic Corner Bead. H. R. Heyl, Charles A. Hexamer. This is s device for protecting the corners of wall plastering and is substantially a metallic substitute for the common rounded wooden corner-bead now in general use. This

1957 (continued) is a practical and inexpensive means of rendering the plaster less liable to be chipped or broken at the point of union. Longstreth Medal. 2 June 1897. JFI, July 1897. Marsh to CSA, 30 January 1897. Draft. 2 Pt. 2 March to Wahl, 10 May - 10 July 1897. Merritt & Co, Marsh's Agents in Phila., to Wahl, 9 March 1897. 7 Adv.

1958 Mueller, Herman C. Zanesville, Ohio. Manufacture of Mosaics. William C. Head, Edwin A. Barber, Edward Hart, H.H. Holmes, L. W. Miller, Edward S. Morse, William H. Wahl. This process belongs in the class of the dry-press processes. The colored clays are distributed to the compartments of the frames by sifting the same through specially prepared stencils of still paper. It can be applied to the production of permanent floor and mural decorations from original designs of considerable sizes, without overstepping reasonable limits of cost. The general effect of these reproductions has been compared with that exhibited by designs in woven fabrics, made upon the Jacquard loom. It is in fact adapting the principle of the Jacquard invention to the art of mosaic work. With historical data on development of this branch of the arts. Scott Medal. 6 October 1897. JFI, November 1897, March 1898. Mueller to CSA, March 1897. Pt. 8 Mueller, Mosaic Tile Co. to Wahl, 8 March 1897 - 7 February 1898, with Pt Atty Report and Adv. Mueller to Wahl, 3 September 1897. Mueller to CSA, 6 March 1897. Historical Sketch of the Mnfr. to Encaustic Tiles in the U. S. 2 Hart to Wahl, 27-29 April 1897. Holmes to Wahl, 20 March 1897. 2 Morris to Wahl, 20-24 March 1897. 4 Berber to Wahl, 12 March - 30 August 1897. 2 Morse to Wahl, 23 March - 30 August 1897. 2 Miller to Wahl, 6-20 April 1897. 3 partial Drafts.

1959 Cox, Mary H. P. Kirkham, Maryland. Knife Sharpener. G. Morgan Eldridge, John Haug, Spencer Fullerton. This consists of a clamp adapted to be attached to the table of a sewing machine, supporting an extensible post, on end of which is an emery wheel. There is already in use a device connected to a sewing machine, in which a friction pulley attached to a shaft supported on the machine or the frame is driven by the movement of the machine and carries a bobbin which is filled with thread or discretionally a grinding wheel. 5 May 1897. JFI, June 1897. Cox to CSA, 11 March 1897. 7 Cox to Wahl, 25 December 1896 - 7 June 1897, with Illus, Reprint Np, Easton, Md. Gazette (9 January 1897), 2 Adv. Pt. 2 Comm Minutes: 20 March - 22 April 1897. Draft.

1960 Lewis, Samuel T. Philadelphia. Rotary Steam Engine. Henry F. Colvin, J. M. Emanuel, Spencer Fullerton. This engine consists of a central disk with slots, in which, slides or pistons, with projections, move. The pistons travel with the disk in its movements and the object of the several steam ways is to use steam expansively by allowing it to flow out of one or more of them at one time. It is very complicated in construction and the opinion of Comm is that this engine will use more steam and do less work than any engine of which it has knowledge. Made Advisory. 5 May 1897. JFI, June 1897. Lewis to CSA, 13 March 1897. Lewis to Comm, Descr, 10 March 1897. Lewis to Wahl, 8 June 1897. Diagram. Colvin, Draft. Comm Minutes, 17 April 1897.

1961 Corscaden, Thomas. New Britian, Connecticut. Pulley. John H. Gill, Henry F. Colvin. These all-wrought steel pulleys are made up from a number of parts of sheet steel. The different parts being cut from the plates with punching dies are so nearly alike, that they are interchangeable, and when the pulleys are assembled, they are nearly balanced, more so than cast-iron pulleys usually are. The pulley's weight is only one-third of cast-iron pulleys, of corresponding sizes, which the new construction notably surpasses in strength. Comm believes that Corscaden has brought the manufacturing of belt pulleys to a degree of efficiency never before reached, and that the energy displayed by the inventor, in producing so good an article at a low cost, and in quantities that will enable the manufacturers and dealers to carry in stock all desirable sizes, is most commendable. Cresson Medal. 3 November 1897. JFI December 1897, April 1898. Corscaden to CSA, 11 March 1897. 4 Pt. 3 Drafts. 3 Ronaldson to Wahl, 11-13 October 1897 (one, nd, on steel pulleys and revolving window). Adv. 4 Corscaden, Am. Pulley Co. to Wahl, 9 March 1897 - 14 April 1898. 2 Am. Pulley Co. to Wahl, 1 September - 1 October 1897.

1962 Groves, Samuel. Pittsburgh, Pennsylvania. Gear Molding Machines. Thomas P. Conard, J. Sellers Bancroft. These consist, generally speaking, of a revolving table for carrying the flask and a swinging arm supported on a column or bracket at one side of the table for carrying the pattern sections and sweeps. It appears, after a comparison of this machine and others in the field, that there are but few elements of novelty in Groves' machine; but merely some improvements in construction, of minor importance, and some refinements in mechanical details that are of doubtful utility in a machine to be exposed to the dust, dirt and rough usage prevailing in the foundry. 2 June 1897. JFI, July 1897. Groves to CSA, 11 March 1897. Pt. 4 Groves to Wahl, 9 February - 13 July 1897. Catalogue, Taylor, Wilson & Co., and business card. Comm Minutes, 27 April 1897, with Draft.

1963-1 Board of Health (Applicant). Philadelphia. Abatement of the Smoke Nuisance. H. W. Spangler, William M. Barr, John Birkinbine, A. E. Outerbridge, Jr., Coleman Sellers. The Franklin Institute has held two meetings devoted especially to the consideration of this subject from a scientific standpoint. (JFI June, July 1897). In response to a general request, the discussion was resumed in September and October, when the various appliances in use for smoke prevention were illustrated by many manufacturers. (JFI January, February 1898). The Board of Managers passed Resolutions on the avoidability of continous or frequent discharge of dense black smoke from furnaces of stationary boilers and on the possibility of reducing the emission of smoke from locomotives. Comm held numerous meetings and recommends their conclusions be referred to the Board of Managers for embodiment in the Draft of an Ordinance. The continuous discharge of dense black smoke from stationary boilers using bituminous coal can be prevented. The discharge of dense smoke from locomotives using bituminous coal has not been shown to be preventable. Comm does not regard the burning of soft coal in private dwellings as serious. It is the opinion of Comm that a suitable smoke

1963-1 (continued) ordinance is not only desirable but necessary. Prevention in this case is better than cure. 4 May 1898. JFI October 1897, 1898. Appl, Resolution of Board of Health, referred for investigation, 17 March 1897. Clerk, Board of Health, to Wahl, with copy of Resolution requesting FI to appoint a Comm to confer with the Board of abating the smoke nuisance, 16 March, with Sanitary Commission to B. H., on the need to arouse interest in the city and to inaugurate a plan for abating this rapidly growing nuisance, recommending asking cooperation of FI, 16 March 1897. 2 Comm Minutes, 26 March - 15 April 1897. Sellers to Chm, Comm, with Draft of Ordinance, 6 September 1898.

Outerbridge, Barr, Sellers, Charles A. Hexamer. Ordinance declaring the emission of dense smoke from any chimney or smoke stack of any building other than private residences, a public nuisance and prohibited the emission of dense smoke from the smoke stack of any shifting locomotive engine is prohibited. 5 October 1898. 7 Outerbridge to Wahl, 16 June - 1 October 1898. 4 Partial Drafts.

1963-2 Board of Health. Abatement of the Smoke Nuisance. Robertson, Sheffield Sanitary Authority, to Wahl, 8 June 1898. Wm. Sellers to Outerbridge, on Ordinance, 20 September 1898. 3 Christie to Wahl, 20 March 1897 - 20 August 1898 (20 August referred to Outerbridge). Hexamer to Wahl, 24 August 1898, with note, W.H.W. to A.E.O., Jr. Trautwine to Wahl, 29 June 1898. Barr to Wahl, 5 July 1898. Birkinbine to Wahl, 22 August 1898. Fullerton to Wahl, 29 June 1898. Corres. to Wahl concerning FI meetings on smoke nuisance, 27 (2-20 April 1897), 11 (7-13 May 1897). Wahl to Ely, on Bulletin FI April - May 1897, with reply. "In re Stokers," names and addresses of 6 references, with Np. Thiel Combustion Governor & Mnfg Co. to Wahl, 21 August 1893, on FI tests of damper regulators, with 2 blueprints, a catalog. Cramp to Hutchinson, 14 August 1896, with report on Hutchinson's Smokeless Boiler Furnace, with card.

1963-3 Board of Health. Abatement of Smoke Nuisance. Hale to FI, on Steam Users publications, 18 June 1897. Steam Users Association: Annual Report, 1897; Circulars #2,3,4,5,6,7,8,9, with blank data sheet of #4. Manning to FI, with Columbia Stoker Co. to Manning, on electrotype loaned to FI, 21 January 1898. 3 Columbia Stoker Co. to FI: 4-19 October 1897, with business card. Land Title and Trust Co. to Wahl, 12 January 1898. Stoddard Mnfg. Co. to Wahl, 18 January 1898. Bell to Wahl, 12 January 1898. 2 Rugg & Co. to FI: 19 January 1898, on Rugg's boiler furnace with blueprint, diagram, Illus, form for installing a furnace. Scovil & Co. to Wahl, 29 January 1898, with Adv. 2 pages T. Boew & Co. to Wahl, 5 March 1898.

1963-4 Board of Health. Abatement of Smoke Nuisance. Ordinances and Pr Memoranda relating to smoke nuisance question. Np: Record (9 January 1898); The Philadelphia Press (24 June 1898) 3, 11; The City Record (New York, 17 August 1889); Railway Master Mechanic (April 1891), 45, 57. 2 Pittsburgh Mayor to Wahl, 2 June 1896 - 5 April 1897, with 2 copies ordinance. Wahl to Minneapolis Mayor, 31 March 1897. Detroit Mayor's Office to Wahl, 15 April 1897. Ordinances: Minneapolis, Detroit, Milwaukee. Philadelphia Board of Health to Rigling, 11 June 1896.

1963-4 (continued) Chicago Smoke Inspector to Wahl, 1 June 1896, with 3 forms, ordinances. 2 Cincinnati Supervising Engineer to Wahl, 23 December 1897 - 8 January 1898, with 10 forms, Report on Smoke Nuisance, April 1895. Cleveland Health Officer to Wahl, 23 April 1897, with ordinance. Wahl to Mayor, Louisville, 31 March 1897, with ordinance. Graphic Smoke Records, St. Louis.

The following pamphlets or reprints are part of the report; only a sampling was microfilmed. JFI: June, July 1897; January, February 1898. Nashville, Tennessee, State Board of Health Bulletin (20 May 1893). St. Louis: Report of the Special Committee on Prevention of Smoke (8 March 1892); Smoke Abatement Ordinances and General Reports of the Smoke Commission (September 1893); Report of Smoke Comm on the Standard Smokeless Furnace (November 1893); Report of Smoke Comm on the Keene Fuel Economizer and Smoke Consumer (February 1894). 3 Engineers' Society of Western Pennsylvania: 16 February 1892 - 21 November 1893. Siemens, The Smoke Question, The Times and Nature (1880). Sheffield: Report on the Causes and Prevention of Smoke (1897). Whitham, Experiments with Automatic Mechanical Stokers, Trans. Am. S. M. Eng. (May 1896).

1964 Dunn, B. W. Philadelphia. Testing Machine. Lewis F. Rondinella, George F. Stradling, Wilfred Lewis, Hugo Bilgram, Luigi d'Auria. The purpose is to obtain a permanent diagramatic record of the varying compression produced in a test specimen by a blow, together with an accurate time scale. As the quantities measured are extremely minute, the record is made in magnified form, by 2 rays of light deflected respectively by the compression of the test specimen and by the vibrations of a tuning-fork, travelling over a photographic film carried on the periphery of a rapidly revolving cylinder. This method is vastly superior to that of the ordinary chronograph in which a time curve is plowed through a layer of lamp black on the revolving cylinder by a stylus attached to 1 prong of the vibrating fork, with friction reducing its vibrations per second. 3 blueprints. Scott Medal. 6 October 1897. JFI November 1897. Appl, referred for investigation by FI, 17 March 1897. 3 Dunn to Wahl, 19 March 1897 - 5 February 1898. Rondinella to Wahl, 14 September 1897, on Dunn, "Synchronograph" (CSA 1971), and Comm on FI Gold Medal (CSA 1975). First Lt. Dunn, Ordnance Dept., U.S.A., "Report on Development of a Photo-Retardograph and Its Application to the Dynamic Measurement of Resistance to Compression" (13 January 1896). See also Dunn, "A Photographic Impact Testing Machine," JFI November 1897. Comm Minutes: 12 April - 18 June 1897.

1965 Yeakel, George P. Markley, E. L. (Applicant). Royersford, Pennsylvania. Wheel. G. Morgan Eldridge, H. R. Heyl, Spencer Fullerton. This tire consists of 2 parts, a thin inner strip, called by the Applicant, the plate, and the outer part, or tire proper. The edges of the plate are turned into flanges embracing the rim, which flanges are partly turned before the plate is put on the wheel. The tire proper is rolled with a channel on the inside corresponding to the projection on the plate. Records of use do not show any superiority in these tires.

1965 (continued) The flanged plate may sometimes prevent the running off of a tire when so loose that otherwise it would do so, but it is very injurious to a wheel to run with a tire in such condition. 6 October 1897. JFI November 1897. Markley to CSA, 19 March 1897. Yeakel Pt. Adv. Draft. 2 Comm Minutes: 24 May - 27 August 1897. Barnard, Supt. Wanamaker Stables, to Eldridge, 24 August 1897, with 2 pages Record of Wagon Tire. 4 Markley to Wahl, 19 March - 23 April 1897, with Pt Atty to Markley, on Yeakel's Pt. Markley to Eldridge, 6 March 1892.

1966-1 Davis, Philip Z. Philadelphia. Locomotive Driving Wheel. Henry F. Colvin, Wilfred Lewis, Hugo Bilgram, S. M. Vauclain, William P. Evans. This is a system of balancing for the revolving and reciprocating parts of a locomotive driving wheel, consisting in the use and special disposition of counter-weights. To demonstrate the principles involved, a testing machine was designed and built. There is, however, an obvious difference between the movement of the experimental discs rotating about an axis wheel revolving about another axis at right angles, and that of a locomotive driving wheel. Following an analysis of the forces involved, Comm concludes that this is not distinguished by any features of the slightest practical value. It is clearly the outgrowth of an unfortunate misconception diligently pursued and developed to a remarkable extent. 3 November 1897. JFI December 1897. Davis to CSA, 22 March 1897. 3 Blueprints, 2 Photo. Draft. 5 Colvin to Lewis, 22 June - 20 August 1897. Comm Minutes: 20 April - 21 September 1897. 4 Lewis to Wahl: 8 June - 12 October 1897 (also on Markmann Report, CSA 1976, 12 October). 3 Pt. 2 Blueprints. 2 Davis to CSA, 22-27 March 1897, with diagram. 2 Davis to Wahl, 28 October 1897 - 26 July 1898. 2 Davis to Colvin, 28 June - 8 July 1897. Davis to Lewis, 11 August 1897. 16 Pt Illus.

1966-2 Davis, Philip Z. Locomotive Driving Wheel. Davis: "Variable Velocity of the Crank-Pin and Counter Balance; Tractive Power; Relative Motion; Development of the Prolate Cycloid." Lewis, "An Instructive Mechanical Failure," JFI (August 1898).

1967 Sanguinetti, Percy A. Philadelphia. Window Ventilator. Stacy Reeves, Charles L. Hillman. The apparatus consists essentially of a deflector extending the full width of the window and supported at its ends by means of metal plates which are secured to the sash beads; these metal plates contain radial grooves in which the deflector rests. The grooves admit of changing the angle of the deflectors. This apparatus is much less cumbersome and decidely more effective than any of those which have preceded it. With Illus. 1 September 1897. JFI October 1897. Sanguinetti to CSA, 3 April 1897. 4 Sanguinetti to Secy, FI, 11 March - 11 October 1897. Comm Minutes, 21 April 1897. Pt. Adv. 2 Blueprints. 12 T. Comm Report of 1 September 1897, on not recommending an award.

1968 Hollingshead, William B. Bronxville, Westchester County, New York. Fluid Ejector. H. R. Heyl, John G. Bullock. This report is the result of a reconsideration following an appeal from Applicant. The

1968 (continued) tube is secured to a vertical flush pipe. The action of a descending column of water causes a limited quantity of water to enter the disinfectant vessel and forces a portion of the disinfectant solution directly into the column of flush water. The reliability of the device was demonstrated by a practical test under the observation of a member of Comm, for 3 months, under the unfavorable conditions in the use of unfiltered Schuylkill water. The reliability of the device was demonstrated. Amended to award Longstreth Medal. 4 May 1898. JFI June 1897, 1898. Hollingshead to CSA, 29 March 1897. Desc. 2 Adv. 3 T. Blueprint. Pt. Data. Comm Minutes, 21 April 1897. Wahl to Heyl, 1 July 1897. Hollingshead to Wahl, Protest, 5 May 1897. Hollingshead to Wahl, with certified Dup earlier Report to be cancelled, 4 June 1898. 3 Hollingshead to Wahl, 10 July 1897 - 10 June 1898. 2 Blackmore, Hollingshead's Agent, to Wahl, 3 May - 10 June 1897. Heyl, Bullock, in the judgment of Comm, it is practically impossible that the opening to the annular space will remain unobstructed for any length of time. 5 May 1897. Marked "withdrawn." Drafts, 4 May 1897, and 2 February 1898.

1969 Cazin, Francis M. F. Hoboken, New Jersey. American Impulse Wheel Co. (Applicant). New York. Water Wheel. William M. Barr, John E. Codman, H. V. Loss, C. G. Darrach. This relates to water wheels of the percussion type driven by a single water jet ejected under head from a nozzle. The main alleged improvements relate to the peculiar and improved form given to the concavity of each bucket and to the arrangement of pairs of these buckets. Comm does not accept the mere adoption of plain spherical forms for the buckets as a step of sufficient departure and importance to warrant any consideration by them, especially in view of the absence of tests. 2 November 1897. JFI December 1897. Am. Wheel Co. to CSA, 2 April 1897. Cazin, 2 Pt. 1 large blueprint. Illus. Pelton Pt. Comm Minutes: 16-27 July 1897. 4 Am. Wheel Co. to Wahl, 16 April - 7 December 1897. Copy, Am. Co. to Barr, 8 July 1897. Codman to Wahl, 23 October 1897. Darrach to Wahl, 28 October 1897. 3 Barr to Wahl, 22 July - 30 October 1897. Draft. 1897 Catalogue, Am. Impulse Wheel Co.

1970 Morrell, Charles. Chicago, Illinois. Duplication of the Cube. Edgar Marburg, Hugo Bilgram, Edwin S. Crawley, L. F. Rondinella. This consists of what purports to be an exact means of determining by a graphical construction the length of the edge of a cube whose volume is twice the volume of a given cube. Mathematically speaking, the proposed method is defective. 1 December 1897. JFI January 1898. Morrell to CSA, 14 April 1897, with note, same COmm as CSA 1926. Morrell to CSA, 27 April 1897. Marbarg to Wahl, 28 October 1897. Morrell to CSA, 10 May 1897. Morrell, The Duplication of the Cube (this was microfilmed). Morrell, An Approximate Duplicate of the Cube, and Addendum to a System of Weights and Measures (not microfilmed). 2 Morrell to Wahl, with remarks (2) on report, 12 January 1898 - 14 July 1897. 4 Morrell to Wahl, 14 April - 10 May 1897.

1971 Crehore, Albert C. Squier, George O. Hanover, New Hampshire. Synchronograph. L. F. Rondinella. No Report. Comm Disc, 5 June 1901. Crehore and Squier to CSA, 5 May 1897. Np, Nature (30 June 1898). Comm Minutes: 9 September 1897 - 29 January 1898. 2 Wahl to Scott, 8 November 1898 - 13 March 1899. Warner & Swasey to Wahl, with 4 blueprints, 11 November 1898. Pt. Record of A. C. Crehore to Wahl, with 5 pages, corrections for JFI, 16 December 1897. Pike to Wahl, 14 July 1897. Reed to Wahl, 30 June 1897. 6 Scott to Wahl, 18 January 1898 - 22 January 1900. 5 Rondinella to Wahl, 27 November 1897 - 29 January 1898. 11 Squier, Lt. U.S.A., to Wahl: 5 May 1897 - 28 June 1900. 2 Photo.

The following reprints are part of the case; only a sampling was filmed. Crehore and Squier,"Tests of the Synchronograph on the Telegraph Lines of the British Government"(JFI May 1898); Crehore and Squier,"The Syncronograph, A New Method of Rapidly Transmitting Intelligence by the Alternating Current"(Trans. Am. I. Elec. Eng., 1897); Crehore and Squier,"A Practical Transmitter Using the Sine Wave for Cable Telegraphy, and Measurements with Alternating Currents upon an Atlantic Cable"(Trans. Am. I. Elec. Eng., 1900).

1972 Cooper, Daniel M. Rochester, New York. Willard and Frick Mfg. Co. (Applicant). Rochester, New York. Time Recorder. H. R. Heyl, J. M. Emanuel, Charles James. This provides means by which a workman personally records upon his individual time-card, the time when he enters and leaves the factory. The setting of the daily changes of the card-rack from A.M. to P.M. positions, and to advance day by day, is automatic and continuous after once being set. Scott Medal. 1 September 1897. JFI October 1897. Willard and Frick Mfg. Co. to CSA, 19 May 1897. Draft. Pt. Comm Minutes: 27 May 1897. Willard and Frick Co. to Wahl, 10 March 1898. 4 pages T. 5 sample time cards, time stamped. Adv, Photo, "Rochester Time Recorder" (Willard & Frick Co.). Adv, "Am. Watchman's Time Detector" (Jaynes Elec Co.). Catalog, "Dey Time Register" (Seeley & Co.) with letter, 5 March 1897, to potential user.

1973 Arndt, Max. Aix-La-Chapelle, Germany. Wilckes, Joseph (Applicant). New York. Gas Measure. William M. Barr, Arthur Falkenau. The "Econometer" measures the carbonic acid gas escaping in the flow of the products of combustion from a steam boiler furnace and is designed to ascertain the specific gravity of gases. If it were used in the management of steam boiler furnace fires, no considerable loss would occur by reason of the difference between econometer reading and chemical analysis. A saving in fuel would result from the better and more intelligent management of fire and damper. Appendix gives some theoretical deductions by Arndt and the record of the observations and gas analysis relating to tests at Baldwin Locomotive Works. Cresson Medal. 6 October 1897. JFI November 1897, March 1898. Wilckes to CSA, 20 May 1897. Comm Minutes, 14 July 1897. Barr, note on Pt, 14 July 1897. 7 Wilckes to Wahl, 15 May 1897 - 16 February 1898. Sartain to Wahl, 18 February 1898. 2 Barr to Wahl, 30 August - 12 October 1897. Falkenau to Wahl, 11 July 1897. Pt. Instructions. Adv. Data sheet.

1974 Lundberg, August. Worcester, Massachusetts. Book Support. H. R. Heyl, Spencer Fullerton. This is to be used on book-shelves to keep a row of books upright when the shelf is not full. This modification affords no decided improvement over the better forms of sheet-metal supports to be found in every library. 3 November 1897. JFI December 1897. Lundberg to CSA, 28 July 1897. Pt. Draft. 2 Blueprints. Comm list. 3 Lundberg to Secy, FI, 28 July - 6 December 1897. Lundberg to Comm, with Descr, 21 July 1897.

1975 Board of Managers, FI. A Gold Medal. L. F. Rondinella, Samuel Sartain, William M. Barr, William H. Wahl, L. E. Levy, Edgar Marburg, C. J. Reed. Comm was appointed to consider the advisability of establishing a Gold Medal to be given annually by FI, in accordance with action taken by Board of Managers, 9 June 1897. Awards of special distinction and honorable significance - generally having the form of a grand medal of gold - are now made by a number of American and European learned societies. Comm recommends that FI award annually a gold medal, provided a permanent foundation and an additional sum to defray original costs can be obtained. The "Franklin Medal" would be awarded to the inventor or discoverer whose work has, within the previous five years, signally promoted the arts and manufacturers. In a supplement, Comm recommends that the General Comm be relieved absolutely of the onerous and embarrassing duty of proposing candidates by issuing a circular letter to scientific and technical societies, at home and abroad, requesting nominations. Comm recommends that the field be divided into five general sub-divisions, and that the award be made for a subject in each of these, in regular rotation. 1 June 1898. JFI August 1898. 2 Drafts to CSA. Report to Board of Managers. For Appl, see CSA Minute Book IV, 1 September 1897, Heyl to Jones, the Board requesting CSA to give the subject consideration and make a report to the Board, 24 June 1897.

1976 Markmann, Ernest. Philadelphia. Improvement in Tidal Powers. Wilfred Lewis, William M. Barr. This invention is said to consist of a novel construction of apparatus for deriving power from tide water, the idea being to utilize the flow of tide water, through turbines mounted on a float. In the opinion of Comm, the whole arrangement of gates and basin is needlessly complicated and the useful features are quite devoid of novelty. 1 December 1897. JFI January 1898. Markmann to CSA, 13 September 1897, with Minutes of Comm meeting, 27 October 1897. Pt specifications. 3 Photo Pt Illus. Markmann to Comm, 28 November 1897. Wahl to Barr, 23 February 1898. 2 Lewis to Wahl, 19-21 February 1898. Lewis to Wahl, with copy Lewis to Markmann, 30 November 1897. 6 Lewis to Markmann, 25 September - 30 November 1897. 5 Markmann to Lewis, 29 September - 24 October 1897, with data. Copy Markmann to Lewis, 25 November 1897. Report was sent to new Comm for reconsideration, 2 February 1898. Comm Minutes, 26 April 1898 (d'Auria, Haupt, Bilgram). Appl withdrawn, 22 June 1898. Markmann, Receipt for Model, 19 July 1898.

1977 Lotzgesell, Henry. Philadelphia. Car Fender. H. R. Heyl, T. Carpenter Smith. Rope netting is stretched across three metal frames which are mounted to the front of the car. The effect of a body falling upon the hinged sections of the frames will be to cause these to fold up partially to form a crib within which the person is confined. While this appears to be a good fender, Comm finds that almost all the details have been anticipated. 7 September 1898. JFI October 1898. Lotzgesell to CSA, 14 September 1897. Heyl to Wahl, 25 August 1898. Fullerton to Wahl, 14 April 1898. 3 Pt: Lotzgesell; Robins (2). Robins to Heyl, with catalog, Adv, 5 Photo, 19 April 1898. References re: Lotzgesell's Fender. Lotzgesell to FI, 7 October 1898.

1978 Lotzgesell, Henry. Philadelphia. Wave Motor. John Haug, G. Morgan Eldridge. The motor is fixed upon a triangular float, the apex of which is directed towards the approaching waves. On each side are pivoted vertical shafts with large vanes attached, to receive the impact of the waves. This motor displays considerable ingenuity of design, yet, in the absence of any practical trails of the same, Comm can not venture on an opinion as to its mechanical or commercial usefulness. 6 April 1898. JFI May 1898. Lotzgesell to CSA, 14 September 1897. Draft, with 2 amendments. 3 Haug to Wahl, 28 October - 17 November 1897. Eldridge to Wahl, 10 November 1897. Pt. Illus. Lotzgesell to Wahl, 17 January 1898. 4 Pt Office to Lotzgesell, 26 June - 18 December 1897. 2 Wiedersheim & Fairbanks to Lotzgesell, 20-22 November 1897. Pt claims with 2 amendments.

1979 Reeves, Clifton. Trenton, New Jersey. Locomotive Engine. Henry F. Colvin, Wilfred Lewis, William Penn Evans. This is a four cylinder engine, well supplied with the regulation balance valves, etc. all of which are well known in locomotive practice. Comm, after due deliberation, finds that this contains nothing that is either new or useful. 2 February 1898. JFI March 1898.

Colvin, Lewis. Comm appointed to consider protest against CSA 1979 finds no reason to modify its original report. 22 June 1898. Reeves to CSA, 23 September 1897. Draft. 2 Colvin to Wahl, 28 October - 22 November 1897. Lewis to Wahl, 2 January 1898. Comm Minutes: 7 December - 15 June 1898. Np: Locomotive Engineering (September 1897). 4 Reeves to Colvin, 5 October - 4 December 1897. Pt. 4 Reeves to Wahl, 1 December 1897 - 18 July 1898.

1980 Klefler, John Andrew. Philadelphia. Perpetual Power with Manageable Air Ship. J. M. Emanuel, G. Morgan Eldridge. This invention so far as Comm is able to understand it, consists of a series of water wheels driven successively by the same supply of water from the tanks, or by balls used as a substitute for water where this is not conveniently available. Report condemns plan as impracticable. 1 December 1897. JFI, January 1898. Klefler to CSA, 27 September 1897. Descr. Large diagram. 3 pages data. Comm Minutes: 7 October 1897.

1981 Fisher, H. H. Corpus Christi, Texas. Sub-Marine Navigation. No Report. See CSA 1929, 1 June 1898. JFI August 1898. 4 Fisher to Wahl, 25 August - 20 October 1897, with 4 Descr (Aerial and Sub-Marine Navigation) and 1 sketch.

1982 Reid, Paul J. Philadelphia. Rotary Motor. H. W. Spangler, Henry F. Colvin, J. M. Emanuel. A box is divided into two compartments, one filled with water, the other with air. A ring, supported on the partition by an axis, has in the simplest form practically one-half the ring in each compartment. Motion would ensue as that part of the ring in the water was lighter than that in the air. The applicant entirely overlooked the difference in pressure existing on the ring which would exactly balance any tendency of the ring to rotate. Report made Advisory. 1 June 1898. JFI August 1898. Reid to CSA, 4 October 1897, requesting Advisory Report, with Comm Minutes: 20 October. Reid to Wahl, 20 October 1897. Spangler to Wahl, also on Heintz trap (CSA 1943), 3 January 1898. Comm Minutes, 19 April 1898.

1983 Cole. Romaine C. New York. Ronaldson, Charles E. (Applicant). New York. Culinary Utensil. Charles James, George C. Reeves, Joseph RIchards, Oberlin Smith. This steel-lined aluminum culinary ware lacks novelty and does not seem to offer any economy in production. Referred back to Comm, 5 January 1898. Amended Report adopted 2 February 1898. JFI February, March 1898. Ronaldson to CSA, 4 October 1897. Ronaldson to Wahl, 11 September 1897. 3 Pt: Cole(2); Meyer. Draft, 12 November 1897. 2 Smith to Wahl, 11 - 28 October 1897. Comm Minutes: 4-12 November 1897.

1984 Heyl, H. R. Chm of Special Comm. Expert Testimony. H. R. Heyl, G. Morgan Eldridge, Theo D. Rand. The question must be left to the discretion of Comm in charge of the particular case, subject, of course, to the revision of General Comm; but Comm suggests that any Comm basing its Report upon expert testimony, should state that fact. 1 June 1898. JFI August 1898. Draft.

1985 Borgnis, Samson. Philadelphia. Automatic Water Supply Cut-Off. William M. Barr, Thomas P. Conard. The device as presented does not register a predetermined volume and then cut off the supply, but is designed rather as an attachment to a garden hose. Comm wishes to express its appreciation of this inventor's efforts to produce a mechanism for the prevention of water-waste, and suggests to him that a simpler mechanism could be devised. Report made Advisory. 6 April 1898. JFI May 1898. Borgnis to CSA, 30 November 1897. 3 Borgnis to (Secy, FI), 14 January - 9 March 1898. Amendments. Comm Minutes, 15 February 1898.

1986 Baker, J. M. Lafayette Hill, Montgomery County, Pennsylvania. Pneumatic Bicycle. H. R. Heyl, Tinius Olsen. A bicycle mechanically constructed as per the plans shown, would have an elastic frame. Such a construction would be impractical as it would be frail and undesirably heavy. Report made Advisory. 6 April 1898. JFI, May 1898. Baker to CSA, requesting Advisory Report, 30 November 1897. 2 pages, Illus. Baker to FI, 20 May 1898. Heyl, Draft.

1987 Koblinsky, Leopold. Chicago, Illinois. Sewer Overflow Preventer. Appl Withdrawn. Koblinsky to CSA, 3 December 1897, requesting Advisory Report. Koblinsky to Secy, 1 December 1897.

1988 Koblinsky, Leopold. Chicago, Illinois. Economizing Steam in Steam Engines. No Report. Koblinsky to CSA, requesting Advisory Report, 3 December 1897. See also CSA 1987.

1989 Potter, William B. (New York), Hewlett, Edward M. (Schenectady, New York), Crehore, Albert C. (Ithaca, New York), Wayne, Frank (London, England), Rice, E. W. Jr. (Schenectady, New York), Van Depoele, C. J.)Chicago, Illinois). General Electric Co. (Applicant). Surface Contact Street Railway System. George A. Hoadley. No Report. Appl Dismissed without prejudice. 1 November 1899. Conard to Wahl, form recommending this subject for investigation (4 December 1897). 2 Hoadley to Wahl, 18 October 1898 - 21 January 1899. Comm Minutes: nd, np. 6 G. E. Co. to Wahl, 6 December 1897 - 7 March 1899. 10 Pt: Potter (3), Crehore (2), Hewlett, Wayne, Rice, Van Depoele, Lundell (just Illus).

1990 Doolittle, Thomas B. Bridgeport, Connecticut. Copper Wire, Hard Drawn. Charles James, Tinius Olsen, D. Anson Partridge, Clayton W. Pike. Doolittle suggested the use of hard-drawn copper wire for telephone and telegraph uses, in 1877, and in the same year, at the works of Ansonia Brass and Copper Co., succeeded, after many experiments, in producing about 500 lbs. of this material. The wire made by Doolittle method has its tensile strength doubled and its elongation reduced to about 1 per cent, while its electrical conductivity is not materially impaired. Wire thus manufactured has done much to make long distance electric transmission of speech possible. Longstreth Medal. 1 June 1898. JFI August 1898. Doolittle to Wahl, history of his invention with copies of Ltr, Np, 1 March 1898. 4 Doolittle to Wahl, 6 December 1897 - 11 July 1898, with Ltr on wire production in 1896. Comm Minutes, 14 April 1898. Copy, Ltr to Dollittle, 15 April 1898. 2 Certified statements concerning Doolittle's invention. Descr of utility, "Hard Drawn Copper Wire."

1991 Helios Electric Co. (Applicant). Philadelphia. Lamps. Appl Withdrawn, 4 October 1898. 5 Helios Co. to Wahl, 6 December 1897 - 4 October 1898.

1992-1 Kitson, Arthur. Philadelphia. System of Oil Heating and Incandescent Lighting. Arthur J. Rowland, Frank P. Brown, Luther L. Cheney Charles A. Hexamer, George A. Hoadley, George F. Stradling. The lamp carries two Welsbach mantles which are heated to incandescence by the non-luminous flame, from burning a mixture of air with the vapor of 150^0 lash test kerosene oil. To start the lamp it is necessary to heat the vaporizing tube before turning on the oil supply. On account of the heat, noise, and odor, the lamp really has its best field of usefulness in outdoor lighting. The lamp proper is not an original device and incandescent burners using platinum gauze mantles were introduced at least as early as 1882. With Rules of Phila. Fire Underwriters Association for installing lamps and Addendum with copies of Corres, Washington

1992-1 (continued) Lighting Co. and FI. Referred back to Comm 6 February 1901. JFI, February 1901. Rowland to CSA, on detailed inquiry and considerable study having been made, 27 December 1900.

Rowland, Brown, Cheney, Hexamer, Hoadley, William McDevitt, Stradling. Comm has taken pains to go over all data having reference to the case in hand, and in several directions has extended investigation and inquiry in order to feel the utmost confidence in the Report as it is now submitted. There are two amendments: one on the color of the light and in the last paragraph. Comm finds it impossible to make an award to Kitson as the original inventor of such a lamp and system but merit is shown in the perfection of a lamp which satisfactorily vaporizes and used kerosene oil for incandescent mantle lighting. Longstreth Medal. 5 June 1901. JFI July 1901. Draft, 4 December 1899. 14 Rowland to Wahl, 20 February 1899 - 31 May 1901, with Adv for tubing, and 2 Drafts and Report to Comm. 12 Wahl to Rowland, 19 April 1899 - (25 March) 20 April 1901. "Investigation of Kitson Lamp by Interviewing Users and on Washington Lamp." Hexamer to Rowland, 28 April 1899. Hexamer to Wahl, 26 April 1899. Wahl to German Pt Office, 19 February 1901, with reply. Comm Minutes: 28 February - 1 December 1899, with Wahl to Rowland, Comm, 30 January 1899.

1992-2 Kitson, Arthur. System of Incandescent Lighting. Comm to Wahl, 16 February 1901. Comm to Levy, Chm CSA, 16 February 1901. Kitson Hydro-Carbon Heating and Incandescent Lighting Co. to CSA, 18 May 1900, 3 T. 17 Kitson to Wahl, 28 January 1898 - 22 December 1909, with T, copy of Redwood Lewes and Parker Smith Report. Kitson Co. to Heyl, 22 November 1902. 3 Washington, Transcendent Lighting Co. to Wahl, 14 March 1900 - 8 October 1900. 15 Kitson to Rowland, 28 March 1899 - 9 March 1901, with Redwood-Lewes Report; Parker Smith to Kitson and copy Pt Office to Parker Smith, 4 June 1900, and 2 Ltrs on contracts. 4 Kitson Pts, with Comm notes. 5 Washington Pts. 2 Washington to Rowland, 18 January - 27 February 1901. Washington Lighting Co. to FI, 12 January 1898. Transcendent Co. to Rowland, 10 May 1901. Transcendent Co. to Wahl, 20 April 1900. Wahl to Washington, 12 March and 2 copies: 28 February - 4 October 1900. 2 Wahl to Robinson, 26 January - 28 February 1900 (envelopes marked "return to sender"). Copies of 2 Rowland to Washington, 5 January - 16 February 1901. 2 Standard Co. to Drexel Institute (Rowland's Address), 19-26 February 1901. Williams to Wahl, with Illus, 29 January 1900. Smithsonian Institute to Wahl, on tests, 6 November 1899. Lighthouse Board to FI, on lamp, 31 October 1899.

1992-3 Kitson, Arthur. System of Incandescent Lighting. Phila. Dept. to Kitson Co., 18 January 1900, on conditions of local business and with Ltr to Comm on the history of Kitson System. Parker Smith (copy) to Brown, 24 September 1898, Descr and Report. 3 Adv. "History of Kitson." Copy - Barron to Perry, 8 April 1899. Kitson Co. to Kitson, 10 January 1899 with 2 T; Kitson Co. reply to inquiry; information on sources as to the merits of Kitson lights; copy of Underwriters Inspection Brueau permit with Ltr; Report on service in Birmingham, Ala., 6 October 1898. Smithsonian Institution to Kitson Co., on tests, 12 November 1898. 27 Kitson Pts. Bedell, Electro-Dynamic Co., to Rowland, 4 March 1901, on testing Washington lamp. Levy to Rowland, with affidavit concerning early use of Kitson lamps, 4 March 1901.

1992-4 Kitson, Arthur. System of Incandescent Lighting. 4 Kitson pamphlet. 8 Photos. 1 Transcendent Light pamphlet. Copy Decision Rendered, 5 December 1899, Kitson vs Hamrick & Miller, with open Ltr from Hamrich & Miller interests. Np: La Nature (10 November 1900, see p. 371); Progressive Age (1 December 1899); Fielden's Magazine (6:34, nd); The Bankers' Magazine (June 1900); J. Gas Lighting, Water Supply (28 November 1899); Journal des Debats (22 November 1900). J. Gas Lighting (16 October 1900); Landmark (20 January 1899); Ironmonger (17 December 1898). Directions for Lighting the Transcendent Lamp.

1993 Richards, George M.' Erie, Pennsylvania. Clutch. Tinius Olsen. No Report. See CSA 1955 and JFI 1897. Richards to CSA, 29 December 1897.

1994 Dutton, Chauncey N. Pittsburgh, Pennsylvania. Pneumatic Balance Locks. Edgar Marburg, H.W. Spangler, Wilfred Lewis. The locks are preferably arranged in pairs, the ascent of the one taking place simultaneously with the descent of the other. The motive power for the locking is furnished by a suitable surcharge of water in the upper or descending lock. The automatic leveling apparatus, an emergency device, appears to be a particularly simple and effective mechanism for preventing endwise pitching. 1 June 1898. JFI August 1898. Dutton to CSA, 3 January 1898. 2 Pt. Dutton, Address delivered before FI on Pneumatic Balance Locks, 12 November 1897, JFI April 1900. Dutton to Wahl, 3 January 1898, with 2 Pt Office to Dutton, 20 May - 18 June 1895. 12 Dutton to Wahl, 5 January 1897 - 6 July 1898. 5 Marburg to Wahl, 19 January - 13 April 1898.

1995 Willmunder, Hermann. Philadelphia. Swivel Loom. G. Morgan Eldridge, John Shinn, Robert B. Goodyear. This loom attachment is adapted to weave small figures into the fabric, without carrying the material of which these figures are made, entirely across the fabric and without using warp threads. Shuttles are moved transversely by a connection to the mechanism of the loom, and are thrown into action discretionally, by the Jacquard mechanism. This inventor has very considerably improved and simplified this device. Scott Medal. 4 May 1898. JFI June 1898. Willmunder to CSA, 10 January 1898. Pt. 4 Willmunder to Wahl, 29 January 1897 - 14 September 1898. Comm Minutes, 26 February 1898. T. C. Search to Wahl, 17 January 1898. 3 Drafts with 2 Illus.

1996 Severy, Melvin L. Boston, Massachusetts. Impression Process. Louis E. Levy, Hugo Bilgram, Wilfred Lewis, Edward Stern, George N. Buchanan, Frank E. Manning, William H. Greene, Samuel Sartain. This is to do away with the more or less tedious and exacting process technically known as the make-ready, and thus to correspondingly increase the productive capacity of the printing machine. A series of tests made by Comm indicated that in the case of type forms especially, and under the so-called flat impression of a platen press, the Severy Tympan afforded well-defined advantages over an ordinary unprepared tympan. Scott Medal. 22 June 1898. JFI July 1898. Severy to CSA,

1996 (continued) 19 January 1898. Levy to CSA, 2 March 1898. Levy to Wahl, 21 March 1898. Harvey to Wahl, 10 October 1898. Draft, with typed modifications. Patent data, with Howe, Atty, to Severy Impression Process Co., 25 January 1898. Pt. 2 Severy to Wahl, 11 October 1898 - 25 January 1899. Catalog. Adv.

1997 American Luxfer Prism Co. (Applicant). Chicago, Illinois. Prism. D. Anson Partridge. No Report. Appl Dismissed without prejudice, 3 May 1899. 4 Am. Luxfer Prism Co. to Wahl, FI, 27 May 1898 - 9 February 1899. Partridge to Wahl, 27 September 1898. Catalog and Adv. Luxfer Prism Patent Situation (Pamphlet).

1998 Merrill, Edward W., Bass, James. Brooklyn, New York. Turn Buckles. A. Falkenau, Wilfred Lewis. The operations indicated by the letters patent are similar to methods used for the drop forged work, which have long been in use and present no specially novel or valuable feature. 4 May 1898. JFI June 1898. Merrill to CSA, 19 January 1898. Merrill to Bass Pt. Marshall Pt. Adv. Illus. 2 Merrill Brothers to Wahl, 20 December 1897 - 19 January 1898.

1999 Armat, Thomas (Applicant). Washington, D. C. Protest Against Award to C. Francis Jenkins for His Phantoscope. H. R. Heyl, John Carbutt. Comm reviewed the statements and claims of Armat in detail and concludes that the protestant had failed to establish his objections. Protest dismissed, 7 September 1898. JFI October 1898. Report is missing. 7 Photo. See CSA 1946.

2000 Risdon, George W. Philadelphia. Gravity Motor. Appl Dismissed 12 February 1898. Risdon to CSA, 8 February 1898. Risdon to CSA, Descr, nd.

2001 Waldo, Leonard, Bridgeport, Connecticut. Bicycle Manufacture. H. R. Heyl. Case Dismissed 5 October 1898. Pope to Wahl, 21 February 1898. Pope Manufacturing Co. to Wahl, 22 February 1898. Paper, "The Evolution and Present Manufacture of the Am. Bicycle," read by Dr. Waldo (16 February 1898) was referred to CSA for investigation and report, by FI Board of Managers, 16 February 1898, JFI March 1898.

2002 Dunbar, J. H. Youngstown, Ohio. Cylinders for Balancing Locomotive. J. Logan Fitts, Henry F. Colvin, Arthur J. Rowland. Two cylinders in tandem on each side of a locomotive are to counter-balance the reciprocating parts without weights in the driving wheels. Comm fails to discover this result, but finds that the additional parts would increase the amount of counter-balance needed and the mechanical arrangement as set forth is impractical for locomotive use. Report made Advisory, 4 May 1889. JFI June 1898. Dunbar to CSA, 26 February 1898. Descr. Fitts to Wahl, 19 April 1898, with Draft. Rowland to Wahl, 14 April 1898. Dunbar to Secy, FI, 18 June 1898. Comm Minutes, 15 April 1898.

2003 Jeffries, Gideon. Reading, Pennsylvania. Jeffries Automatic Air Brake Co. (Applicant). Philadelphia. Air Brake. Jacob Y. McConnell, Charles H. Downs, Henry F. Colvin, Clavin G. Turner, Henry Harrison Suplee. In this arrangement the brakes may be applied to a train from the road bed, independent of the engineer. A valve placed in front of the forward wheels has a long lever which can be placed in position by the brakeman or by means of levers from a switch. Where it has the advantage of stopping a train in case the switch is set wrong, it likewise has the same power to apply the brake when it is necessary to go onto the siding. Comm does not consider it such as railroads would generally adopt. 5 October 1898. JFI November 1898. Jeffries Automatic Air Brake Co. to CSA, 18 March 1898. McConnell to Secy, FI, 11 August 1898. Turner to Chm Comm, 1 June 1898. Comm Minutes, 17 May 1898. 3 Suplee to Wahl, 23 March - 3 May 1898. Wahl to Turner, 24 August 1898. Draft. Suplee, Draft. Turner, Draft. 6 Ltrs between Jeffries Co. and Pt Office, 25 June 1895 - 16 September 1895. Illus. 15 Pt: Jeffries (2), Chase, Chandler, Gerrard, Graham, Hickman, Rowell, Dahl, Potter, Vogt, Fletcher, Shaffer and White, Hale, Wescott and Bristol.

2004 Moyer, H. C. Blooming Glen, Bucks County, Pennsylvania. Air Engine. Appl Dismissed, 1 April 1898. Moyer to FI, 17 March 1898. 2 pages sketches.

2005 Brosnaham, George Othman, Jr. Pensacola, Florida. Check-Punch. Edward F. Moody. The character of the Applicant's printed impression, making round holes, does not conform to the universally-approved present practice. A machine that simply prints what we generally write, Comm believes, does not present, in this case, any advantage, while the cutting out of the paper is an extra safeguard against fraud. 4 May 1898. JFI June 1898. See also CSA 2026, JFI February 1899. Brosnaham to CSA, 17 March 1898. Pt. Draft. Emanuel to Wahl, 15 April 1898. 2 Moody to Wahl, 25 April 1898 and nd. Fullerton to Wahl, with Adv. Wesley Mnfg Co. Check Perforator, 14 July 1898. 4 Brosnaham to Wahl, 17 March - 18 August 1898, with sample check.

2006 Parker, A. M. Festus, Missouri. Vacuum Preserving Process. No Report. Appl Dismissed, 26 March 1898. Parker to CSA, 18 March 1898. 2 Parker to Wahl, 7 February - 7 March 1898, with 3 Descr, one with note "2006 declined to investigate."

2007 Tripler, C. E. New York. Liquefaction of Air. H. F. Keller. No Report. Appl Dismissed without prejudice. 4 January 1899. Marburg to Wahl, recommending Tripler's Method for the Liquefaction of Air, 8 March 1898. Rondinella to Wahl, with reference to Hampson who claims to be the original inventor of this process, 22 July 1898. Miller to Wahl, 7 April 1898. Kolischer to Wahl, 2 April 1898.

2008 Sayen, Henry Lyman. Philadelphia. Improvement in Roentgen Ray Tubes. Arthur W. Goodspeed, C. J. Reed, D. Anson Partridge. This is to increase the life, range of usefulness and efficiency, of X-Ray tubes, by providing them with automatic adjustment by means of a shunt circuit of adjustable resistance. The cathode is made of aluminum, hammered, to prevent rapid deterioration. Comm believes Sayen's invention marks the greatest step in the improvement of X-Ray apparatus since Roentgen's discovery was first announced. Scott Medal. 22 June 1898. JFI July 1898. 2 Sayen to Wahl, 28 March - 7 October 1898. Pt. Draft and unamended copy. Large blueprint. Wahl to Reed, 8 June 1898. Copy of Wahl to Goodspeed, 3 June 1898. 3 Goodspeed to Wahl, 22 April - 9 June 1898. Copy of Kelvin, The University, Glasgow, to Queen & Co., 18 March 1898. Rontgen to Queen & Co., 29 (October) 1897. Adv, Queen & Co. Abstract of Sayen's paper read before ES, FI, 27 April 1897.

2009 White, Ernest M. Philadelphia. Chimney for Incandescent Gas Burners. Frank P. Brown, Charles A. Hexamer. This minor improvement over the small dylindrical chimney now in use allows an incandescent mantle that is damaged to be used a greater length of time because the portion of the chimney around the mantle is large enough to prevent the flame that extends through the tear from reaching the glass and breaking it. Certificate of Merit. 2 November 1898. Reaffirmed after Protest. 3 May 1899. JFI December 1898, June 1899. See CSA 2049. 2 White, Star Globe and Chimney Co. to FI, 5 April - 2 May 1898. 2 Blueprints. Comm Minutes, 17 May 1898. Draft. 10 Pt: E. White (2), Bell (2), Lewis, Baker, Harris, Massow, J. White, Albertson. Wahl to Brown, with Comm, 14 April 1898. Descr. Catalogue with 5 Adv. Partridge to Wahl, 8 June 1898. Note from Hexamer on amendments.

2010 Cook, Joseph S. Atlanta, Georgia. Self-Lubricating Journal Box. J. Logan Fitts, Henry F. Colvin, Charles A. Hexamer, Hugo Bilgram. The bearing part of the box is surrounded by a cavity in which the grease is placed. Considerable dependence must be placed on the skill of the workman in fitting the box, to insure satisfactory running of the journal. The slightly increased cost is offset by the removal of grease cups and candle oilers often used with ordinary boxes, and the making of a journal box compact and covered. Certificate of Merit. 22 June 1898. JFI, July, October 1898. Cook to CSA, 15 April 1898.

Fitts, Colvin. Comm has given due consideration to Cook's communication and is willing to concede his statements to be correct, but he fails to consider that there are other boxes at least as meritorious as his own. Protest dismissed 7 September 1898. Comm Minutes, 20 May 1898. Draft. 3 Fitts to Wahl, 27 May - 14 August 1898. 2 Adv. Receipt for delivery of sample, and contract, Southern Express Co., 15 April 1898. 10 Cook, Atlanta Elevator Co., to Wahl, 5 April - 28 November 1898, with copy of claims in Pt Appl.

2011 Roberts, W. F. Carbon Dioxide Engine. 1899. No Report. Folder Missing.

2012-1 Batcheller, B. C. Philadelphia. Pneumatic Dispatch Tubes. Arthur Falkenau, John M. Hartman, C. J. Reed. Pneumatic tubes for the transmission of carriers containing messages have been in use since 1854. Although patents have been granted to others, the Batcheller Pts were the first to form a complete system of practical value for larger tubes for the transmission of mail matter and parcels. Scott Medal. 2 November 1898. JFI August, November, December 1898. Batcheller to CSA, 27 April 1898. Comm Minutes, 17 May - 27 September 1898. 4 Faulkenau to Wahl, 28 May - 20 October 1898. Barr to Wahl, approves Report but is not able to meet with Comm, 6 October 1898. 7 Batcheller Pneumatic Tube Co. to Wahl, 27 April 1898 - 8 March 1899, with Chambers, Pt Atty, to Heyl, Pt lit., 23 May 1898. Batcheller, "Recent Progress in the Development of Pneumatic Dispatch Tubes," JFI August 1898, "A New System of Pneumatic Dispatch Tubes" (read before Society of Arts, MIT 1898, The Pneumatic Dispatch Tube System (Phila: Lippincott Co., 1897). Batcheller's papers were not microfilmed.

2012-2 Batcheller B. C. Pneumatic Dispatch Tubes. 50 Patents: Batcheller (4), Goodwin, Landas, Leake (5), Underwood, P. Kennedy, Jr., S. W. Siemens, Beach, Pike, Clay, Collins (2), Gillham (2), Gillespie, Johnson, Yale and Ames, Given, Richardson, Bergmann, Facer, Blake, Barnes, Packard, Nicolaus, Leaycraft(2), Needham, Bartholomew, Tower and Rich, Miles, Bryson, Reilly, Mayall, Mason, Dwyer, Ritedorf, van Tassel.

2013 Hite, Charles E. Philadelphia. Air Ships. No Report. Appl dismissed without prejudice 2 November 1898. Hite to CSA, 25 April 1898.

2014 Nell, George William. Philadelphia. Current Collector. W. C. L. Eglin, C. J. Reed, Carl Hering, Thomas Spencer. No Report. Appl Withdrawn. 18 June 1898. Nell to CSA, 2 May 1898. Pt. Adv. Comm Minutes, 16 May 1898. Nell to Wahl, 15 June 1898. Nell to CSA, 18 June 1898. Higham & Higham, Pt.

2015 Walsh, Joseph A. Philadelphia. Torpedo. No Report. Appl Dismissed, 10 June 1898. Walsh to CSA, 9 May 1898. 2 Walsh to Wahl, 9 May - 24 May 1898. Pt.

2016-1 Diesel, Rudolf. Munich, Bavaria. Diesel Motor Co. of America (Applicant). New York. Motor. Henry Harrison Suplee, A. Falkenau, Arthur M. Greene, Wilfred Lewis, Coleman Sellers. In all existing internal combustion motors, the question of the ignition of the charge has been one upon which much ingenuity has been expended. In the Diesel motor, the high temperature attained by the compression of the air is sufficient to provide for the ignition of the combustible. The whole execution has been worked up from previously conceived theoretical study in a thoroughly scientific manner. 3 Photo. Cresson Medal. 1 May 1901. Diesel Motor Co. to CSA, 30 June 1898. Pt. 7 Diesel Motor

2016-1 (continued) Co. to Wahl, 30 June 1898 - 26 September 1901. Diesel to FI, 18 September 1901. Reports from Krupp, Hartmann, Lord Kelvin; test data; list of foreign licensees. 2 Dept. of State to FI, 27 January - 8 April 1903. U. S. Consul General, Munich, to Loomis, with receipt, 9 March 1903. 25 Suplee, Engineering Magazine, to Wahl, 2 July 1898 - 21 June 1901 with Sellers' amendments, 12 April 1901. 3 Telegrams, 2 post cards, Suplee to Wahl, 20 January - 20 December 1889. Note on filing. Morris to Wahl, on hesitation on awarding medal to invention that may not be carried to commercial success, 25 May 1901.

2016-2 Diesel, Rudolf. Motor. Blueprint: Oil Consumption. Adv. Np: Progressive Age, 1 February 1898 (2), 15 January 1898 (2). Kelvin's Report, 31 March 1899. Denton, "Tests of Diesel Motor." 3 Np, Schweizerische Bauzeitung, 11, 18, 25, September 1897. 4 Gr Pt. Pt. Np: Iron Age, 17 February 1898; Electrical Engineer, 17 February 1898. 2 Adv, Descr - German. Diesel, "Diesel's Rational Heat Motor," 1897. "The Diesel Motor." "History and Development of the Diesel Motor."

2017 Sexton, Albert. Norris, Thaddeus. Philadelphia. Slide Rule. Wilfred Lewis, Henry Harrison Suplee, Alexander E. Outerbridge, Jr., William H. Thorne. Sexton's Omnimeter is a form of calculating instrument embracing all mathematical operations exclusive of addition and substraction. The arrangement of scales for obtaining powers and roots is so simple that it commends itself at once to the user and reflects credit upon the designer deserving of the highest praise. The trigonometric scales alternate with the scales of power and are printed in different colors. Scott Medal. 4 January 1899. JFI February 1899. Wurts to Wahl, recommending Sexton's Omnimeter, 18 May 1898. Sexton to CSA, nd. 7 Pt: Norris, Knight, Tewksbury, Sitterley, Freeman, Phillips, Mader. McGill, Atty, to Norris, 11 June 1898, with Pts. Adv. Suplee to Wahl, 1 July 1898. 3 Lewis to Wahl, 31 August - 24 November 1898. 5 Sexton to Wahl, 27 August 1898 - 9 May 1899.

2018 Kinney, Robert D. Philadelphia. Internal-Fired Water-Tube Boiler. H. W. Spangler, Thomas P. Conard, William Penn Evans, Arthur M. Green, Jr. Comm believes that the arrangement of heating surfaces is excellent, but that the arrangement of tubes found in the Stirling and Yarrow boilers are just as effective for steam generation and resemble to some extent that used in this boiler. In economy, Comm can say the Kinney boiler is as good as any boiler used at present and possesses high evaporative power for given space at low rates of combustion. With Appendix of Test Data, and 2 blueprints. Certificate of Merit. 7 June 1899. JFI July 1899. Kinney to CSA, 28 May 1898. Kinney to CSA, with 2 Illus, 2 blueprints, 28 May 1898. Pt. 4 Photo, 1 blueprint. Wahl to Evans, 15 September 1898. Greene to Wahl, 22 February 1899. 2 Kinney to Wahl, 15-26 July 1899. Comm Minutes, 27 September 1898 - 22 March 1899.

2019 Uehling, Edward A., Steinbart, Alfred. Birmingham, Alabama. Gas Composimeter. John M. Hartman, Harry E. Keller, James Christie. This is designed specially to automatically analyze and record the percentage of carbonic acid in furnace and flue gases. In principle, it is identical with the Uehling and Steinbart pneumatic pyrometer (see CSA 1937). The recording apparatus is extremely simple. Comm finds the Composimeter to be a good invention, although open to the criticism that it is somewhat complex and requires an attendant of more than ordinary intelligence to properly use it. Scott Medal. 1 March 1899. With 2 Illus and test data. JFI April 1899. Uehling, Steinbart & Co., Ltd. to CSA, 6 June 1898. Pt. Keller to Christie, on test data, 14 January 1899. 2 Pool to Wahl, 21 November - 20 December 1898, arranging for tests. Np: Iron Age, 24 March 1898. Catalog. 7 Uehling, Steinbart & Co. to Wahl, 6 June 1898 - 21 July 1899, with lab test data. Decker, "Gas Composimeter," read before FI, 15 June 1898. 3 Drafts. 8 Photo. Christie, recommending this subject to CSA, 6 April 1898. 2 Hartman to Wahl, 19 January 1899 - 22 December 1898. Sadtler to Wahl, 4 January 1899. 2 Christie to Wahl, 17-28 September 1898.

2020 Lewis, Wilfred. Philadelphia. Inertial Indicator. Arthur M. Greene, Jr., Edgar Marburg, Hugo Bilgram, Luigi d'Auria. This closed tube is bent to a circular arc and filled with a fluid except for a small air bubble. The tube is mounted on a piece of wood and a brass plate on which a scale is placed over the tube. Comm feels that there is much to be desired in the way of accurate determination of acceleration which even Lewis' instrument in some cases does not give and there is a large chance for personal error in reading it generally. However, this is the first application and modification of an old device - to give quantitative determination of acceleration. Longstreth Medal. 4 January 1899. JFI February 1899. 3 Lewis to Wahl, 18 June 1898 - 10 February 1899, with Trautwine to Lewis (11 August 1898) and copy of Whittemore to Trautwine (Illus, 25 July 1898). Lewis to Greene, 6 October 1898. Np: American Machinist (23 June 1898) with reprint of Lewis, "A New Inertial Indicator." Illus and card. Comm Minutes, 4-18 October 1898.

2021 Moskowitz, Morris M. Newark, New Jersey. Car Lighting. Arthur J. Rowland, E. A. Scott, Charles J. Reed, George F. Stradling. A dynamo-electric machine driven directly from the axle keeps a set of storage batteries charged, so that each car, when in service, is always in condition to supply its own lights. Scott Medal. 1 November 1899. JFI December 1899. Folder Missing.

2022-1 Reeves, Milton O. Columbus, Ohio. Reeves Pulley Co. (Applicant). Variable Speed Countershaft. Wilfred Lewis, Arthur M. Greene, Jr., Luther L. Cheney. The apparatus is designed to give to a machine, any intermediate speed between two limiting values and to accomplish this while the apparatus is in motion. Thus, with an automobile, we could start at the slowest speed and gradually increase the speed until the

2022-1 (continued) maximum is required. The tests made seem to indicate that the efficiency diminishes as the power increases. The subject of variable speed mechanism is not new as is seen in examples cited. This apparatus may be adapted to any machine requiring an adjustable speed and the efficiency is fairly high. Longstreth Medal. 6 June 1900. 3 Illus. JFI August 1900. See also CSA 2480. Reeves Pulley Co. to CSA, 7 July 1898. 6 Lewis to Wahl, 17 September 1898 - 23 May 1900. 1 Draft. 2 Lewis to Greene, 30 October 1898 and nd. 2 Wahl to Greene, 15 August - 15 May 1899. 3 Greene to Wahl, 9 May 1899 - 5 June 1900. Reeves Co. to Greene, 5 October 1898. 8 Reeves Co. to Wahl, 27 May 1898 - 19 July 1900. 4 Reeves Co. to FI, 5 November 1898 - 21 July 1900. Comm Minutes, 21 September 1898 - 29 March 1900. 8 Pt: Avery, Reeves (5), Reeves and Hood (2). Evans Friction Co., open Ltr, catalog, 2 Adv. 2 Reeves catalogs. 3 Photo.

2022-2 Reeves, Milton O. Variable Speed Countershaft.

2023 Morrell, Charles. Chicago, Illinois. Rectification of the Circumference. Edgar Marburg, Edwin S. Crawley. This method is an attempt to effect by means of ruler and compass a construction which will yield a straight line equal in length to the quadrant of the circumference of a given circle. The incommensurable number π denoting the ratio of circumference to diameter, cannot be expressed in terms of any roots or powers of any rational numbers. This fact carries with it the impossibility of any geometrical construction of the type proposed. Report made Advisory. 2 November 1898. JFI December 1898. Morrell to CSA, 25 July 1898. 3 Morrell to Wahl, 25 July 1898 - 14 March 1899. Wahl to Morrell, 19 December 1898. Morrell, "The Rectification of the Circumference" in four parts, (part of this was microfilmed). 4 Marburg to Wahl, 17 September - 14 October 1898. Wahl to Marburg, Comm list, 11 August 1898 with Marburg to Wahl, 16 August 1898.

2024-1 Morrell, Charles. Chicago, Illinois. Quadrature of the Circle. Edgar Marburg, Edwain S. Crawley. The quadrature of the circle, whether by the construction of a square equal in area to a given circle, or, as in the present case, by the construction of several elementary figures whose individual areas may all be expressed in terms of the powers and roots of rational numbers, is an attempt at performing that which, in an exact mathematical sense, is impossible. Made Advisory. 2 November 1898. JFI December 1898.

Supplementary Communication relating to CSA 2023 and 2024. Marburg, Crawley. Comm reported Morrell's methods to involve errors of about two-thirds of one per-cent and one per-cent respectively. The author, in communications December 17th and 22nd 1898, protests against the adverse action on his method for the Quadrature and requests reconsideration. Comm, at the invitation of the Secy, has considered the above corres and reviewed the previous Reports. Comm finds no ground for suggesting any modifications. Comm requests to be dismissed. 1 February 1899. Morrell to CSA, 18 August 1898. Morrell to CSA, 18 October 1898,

2024-1 (continued) with Descr. 13 Morrell to Wahl, 14 September 1898 - 28 March 1899, with Np clip. Morrell to Birkinbine, 17 December 1898. Copy of Wahl to Morrell, 21 December 1898. 5 Marburg to Wahl, 21 October 1898 - 17 January 1899, with copy, 20 December 1898. Wahl to Marburg, 20 October 1898. 2 Morrell to Wahl, 12-18 August 1898.

2024-2 Morrell, Charles. Quadrature of the Circle. Morrell, "The Quadrature of the Circle" (1898, 19pp; and 1898, 56 pp, not microfilmed entirely).

2025-1 Fellows, Edwin R. Springfield, Vermont. Machine and Cutter for Generating Gear-Teeth. Wilfred Lewis, Tinius Olsen, Arthur M. Greene, Jr., Luther L. Cheney. This is designed to generate a complete set of interchangeable gears from a single cutter. The commercial cutter submitted for examination thus appears to have some slight theoretical defects but these are inherent in the system to which the adaptation of the cutter is made. When properly adjusted, the cutter feeds in automatically to the required depth where it stops and the wheel blank and cutter then begin to rotate together. The machine is a well developed tool and the cutter covers a broader range of usefulness than the milling-cutters with which is competes. Scott Medal. 5 April 1899. JFI May 1899, August 1900. Fellows to CSA, 15 September 1898. 2 Pt. Comm Minutes, 18 October 1898 - 25 February 1899, with Fellows' card. 10 Fellows to Wahl, 28 May 1898 - 16 August 1899. 11 Photo. 7 Lewis to Wahl, 12 October 1898 - 19 March 1899. Forbes & Co. to Lewis, on Fellows Gear Shaper, 7 November 1898. Wright, Brown & Quinby., Pt Atty, to Fellows, 21 October 1898. Green to Lewis, 18 October 1898. Cheney to Wahl, 24 February 1899.

2025-2 Fellows, Edwin R. Machine and Cutter for Generating Gear-Teeth. 7 Blueprints. Iron Age (2 June 1898, 3 pp.) 7 Pt: Nickerson, Clough, Kunz, Brown, Hill, Cosgrove, Cummings.

2026 Brosnaham, Jr., George Othman. Pensacola, Florida. Check-Punch. Edward F. Moody. Applicant proposes to cut the written amount from the body of the check, instead of writing it on the usual line. This would require either that all checks should be of the same size and form, or that the machine should be adjusted for every different sized check, as few checks are alike. From the drawings, it would seem that the machine, which exhibits great ingenuity, would be far more costly than those now in use. 4 January 1899. JFI February 1899. Brosnaham to CSA, with 2 samples, 14 September 1898, with note. See CSA 2005. Pt. 2 Wahl to Moody, 23 September - 10 October 1898. 3 Brosnaham to Wahl, 14 September - 7 December 1898. Envelope, with CSA 2005, marked "Cancelled." 2 Moody to Wahl, 28 December - 29 November (1898).

2027-1 Schlicht, Paul J. Summit, New Jersey. Producing Combustion. Charles James, Thomas P. Conard, Spencer Fullerton, T. Carpenter Smith. Comm believes that a test, to be satisfactory, must be accompanied by reliable information relating to the efficient and economical conditions

2027-1 (continued) which obtain at that particular furnace plant before the installation of Schlicht's invention. Comm is still waiting for Schlicht to select a steam or heating plant in or near Philadelphia, where these tests can be made and is, in themeantime, unable to report on the merits of the invention. 5 April 1899. JFI May 1899. Schlicht to CSA, 26 September 1898. 21 Schlicht, Schlicht Combustion Process Co. to Wahl, 13 April 1898 - 24 January 1900, one (25 January 1899), with note W.H.W. to James, on Comm. Conn's questions for the inventor. 2 Comm Minutes, 18 October 1898 - 8 March 1899. Kinney to Wahl, 29 October 1898. Sadtler to Wahl, 30 October 1898. Fullerton to Wahl, 7 November 1898. Taber to Wahl, 1 February 1899. 7 James to Wahl, 24 November 1898 - 5 July 1899, with 2 Schlicht to Wahl, 27 February - 3 May 1899 and copy of Wahl to Schlicht, 28 February 1899. 2 Pt.

2027-2 Schlicht, Paul J. Producing Combustion. 27 T. Copy of Beach & Frothingham, Attys, to Alden, Pt lit., 4 November 1896. Page of Np Reprints. Schlicht, "A New Process of Combustion," read before FI, 21 September 1898 (JFI, November 1898), with proofs. Catalog, 2 Adv. Test data, 6 pages.

2028-1 Fisher, Robert Joseph. Athens, Tennessee. Fisher Typewriter Co. (Applicant). New York. Typewriter. J. Logan Fitts, H. R. Heyl, Samuel Sartain, Hugo Bilgram, Edward F. Moody. This is designed for printing characters on the pages of blank books, or on loose sheets of paper, by means of steel type and an inked ribbon. The book and machine are supported on a table with 2 horizontal rails between which the book is placed. The method of changing from lower to upper case, is ingenious and presents the solution of the problem, using 2 characters on the same type bar. With examples of Manifolding. Scott Medal. 1 November 1899. JFI December 1899. 27 Fisher Typewriter Co. toWahl, 29 August 1898 - 11 January 1901, with 20 T and 13 Pt. Draft. 13 Pt: Halle, Fisher, Remley, Nordyke, Boruff, Suess, Beauregard & Flower, Farrar, Teague & Stewart, Elliott, Nilson, Young, Green. Comm Minutes, 31 December 1898 - 6 September 1899. 2 Adv, 3 Illus. Wahl to Fitts, 20 April 1899. 3 Fitts to Wahl, 23 April - 3 September 1899. Bilgram to Wahl, 30 December 1898.

2028-2 Fisher, Robert Joseph. Typewriter. Fisher Co. to Wahl, 2 September 1899.

2029 Bettermann, Reinhold. Johnstown, Pennsylvania. Trimming Shear. Spencer Fullerton, Robert D. Kinney, Henry F. Colvin. This consists in concaving the cutting side of the blade of a shear between the cutting and upper edges. This produces a curve of shorter radii than can be cut with shears having the upper blade a plane surface. Concaving the blade weakens the cutting edge and would cause it to crumble in very heavy work. Made Advisory, 1 March 1899. JFI April 1899.

2029½ - Power Driven Shear with Adjustable Stroke. Fullerton, Colvin, Kinney. This consists in dispensing with a fly-wheel in an ordinary geared power shear and driving the countershaft by a straight

2029½ (continued) belt and reversing it by a cross belt. The shafts being reversed at every stroke, there is no momentum of continuously revolving parts, and the power of the shear is reduced simply to that derived from the belt during the actual cut. Made Advisory, 1 February 1899. JFI April 1899.

Bettermann to CSA, 8 October 1898. Comm Minutes, 18 November 1898. Bettermann to CSA, 8 October 1898. 2 Photo, 1 large blueprint. 2 Bettermann to Wahl, 23 January - 7 April 1899. Pusey & Jones Co. to Fullerton, on shears, 19 December 1898. 2 Bettermann to Fullerton, 26 November - 2 December 1898. Kinney, 16 December Draft of 2029. Colvin, 16 December, Draft of 2029, with note requesting practical boilermaker's opinion before endorsing award in Draft. Wahl to Fullerton, 17 November 1898, with Fullerton to Wahl, 21 November and copy F. to Bettermann, 19 November.

2030 Moore, Edward J. Philadelphia. Steam Boiler. H. W. Spangler, James Christie, J. Logan Fitts, T. Carpenter Smith, John Haug. Two water-tube boilers are set back to back with a common back header. The apparatus embodies a number of well known devices brought together here for the purpose of producing greater economy in operation. Their combination is of doubtful value. Report made Advisory. 1 February 1899. For Protest, see CSA 2067, dismissed 7 June 1899. JFI July 1899. Moore to CSA, 31 October 1898. 4 Pt: Moore, Pratt (2), Zerr, Zerr, Zerr. Wahl to Spangler, 3 January 1899. 7 Spangler to Wahl, 10 December 1898 - 19 April 1899. Illus. Christie to Wahl, 21 January 1899. 3 Moore to Wahl, 16 November 1898 - 14 July 1899. Haug to Spangler, on Draft, 28 December 1898. Fitts, Draft. T.C.S., Draft. 2 Drafts. 3 Comm Minutes, 17 November 1898 - 25 January 1899. 5 Lengthy Descr.

2031 Adams, Gideon S. Camden, New Jersey. Cartridge Loading and Unloading Tools. B. W. Dunn, T. Carpenter Smith, J. Logan Fitts. Comm finds that this set of tools has the merits of lightness and compactness claimed for it by the inventor. Comm believes, however, that this work can be done better and more expeditiously with separate tools, and that only under exceptional circumstances, would it be to the advantage of the average gunner to use the Adams' tools. Made Advisory. 4 January 1899. JFI February 1899. Adams to CSA, 11 October 1898. Adv. Adams, per S. F., Descr. Pt. Comm Minutes, 16 November 1898. Fullerton to Wahl, 26 November 1898, with note on Betterman (CSA 2029). Dunn, Frankford Arsenal, to Wahl, 22 December 1898. Wahl to Capt. Dunn, 28 December 1898.

2032 Taylor, William Curtis. Ridley Park, Pennsylvania. Car Window Sash. Stacy Reeves, Samuel Sartain, G. Martin Brill. Comm was well satisfied with the working of the samll model submitted by the inventor, but desired to have an opportunity to see if it would work well on a full size car window. Comm having waited some months without any progress being made, now desires to have case closed without prejudice to the inventor. Made Advisory, 1 November 1899. JFI, December 1899. Taylor to CSA, requesting Advisory Report, 22 October 1898. Descr, with 2 Illus. Draft. Brill to Heyl, 10 December 1898. Taylor to Wahl, 24 November 1899. Taylor to Brill, 7 December 1898. 2 Reeves to Wahl, 24 November 1898 - 14 March 1899.

2033 Brosnaham, Jr., George Othman. Pensecola, Florida. Window Blind Lock. Stacy Reeves, Samuel Sartain. The home of the inventor is in Florida; Comm thinks that in our cold northern winters, the rain or sleet would freeze the bolt fast. This would prevent its depression when wanted for use. Comm is of the opinion that the merits of the invention are not such as would induce its use extensively. Made Advisory, 4 January 1899. JFI February 1899. Brosnaham to CSA, requesting Advisory Report, Comm Appnt 29 October 1898. 6 Brosnaham to Wahl, 1 October 1898 - 23 February 1899. 3 Draft. Descr.

2034 Owen, Frederick S. Waltham, Massachusetts. Steel Freight Car Truck. Henry F. Colvin, Charles H. Downs, Clavin G. Turner. Nearly all of the patent claims are for some form of flanging or bending the material of which the truck is constructed. None can be classed as a substantial improvement, and the combination discloses nothing but what is already in use, many of the trucks being in no respect inferior to this one but can be made more cheaply. Made Advisory. 4 January 1899. JFI February 1899. Owen to CSA, 26 October 1898. Pt. 6 Owen to Wahl, 26 October 1898 - 20 February 1899. Comm Minutes, 7 December 1898. Draft. Blueprint.

2035 Coyne, John. Pittsburg, Pennsylvania. Gas Manufacture. James Christie, Charles James, H. F. Keller. Comm has been unable to ascertain whether the process has ever been thoroughly tested, or if gas samples have been analyzed. The drawings submitted by applicant show evidence of study and thoughtful design. Comm feels confident, however, that the gas generated as proposed would not make a thoroughly satisfactory illuminating gas. Made Advisory. 1 February 1899. 3 Coyne to Wahl, 12 December 1898 - 13 March 1899. Pt. Wahl to Christie, 5 December 1898. 3 Christie to Wahl, 3 December 1898 - 19 January 1899. Draft. Comm Minutes, 7 December 1898. 8 pp. Illus, 1 Blueprint. 2 Photo, Pr. Descr.

2036 Burton, George D. Boston, Massachusetts. Leather Manufacture. C. J. Reed, Samuel P. Sadtler. No Report. Dismissed without prejudice, 4 September 1901. Burton to CSA, 21 November 1898. 2 Pt. 6 Burton, U. S. Electrical Leather Process Co., to Wahl, 14 October 1898 - 21 February 1900. 2 Catalog. Np: Shoe and Leather Reporter (1 December 1898). Sadtler to Wahl, 21 December 1898, declining appointment. Reed to Wahl, 31 December 1898.

2037 Hexamer, C. John. Philadelphia. Fire-Proofing. No Report. Appl withdrawn. 20 April 1899. 3 Hexamer to Wahl, 21 November 1898 - 20 April 1899.

2038 Rankin, B. Kirk. Nashville, Tennessee. Folding Umbrella. No Report. Appl Rej. Rankin to CSA, 16 November 1898, with explanation, "I want to know if it is worth patenting." Descr with Illus.

2039 Brown, Edward L. Calverton, Suffolk County, New York. Railway Tie. Henry F. Colvin, D. R. Mehaffey, Jacob Y. McConnell. The tie having a smooth bottom surface and small cross-section, there is a small amount of lateral resistance, consequently it would be difficult to hold track in line. Comm finds the invention open to other substantial objections and is consequently devoid of merit. Advisory. 3 May 1899. JFI June 1899. Brown to CSA, 15 November 1898. Blueprint. Comm Minutes, 21 December 1898 - 18 January 1899. Draft. O'Meara & Co. to Brown, 12 November 1898. Pt Specifications. 6 Brown to Wahl, 7 November 1898 - 22 July 1899. 2 Mehaffey to Wahl, 21 December 1898 - 31 January 1899. McConnell to Wahl, 31 December 1898.

2040 Higbee, Clinton A. Philadelphia. Coupling. Hugo Bilgram, Luther L. Cheney, J. Logan Fitts. Tests were made of the Higbee and standard pipe joints, without the use of a paste, such as plumbers use for closing nimute leaks. These tests would indicate that neither joint is likely to give satisfaction without the use of some paste, and that there is no material difference between the Higbee and the standard pipe joint. Made Advisory, 3 May 1899. JFI June 1899. Higbee to CSA, 22 November 1898. Higbee to Wahl, 19 December 1898. 7 Bilgram to Wahl, 13 April 1898 - 26 June 1899. Pt. 2 Adv. Comm Minutes, 20 December 1898.

2041 Hanna, David. Ogdensburg, New York. Water Purification. Robert D. Kinney, John Haug. No Report. Hanna to CSA, 21 November 1898. Hanna to CSA, Descr, 21 November 1898. 2 Hanna to Wahl, 3 January 1899 - 20 April 1900. Comm Minutes, 5 May 1899. 2 Spangler to Wahl, 20-22 November 1899. Conard to Wahl, 25 April 1900, with note 'dismiss.' Wahl to Kinney, 13 March 1899, with reply, 25 March 1899. 2 Kinney to Wahl, 17 November - 2 December 1899. Catalog.

2042 Standing Committee on New Subjects for Investigation. Records Missing.

2043 Locke, N. C. Salem, Massachusetts. Hydraulic Damp Regulator. Hugo Bilgram, Luther L. Cheney, J. E. Codman, E. H. Fairbanks, J. L. Gill, Jr., T. C. Smith. Report Missing. Adopted 1 March 1899. See CSA 1839. 7 Locke Regulator Co. to FI, 30 December 1898 - 7 March 1900. Adv. Copies of 3 Wahl to Locke Co., 26 January - 19 March 1900, with explanation of Comm's activity and its decision that Locke was not entitled to consideration because the regulator had been made a successfully operating device through the adaptation of an invention not his own. Draft, Wahl to Locke Co., 19 March 1900. Copy of Wahl to Locke 31 January 1900.

2044 Moberg, Carl Joseph. Jersey City, New Jersey. Electric Clock. William T. Lewis, H. R. Heyl, Fred. T. Haschka, Louis Breittinger, Comm finds that while there are some features of its construction which differ from other clocks of a like nature, there are no new features which can

2044 (continued) be considered as improvements. Made Advisory, 1 March 1899. JFI April 1899. Moberg to CSA, 5 December 1898. Comm Minutes, 3 February 1899 - 9 February 1899. Pt Appl. 9 Illus. 3 Moberg to Wahl, 5 December 1898 - 10 April 1899. Bilgram to Wahl, 2 February 1899.

2045 Gerdtzen, G. A. Winona, Minnesota. Combination Pneumatic Elevator with Grinding Mill. A. Robinson McIlvaine, Luther L. Cheney. From the drawing this appears to be simply a vertical Iron Mill, with a grinding plate bolted on the end of a rapidly revolving shaft. His mode of fastening the bed plate is rather novel, and in practice, Comm would think impracticable in a fast running mill. Comm regrets that it cannot find that Gerdtzen has added anything of value to the art. With Illus. Made Advisory. 1 March 1899. JFI April 1899. Gerdtzen to CSA, 5 December 1898. Note on Comm Meeting. 2 Gerdtzen to Wahl, 14 October - 5 December 1898. McIlvaine to Wahl, 16 February 1899.

2046 Colt, Samuel. Santa Barbara. California. Steam Turbine. Advisory Report. 1 November 1899. JFI December 1899. Folder Missing.

2047 Prange, Maurice N. St. Marys, Ohio. Shoe Polishing Stand. Louis E. Levy, John M. Hartman, J. Logan Fitts. This device cannot practically be applied to high boots, congress gaiters, or other high shoes with closed vamps. It is practically adapted only for polishing with a cloth. Comm finds that this is not an improvement on the devices already existing. Made Advisory. 1 February 1899. Prange to CSA, 9 December 1898. 2 Prange to FI, 9 December 1898 - 12 February 1899. 2 Prange to Wahl, 13 January - 6 March 1899. Draft. 2 Photo. Comm Minutes, 25 January 1899.

2048 Teter, William L. Philadelphia. Kilbourn Construction Co. (Applicant). Philadelphia. Fuel System. Jacob Y. McConnell, Robert D. Kinney, Henry F. Colvin, Charles James. Whereas, it has come to Comm's knowledge that the Applicant, pending the labors of this Comm, has been unwittingly approached and solicited by JFI's advertisement solicitor, Comm feels that under the circumstances it would be improper to proceed with its labors, and asks to be discharged. Appl dismissed without prejudice, 3 May 1899. Kilbourn Co. to CSA, nd. 3 Pt. Comm Minutes, 5-19 April 1899. Draft. 3 Kilbourn Co to Wahl, 24 March - 21 April 1899. Am. Fuel Saving Co. (Kilbourn Co., Inc.) to Wahl, 21 June 1899. Wahl to James, 12 April, with reply, 13 April 1899. 2 business cards: Huston, Am. Fuel Co. and McCurdy, Kilbourn Co. Kinney to Wahl, 30 January 1899. 2 Am. Fuel Co. catalogs. Descr. 2 Dudley to McCurdy, 1-6 December 1898, on possible economies of Teter system and on test data. Schmemann, Calculations and Data, 29 November 1898.

2049 White, Ernest M. Philadelphia. Protest Against CSA 2009. Frank P. Brown, Arthur J. Rowland, D. Anson Partfidge, Charles A. Hexamer, George Stradling. Comm has carefully gone over the claims a second

2049 (continued) time, and finds that White's chimney has no advantage over the common narrow chimney in candle power procured from a given mantle. Protest dismissed, 3 May 1899. JFI June 1899. White to CSA, 5 April 1898. White to FI, 22 December 1898, with 2 Adv. list of users, copies of 2 T, and with note referring Ltr to original Comm, 4 January 1899. White, "Chimneys for Incandescent Gas Lamps," Reprint JFI December 1898. White to FI, with Illus, 7 June 1899. 2 White Pt, with complete list of P cited during prosecution of these. Draft. 2 Brown to Wahl, 18 January - 14 March 1899. 2 Rowland to Wahl, 23 March 1899 - 5 April 1898. Notes on Comm Meetings: 23 January - 3 April 1899. Rowland, Drexel Institute, to Hexamer, with test data (27 March), 29 March 1899. Data, 20 April.

2050 Masters, John. Kicaster, Wilson County, Texas. Steering Mechanism. Appl Rej. 20 January 1899. Masters to CSA, 6 January 1899, with note on Appl's dismissal. Masters to Wahl, with Illus, 6 January 1899, with note "refer to Mr. Haug," Haug to Wahl, unless the inventor can supply working plans showing how the device can be applied to an actual vessel, giving sizes, weight, power required, etc., it would not be possible to form an opinion as to whether it is practicable or not. Referring to inventor's sketches, No 1 seems to be the same as the rudder now in use and practical experience is needed to judge Nos. 2 and 3, 19 January 1899.

2051-1 O'Neill, H. Gibson, New York. System of Electric Asepsis in Treating Disease (Tuberculosis). James C. Wilson, William H. Greene, Harry F. Keller, Elihu Thomson, William H. Wahl. Appl Dismissed, 7 February 1900. O'Neill to CSA, 18 January 1899. O'Neill, "Liquid Ozone from Liquid Air in Medicine, Surgery, and Some of the Arts." 9 O'Neill to Wahl, 18 October 1898 - 6 March 1899. O'Neill to Wahl, 20 December 1899, with notes; Wahl to Green and Green to Wahl, and note 'dismiss.' O'Neill to Wahl, 23 January 1900. 3 Papers concerning process. Descr, with copies of 4 Reports of Cases. Copy of Wahl to O'Neill, 4 February 1899, with Draft on cost of supplying current. Amois, The O'Neill & Rooney Co., to Wahl, 24 April 1899. 3 Rooney to Wahl, 22 February - 28 June 1899.

2051-2 O'Neill, H. Gibson. System of Electric Asepsis. Dixon, ANSP, to Wahl, advising matter to referred to ES, 24 October 1898. Copy of (Wahl) to Board of Managers of the German Hospital, requesting their cooperation in the investigation, 24 January 1899. Laird, Chm Medical Comm, to Wahl, on unanimous approval of Trustees of German Hosp., 1 February 1899. Greene to Wahl, 24 February 1899. Wahl to Greene, 3 February 1899. 2 Frese, Med. Superintendent Ger. Hosp., to Wahl, 28 January - 7 February 1899. Baily to Wahl, on a case under treatment, 21 June 1899. 3 Strawbridge to Wahl, 4 July - 21 September 1899. Musser to Wahl, 18 July 1899. Warburg to Wahl, 26 June 1899. Summary of Report, with Statistics of Treatment at Ger. Hosp., 6-13 March 1899. Curtis to Greene, 2 March 1899. 2 Curtis to Wahl, 27-29 March 1899.

2051-3 O'Neill, H. Gibson. System of Electric Asepsis. 2 Wilson to Wahl, 15-20 April 1899. Envelope addressed to Wahl on which Wilson wrote a note, referring to the Preliminary Report and resigning from Comm, 18 April 1899. James Jackson, Jackson Sanatorium, to Wilson, 27 1899. J. Arthur Jackson, Jackson Sanatorium, to Wahl, 19 April 1899. Rhinelander to Wilson, 13 April 1899. Copy of Wilson to Rhinelander, 15 April 1899. Wilson to Wahl, 18 April 1899. This preliminary report describes the treatment of 14 cases supervised by Wilson, Chief Physician, his assistant, Dr. Page, and the resident physician, Dr. Sinclair. Abstracts of each case are included; one patient's affidavit indicates that O'Neill administered medicine to him, although O'Neill made no reference to having administered drugs to the patients, other than those arranged for. Wilson cites 3 facts which should be considered: the favorable influence of being in a hospital, freed from the anxiety of trying to work when ill; patients frequently show improvement as the result of expectant attention; some drugs improve the condition of the blood. "In view of the circumstances under which the observations were conducted and the questionable methods pursued by O'Neill,...I respectfully submit...that no evidence has been adduced to support his affirmation that this treatment is capable of destroying tubercle bacilli in the tissues during life." The (N.Y.) World 9 April 1899. This contains a detailed descr. of O'Neill's process and the FI investigation, contrary to O'Neill's agreement with FI.

2052 Martin, E. W. Improvement in Smoke Consuming Furnaces. No Report. Folder Missing.

2053 Brosnaham, George O. Jr. Pensacola, Florida. Fishing Reel. Appl Rej. 24 January 1899. Brosnaham to CSA, 21 January 1899. Pt. Descr. 2 Brosnaham to Wahl, 21-28 January 1899.

2054 Frick, Frederick. Waynesborough, Pennsylvania. Program-Clock, Electric. J. Logan Fitts, Hugo Bilgram, Lewis Breitinger, Ferd. T. Haschka, William T. Lewis. This form of calendar switch in which the pins are readily changed and which are not in any electric circuit, is an advance in the art. Comm notes the satisfactory operation of these clocks in actual service, one having been under the personal observation of a member of this Comm for four months. This program-signal clock relieves the head of school of annoyance in not having signals given promptly, with all attendant confusion among scholars. Longstreth Medal. 7 June 1899. JFI July 1899. Frick to CSA, 30 January 1899. Subject recommended the investigation by Fitts, 21 January 1899. Comm Minutes, 6 April and 3 May 1899. Draft. 6 Adv and 4 T. 7 Frick to Wahl, 30 January - 21 July 1899. 2 Frick Pt. 8 Pt cited in Appl for Pts: de Normanville, Evans and Hollenback, Reams (2), McCaskey, Carr, Frick, Wiesching. Wahl to Fitts, 12 April 1899. Haschka to Secy, FI, 3 May 1899. 2 Fitts to Wahl, 20-24 March 1899.

2055 Atwater, W. O., Rosa, E. B. Middleton, Connecticut. Respiration Calorimeter. George F. Stradling, Robert H. Thurston, H. W. Wiley. This measures the energy of food and its metabolism in the human body, permitting the exact study of the income and outgo of food in the animal organism and the energy generated thereby. The air entering and leaving the specially constructed chamber is analyzed, as are the food and liquids that enter the chamber and thesubject's excreta. Heat generated by the subject is carefully determined. With 16 pages data. Cresson Medal. Honorable Mention to Dr. F. G. Benedict, Mr. A. W. Smith, Mr. O. S. Blakeslee (Mechanician), Mr. A. P. Bryant, Dr. O. T. Tower. 7 March 1900. JFI April 1900. Atwater and Rosa, Wesleyan U. to CSA, 27 March 1899. 2 Atwater and Rosa to Wahl, 10 March - 12 November 1900. Atwater's Secy, Carnahan, to Wahl, 9 January 1899. 10 Atwater to Wahl, 14 January 1899 - 22 July 1900 and 25 March 1903. Atwater to Wahl, 24 April, 1903, with Wiegand to Wahl, 27 April 1903, on Dup. Medal. Thurston, Cornell U. to Wahl, 10 February 1900. Stradling, Northeast Training School to Wahl, 25 June 1900. 3 Wiley, U. S. Dept. Agriculture to Wahl, 13 December 1899 - 10 March 1900. A sampling of the following publications was microfilmed. Tenth Annual Report of the Storrs Agricultural Experimental Station, 1897, with offprint of Atwater-Rosa paper. "A respiration Calorimeter." Atwater and Rosa, Descr. of a NEw Respiration Calorimeter (1899). Atwater, Woods, Benedict, Report of Preliminary Investigations (1897). Atwater and Langworthy, A Digest of Metabolism Experiments (1897). Draft of Report.

2056 Westman, Gustaf M. New York. Physics of Thermochemistry. Joseph W. Richards, A. W. Goodspeed, Livingston Morgan, Hugo Bilgram, George F. Stradling. Westman's thesis is intelligible, but not probable, a priori. The proof is entirely inadequate. Made Advisory. 3 May 1899. JIF June 1899. Westman to CSA, 6 February 1899. Westman to Reed, 4 March 1899. 4 Westman to Wahl, 14 February - 16 July 1899. Westman's Physics of Thermochemistry. Richards to Wahl, telegram (2 April 1899). 3 Morgan, Columbia U., to Wahl, 28 February - 20 April 1899. Reed to Wahl, 15 March 1899. Draft. Goodspeed to Wahl, 17 March 1899. Comm List (references Comm considered, not Comm members).

2057 International Incandescent Light Co. Incandescent Hydro-Carbon Light. Appl dismissed without prejudice, 3 May 1899. Folder Missing.

2058 Hay, Alexander G. Philadelphia. Engine-Valve. A. Falkenau, H. W. Spangler, L. F. Rondinella. The patent was evidently taken out with the idea that the saving of room in the construction of a marine engine was the most essential requirement, neglecting all other essentials of a practical value. The invention has no practical value. Made Advisory. 5 April 1899. JFI May 1899. Hay to CSA, 21 February 1899. Hay to CSA, Descr, February 1899. 4 Hay to Wahl, 6 February - 9 May 1899. Descr. Pamphlet. Falkenau to Wahl, 5 April 1899.

2059 West, F. R. S. Jr. Automatic Machine for Sale of Two Cent Postage Stamps. No Report. Folder Missing.

2060 Henning, Gustavus Charles. New York. Pocket Recorder for Testing. Wilfred Lewis, Richard Humphrey, Tinius Olsen. This seeks to be as universally applicable as a steam engine indicator. When it is properly set, it can do very nice work but the experience of the Comm has not been altogether satisfactory. Although it may not be comparable to permanent appliances for the same purpose as an instrument of precision, it is nevertheless believed to be capable of serving well as a portable machine. It has a comparatively small cost and is adaptable to all but hydraulic machines. With Illus. Longstreth Medal. 6 December 1899. JFI. December 1899, January 1900. Henning to CSA, 27 February 1899. 2 pages data, 3 graphs, 25 February 1899. 8 Henning to Wahl, 21 February 1899 - 31 January 1900. Comm Minutes, 23 March 1899. 2 Barr to Wahl, 22-31 August 1899. Humphrey to Lewis, 18 September 1899. 11 Lewis to Wahl, 14 March 1899 - 3 February 1900. Illus. Henning, "A Portable Recorder for Tests of Metal" J. Iron and Steel Institute, 1897; "A Pocket Recorder." Trans. A.S.M.E., XVIII; "Tragbarer Abreitszeichner," Zeitschrift, VDI, XXXXI.

2061 Levy, Louis Edward. Philadelphia. Etching Metal Plates. Frank E. Manning, George H. Buchanan, Samuel Sartain, F. E. Ives, W. N. Jennings. An atomized spray of acid or other erodent is projected vertically upwards against the surface to be eroded by means of an air blast. The effective avoidance of the difficulty presented by the overheating of the plate under strong chemical action is a vital element of the successful application of this process. Cresson Medal. 3 January 1900. JFI July 1899, February, August 1900. Levy to Wahl, 2 June 1899. 5 Manning to Wahl, 26 April - 7 December 1899. 3 Buchanan to Wahl, 20 May - 18 December 1899. 3 Pt: J. J. Sachs, H. F. Case, E. G. Sparks. Abstract and Specifications of Leigh's German Pt. Copy of Levy's Pt, with Illus. Levy, "Acid Blast Process for Etching," JFI May 1899.

2062 Acheson, Edward Goodrich. Monogahela City, Pennsylvania and Niagara Falls, New York. Production of Artificial Graphite. Samuel P. Sadtler, Carl Hering, Joseph W. Richards, Coleman Sellers. The inventor found that the purest carbon would be turned into graphite immediately, if it was first mixed with mineral matter, such as metallic oxides. His theory of the progressive formative and decomposition of the metallic carbides is a valuable contribution to pure science. The high quality of the graphite produced places the industrial application upon a commercial basis. Scott Medal. 12 October 1900. JFI November 1900. Acheson to CSA, 22 March 1899. Acheson, Acheson Graphite Co., to Wahl, 24 March 1899. 3 Pt. Acheson, "Graphite: Its Formation and Manufacture," from advance sheets of JFI, June 1899. Wahl to Sadtler, 24 May 1899. 3 Sadtler to Wahl, 22 May - 22 April 1899. Richards to Wahl, 23 May 1899. Machalske to Wahl, protesting the Award, 12 November 1900.

2063 MacDonald, Thomas H. Bridgeport, Connecticut. Method of Recording Sound. Louis E. Levy, J. M. Emanuel, H. R. Heyl, Samuel Sartain. This is a modification of the method patented by Bell and Tainter in 1886. A proper understanding of it entails consideration of the prior art. Chichester A. Bell and Sumner Tainter substituted a cutting edge for the identing point of Edison's apparatus, and used a material sufficiently cohesive and amorphous. Berliner's procedure differs radically, as here the stylus, vibrates in a plane parallel with the receiving surface. There appears to be no difference between the graphophone record of Bell and Tainter and that of MacDonald except that the recording tablet of the latter moves with a greater surface velocity than that given to the small tablet. Certificate of Merit to MacDonald for embodying the utility of increased peripheral speed. Scott Medal to Bell and Tainter for development of sound recording and reproducing mechanism. 3 January 1900. JFI February, July 1900. Am Graphophone Co. to CSA, 21 March 1899. Wahl, Information to Applicants. 6 Columbia Phonograph Co., Agents for Am, G. Co. to Wahl, 24 March 1899 - 13 January 1900. Comm Minutes, 20 April 1899. Mauro to FI, 18 April 1899. Am. G. Co. to Wahl, 4 May 1900. Levy to Wahl, 3 June 1899. MacDonald's Pt Specifications (Not yet awarded, Illus). Bell and Tainter Pt. Hawthorne & Sheble, Agents handling graphophones, to Wahl, 17 March 1899.

2064 Deshler, Charles, McAllister, Edwin J. Newark, New Jersey. Photometer. Francis Head, D. Anson Partridge, George E. Stradling, Arthur J. Rowland. An oil lamp is adjusted to match the candlepower of the standard incandescent lamp, by means of a Bunsen or grease-spot screen. The lamps to be measured are now substituted for the standard, the light from the oil lamp having been found to be constant for short lengths of time. The spindle supporting the lamp is rotated by a spring motor which can be converted from a direct to an alternating current motor, or the reverse. Longstreth Medal. 7 March 1900. JFI December 1899, April 1900.

Rowland, Head, F. E. Ives. Earlier Report, Adopted 1 November 1899, awarding Certificate of Merit was cancelled. With 2 Drafts. Adv. with Directions. Pt Descr, Illus, with note on returning blueprints, 17 July 1899. Pt allowed during the CSA investigation. Wahl, "For the Information of the Applicants," January 1894. 18 McAllister to Wahl, 16 March 1899 - 13 October 1900, with Dup Dyer, Edmonds & Dyer, Attys, to McAllister on Pt, 9 September 1899. Comm Minutes, 30 March 1899 - 29 January 1900. Wahl to Head, 22 December 1899. 3 Head to Wahl, 26 April - 18 September 1899. 5 Rowland to Wahl, 20 February - 21 December 1899. Stradling to Wahl, 28 March 1899.

2065 Owen, Frederick S. Waltham, Massachusetts. Truck Cushion for Railway Cars. William Penn Evans, J. J. deKinder, Henry F. Colvin. The idea consists of a corrugated steel tube, with steel heads brazed on the said tube ends, one head having a plug with a valve. Air pressure would sustain the load. Comm does not know of any metal that could stand

2065 (continued) the fatigue required of it when used for a casing to a pneumatic spring. Illus. Report made Advisory. 7 June 1899. JFI July 1899. 5 Owen to Wahl, 28 March - 16 July 1899. Draft. Owen to Colvin, 14 May 1899.

2066 Herrick, Albert B. New York. Testing Apparatus. No Report. Appl Withdrawn, 11 September 1899. Herrick to CSA, 3 April 1899. Adv. Twining to Wahl, declining Comm appointment, 22 May 1899. 7 Herrick to Wahl, 14 April - 11 September 1899 (one - a telegram). Hering to Wahl, 18 June 1899. Herrick, "The Electrical Inspection of Street Car Equipment," JFI Advance Sheets. Comm Minutes, 20 June 1899 (T. Carpenter Smith, C. W. Swoope, W. E. Harrington).

2067 Moore, Edward J. Philadelphia. Protest Against Report 2030, His Marine Boiler. H. W. Spangler, T. Carpenter Smith, James Christie, J. Logan Fitts. Comm reports that the differences between the inventor and the Comm are matters of opinion. Comm recommends that the Applicant be permitted to renew his Appl, without prejudice, when he shall have a boiler of this type installed in such a situation that it can be subjected to a thorough and exhaustive test by Comm. 7 June 1899. Moore to Wahl, Protest, March 1899, 29 pages with Illus. Draft. Comm Minutes, 24 April - 22 May 1899. Illus. Spangler to Wahl, 15 May 1899. Haug to Wahl, 22 April 1899.

2068 Waterhouse-Forbes Co. (Applicant). Philadelphia. Sterilization Method. No Report. Appl Withdrawn. 2 October 1899. See CSA 2171. Waterhouse-Forbes Co. to CSA, 23 May 1899. 2 Descr. 5 Forbes, Waterhouse-Forbes Co. to Wahl, 1 May - 2 October 1899. 2 Forbes, Waterhouse-Forbes Co. to Wahl, 15 December and 14 February 1900. Haines, Forbes Co., to Wahl, 10 February 1900. Heyl to Wahl, 19 January 1901. Spangler to Wahl, 19 January 1900. Abbott to Wahl, 11 January 1900. Pistor to Wahl, 18 January 1901. Comm Minutes, 5 July 1899 (Abbott, Heyl, Pistor, Leffmann).

2069 Deery, John Jerome. Philadelphia. Liquid Purifying Apparatus. No Report. Appl Withdrawn, 20 September 1899. Deery to CSA, 26 April 1899. Pt. 2 Pamphlets. Deery to Wahl, 20 September 1899. Sinclair to Wahl, on Rudolph Hering being away, 3 May 1899. 2 Fuller to Wahl, 1-10 June 1899. Whipple to Wahl, 21 July 1899. 2 deKinder to Wahl, 5-20 September 1899. (Other Comm members: J. H. Fuertes, Allen Hazen, Henry Leffmann, George Woodward).

2070 Fechtner, Joseph F. New York. Rotary Engine. William M. Barr, L. d'Auria. No Report. Appl Withdrawn. Fechtner to CSA, 26 April 1899, with card. Wahl to Fechtner, 8 September 1899, with note, withdrew Appl.

2071 Hopkins, Nevil Monroe. Washington, D. C. Pneumatic Cushioning of Water Pipes. J. J. deKinder, Frank P. Brown. A piece of pipe, provided with a pneumatic dome applied to the center, was filled with water and then submerged in brine -3°F. An unprotected pipe was found to be bursted 1½ hours later while the protected piece was not. When the flow ceases, the water rises, lifting a float in the dome. This "boosts" the valve at the dome's top, preventing any future escape of air or water. With Illus. Scott Medal. 7 March 1900. JFI April 1900.
deKinder, Preliminary Report, which discusses tests made at Phila. Warehousing and Cold Storage Co., 3 January 1900. Comm Minutes, 26 October 1899. Hopkins to CSA, 1899. 3 Pt, with Dup. claims. 4 Illus. Draft. Wahl to deKinder, 24 October 1899. Wahl to Heyl, Chm CSA, 25 April 1900. Heyl to Wahl, 26 April 1900. Totten to Wahl, on Hopkins's system, 8 May 1899, with note on references cited by Patent Examiner. List of Special Features of Merit. 17 Hopkins to Wahl, 11 May 1899 - 18 July 1900, with the card of a friend and descr of payment to Edmundson, 6 February 1900 - for tests. 6 deKinder to Wahl, 10 August 1899 - 5 May 1900, with copy of deKinder to Hopkins, 29 March and 24 April 1900.

2072 Dunbar, J. H. Youngstown, Ohio. Piston Valve for Steam Engines. William Penn Evans, J. M. Emanuel. The water which will certainly collect, has no way to escape and the design seems to have too many pieces. The sketch of the valve which accompanied the Applicant's 1 September letter shows a decided improvement over the sketch submitted originally. If he will modify still further, he will have a better design. Report made Advisory, 1 November 1899. JFI December 1899. Dunbar to CSA, 16 May 1899. Descr with Blueprint. 2 Illus. 2 Dunbar to Secy, FI, 1 September - 20 December 1899, with notes on 20 December, by Wahl and by Evans. 3 Evans to Wahl, 4-21 September 1899.

2073 American Roentgen Ray Company. Boston, Massachusetts. Sweet & Lewis Company (Applicant). Boston, Massachusetts. George F. Stradling, A. E. Kennelly. The apparatus is a neat combination of parts all well known. The commutating device seemed to be the most original part and served not only to reverse the discharges, but also to adjust their frequency and magnitude. Certificate of Merit to the manufacturers. 1 November 1899. JFI December 1899. Sweet & Lewis Co., to CSA, 25 May 1899. Photo. Bulletin, Static Machines. Pamphlet, The Roentgen Rays. Wahl to Marburg, suggesting Kennelly, Stradling, Hoadley, Partridge, Goodspeed, Brown & Earle to Wahl, 20-27 April 1899. 2 Am. Roentgen Ray Co. to Wahl, FI, 13-24 February 1899. 2 Sweet & Lewis Co. to Wahl, 9-14 December 1899.

2074-1 Marks, William D. Philadelphia. Meter. H. W. Spangler, Carl Hering, Francis B. Crocker, A. William Schramm, Arthur J. Rowland, William A. Anthony. The machine is intended to measure ampere hours, using the oscillations of a pendulum to open and close the circuit breakers. Comm has not been able to make any tests on alternating

2074-1 (continued) circuits, but submits that the instrument is not strictly an ampere-meter, but is somewhat of a watt-meter. The apparatus is durable, commercially accurate at moderate and high loads; it would probably not be quite satisfactory to the consumer and the supply company at very low loads. 12 October 1900. JFI December 1900. Marks to CSA, 27 May 1899. 5 Marks, The Am. Electric Meter Co., to Wahl, 13 November 1899 - 28 March 1900. Edson, Am. E. M. Co. to Wahl, 6 December 1900. Comm Minutes, 29 November 1899. Marks, Meters consigned for test, 1 December 1899. Marks to Spangler, with Dup Reply to Anthony, 20 December 1899. Conditions of construction and Instructions, and T from Edison. 10 Spangler to Wahl, 11 September 1899 - 24 March 1900. 2 Anthony to Wahl, 30 November 1899 - 5 February 1900. 3 Hewitt to Wahl, 20 June 1899 - 14 February 1900. 2 Hering to Wahl, 28 June 1899 - 14 February 1900. Marburg to Wahl, 11 November 1899. Anthony to Spangler, 7 March 1900. Crocker to Spangler, 6 March 1900. Hewitt to Spangler, Am. E. M. Co. had paid him for a special report, 6 March 1900, marked 'should be taken off Comm,' HWS. Marks to Spangler, on Report, 10 March 1900. Marks to Comm, with test data of 27-28 November 1899. Rowland to Wahl, 15 February 1900. Schramm to Wahl, 14 February 1900. Schramm, notes on tests, nd.

2074-2 Marks, William D. Meter. 19 Patents: Marks (10), Marks and Green (2), Wirt (2), Green, Burger and McFall (2), McFall, Wirt, Green, Burger. 2 Pamphlets.

2075 Groupe, Andrew V. Philadelphia. Braiding Machine. H. R. Heyl, Luther L. Cheney, J. Logan Fitts. This machine is of a class which carries two sets of bobbins, preferably in different planes, the threads from one set are directed over and under those of the other set successively. A sectional trackway for the carriers of one set of bobbins directs the threads, minimizing friction and insuring a practically uniform tension on the respective threads. This ingenious contribution makes this type of braider a mechanical success. Scott Medal. 7 February 1900. JFI March 1900. Groupe to CSA, 7 June 1899. Descr. 2 Groupe to Wahl, 7 June 1899 - 13 June 1900. Heyl to Wahl, 25 June 1899. Draft. 5 Pt: Groupe, Veerkamp, Leopold, Darker (2). Sample of work done.

2076 Condon, John. Philadelphia. Acetylene Gas Generator. Charles A. Hexamer, Harry F. Keller, William McDevitt. There are three different types of generators now on the market; this apparatus belongs to the drop machine category. Carbide is fed gradually to relatively large quantities of water. Comm is ofthe opinion that the problem of automatically feeding carbide to water for the purpose of generating acetylene gas has been here solved satisfactorily. But many other apparatus have attained the same object. FI does not geel justified in recommending any special award. 1 November 1899. JFI December 1899. Condon to CSA, 20 June 1899. Descr, with 3 pages Blueprints. Howson and Howson to Brenerman, with copy of Reid's allowed claims, 7 June 1899. Pamphlet, with proofs. Adv. Pt, with Howson and Howson envelope. Draft. Conard to Wahl, recommending this for investigation,

2076 (continued) 21 September 1898. Comm Minutes, 16 September 1899. Condon, "Sunlight by Night." to Hexamer, 22 September 1899. Condon to Wahl, 14 December 1899. Brenerman, "Sunlight by Night," to Wahl, 26 September 1899.

2077 Clarke, W. J.. Wireless Telegraphy. No Report. Folder Missing.

2078 Kinraide, T. B. Application of Photography to the Study of the Structure of Electrical Discharges. No Report. Folder Missing.

2079 Colt, Samuel. Santa Barbara, California. Steam Turbine. Arthur Falkenau, Wilfred Lewis. Comm has read and carefully considered the data submitted, and has reached the conclusion that the Applicant has submitted a drawing of a practically inoperative machine. Comm suggests that the Applicant be referred to the engineering literature relating to the Parsons and DeLaval Steam Turbines. Made Advisory. 1 November 1899. Colt to CSA, 6 July 1899. Colt to Secy, FI, 15 September 1899. Colt to FI, 1 December 1899. Copies of Specifications and Drawings of 2 Pt Appl. Draft. Comm Minutes, 17 October 1899.

2080 Thomas, James E., Grow, Elisha P. Bay City, Michigan; Philadelphia. Sterilization of Water. No Report. Comm Disc 5 June 1901. JFI July 1901. Thomas and Grow to CSA, 19 July 1899. Descr. 7 Pt: Frederick H. Moore (2), Thomas and Grow (3), Thomas, Hargrave. Stern to Wahl, introducing Grow, 12 June 1899. Grow to Wahl, 19 September 1899. 2 Adv. 4 Pamphlets.

2081-1 Laughlin, Samuel John, Hough, James. Guelph, Canada. Drawing Tables. L. F. Rondinella, J. Logan Fitts. A straight-edge or ruler moves across the drawing-board, into positions always parallel to itself. The paper, or the board, is adjustable. The tables are made in four varieties as illustrated (in the Report). The fixed board in Style D is so equipped that an entire roll of paper may be used without cutting. Scott Medal. 6 December 1899. JFI January 1900. Laughlin-Hough Co. to CSA, 27 July 1899. 3 Pt, note, on fourth not yet printed, from Pt Office. Notes on Comm Meetings, 6-17 October 1899. Thorne to Wahl, recommending these drawing boards, 4 August 1899. Laughlin-Hough Co. card. 5 Dennis, Secy-Treas. Laughlin-Hough Co. to Wahl, 7 September 1899 - 10 November 1900. Pt Office to Laughlin-Hough Co., 26 October 1899. Feele, Vice-Pres., Laughlin-Hough Co. to Rondinella, 24 October 1899. Rondinella to Wahl, 13-30 October 1899. Feele to Secy, FI, 27 July 1899.

2081-2 Laughlin, Samuel John, Hough, James. Drawing Tables. 2 Pamphlets. 1 Booklet. Illus.

2082 Heller, Adam. Baltimore, Maryland. Sadtler, J. P. B. & Co. (Applicant). Water Heater. Frank P. Brown, Spencer Fullerton. The device is intended to heat the water contained in vertical circulating boilers attached to water-backs of the kitchen ranges, when no fire is in the range. It is made to be readily clamped to the central pipe and,

2082 (continued) unlike other similar devices, does not require alterations of the boiler or its connections. The burner used is efficient but has been in use for a dozen years. Certificate of Merit for heater. 7 March 1900. JFI, February, April 1900. Sadtler to CSA, 30 August 1899. 2 Pt. Sadtler & Co. card and 2 page Adv. Heller to Wahl, 3 May 1900. Fullerton to Wahl, 18 January 1900, on awarding Certificate for the heater but not for the burner. Brown to Wahl, 29 January 1900, forwarding Report. Fullerton to Wahl, 5 May 1900, on the "worst possible policy: of reporting on 2 separate and distinct inventions in one report and on Brown's opinion being better informed on burners. Adv. Fullerton to Wahl, 29 May 1900. Wahl to Brown, 7 May 1900. 2 Drafts of 2 earlier reports, one on burner being efficient but not new and one on the heater being convenient and novel. Reports read 3 January 1900 were referred back to Comm to be embodied in one report.

2083 Western Mattress Co. Friction Device. Advisory Report. Folder Missing.

2084 Vellenoweth, Harry. Philadelphia. Rail Joint. J. J. DeKinder, Joseph T. Richards. There are absolutely too many parts for any joint to work properly at the connecting ends. 4 April 1900. Vellenoweth to CSA, 13 September 1899. Vellenoweth to Wahl, 9 May 1900. Comm Minutes, 26 December 1899. Wahl to Richards, 24 October 1899 with note. Draft, 24 January 1900, read 7 February 1900. Wahl to deKinder, Draft referred back, 19 February 1900. Wahl to deKinder, Conard, Colvin, Heyl, added to Comm, 14 March 1900. Harris, for deKinder, to Wahl, 27 November 1899. DeKinder to Wahl, with Richard's Report, 26 February 1900. 4 deKinder to Wahl, 20 December 1899 - 26 March 1900. Richards to deKinder, 16 March 1900. Pt.

2085 Goldbacher, Joseph N. (New York) Bournonville, Eugene (Jersey City, New Jersey). Bournonville Acetylene Generator Co. (Applicant). New York. Gas Generator. Charles A. Hexamer, Harry F. Keller. While recognizing the merits of design embodied in the machine, Comm is of the opinion that there are a number of other machines, of the drop type which work equally as well. The inventors' broad claim of being the pioneers of this system cannot be substantiated. Made Advisory, 6 December 1899. JFI January 1900. Bournonville Co. to CSA, 13 September 1899. Comm Minutes, 16 November (1899). Draft. 2 Pt: Goldbacher, Bournonville. 2 Pamphlets. Bournonville Co. to Wahl, 13 September 1899. Bournonville, 19 January 1900, announcing sale of his Pts to J. S. Charleson. Charleson, 22 January 1900, announcement. 2 Charleson, 22 January 1900, 2 Charleson, General Acetylene Co. to Wahl, 13-15 March 1900.

2086 Smith, Harper M. Philadelphia. Brake for Railway Cars. Henry F. Colvin. Applicant submitted a drawing of a rolling-contact brake mechanism, asking for advice as to the practicability and usefulness of the device. Comm explained to him the proper function of a brake and

2086 (continued) he accepted Comm's judgment that his suggested invention was valueless. Comm Disc. 1 November 1899. JFI December 1899. Smith to CSA, requesting Advisory Report, 18 September 1899. Draft. Illus. Comm Minutes, 26 October 1899. Smith to FI, acknowledging receipt of Report, nd (25 November 1899).

2087 Walsh, James Jr. Philadelphia. Nut-Locking Washer. Henry F. Colvin. Comm examined the model accompanying the Appl and was not quite sure that all of the claims could be substantiated and asked for samples made of iron. The only effect that could be seen of the jaws pinching the bolt, was that it had a tendency to injure the thread on the bolt. Report made Advisory, 6 December 1899. JFI January 1900. Walsh to CSA, 13 October 1899. Pt. Draft. Comm Minutes, 11 November 1899. Walsh to Wahl, nd. Adv.

2088 Beard, Arthur Hopkins. Manchester, Alabama. Electric Motor. C. J. Reed. Comm has concluded that the invention contains absolutely nothing new or of any commercial value. It is possible that for some special purpose it might be used, but on the score either of efficiency or mechanical simplicity, it could not remotely approach the poorest motors of the ordinary type. Made Advisory. 1 November 1899. JFI December 1899. Beard to CSA, 14 October 1899, with Descr. Beard to Wahl, 18 October 1899. Pt. Beard, "Energy or the Power of Doing Work." Reed to Wahl, on his examination of the motor - revised as the Report, 26 October 1899. Np: The Memphis Herald. 7 February 1897. Photo.

2089-1 Wait, William B. New York. Machines for Producing Tangible Writing. Hugo Bilgram, Edward E. Allen, Benjamin N. Lehman, F. E. Ives, Louis E. Levy. Each sign occupies the space of either one, two, three, or four vertical rows of two points each this is known as the New York point system. The smaller of the two machines submitted is adapted to make the impressions directly upon paper, and is operated by hand. The large machine is made for producing the plates used in the process of reproducing the embossed sheets used by the blind. These machines are superior both in details of mechanical construction and in workmanship to those previously made, the Comm especially commends the ingenuity with which the variable feeding has been accomplished. Scott Medal. 6 June 1900. JFI August 1900. Wait to CSA, November 1899. List of Exhibits submitted. 1 and 2 are books which were not microfilmed. Comm Minutes, 1-7 December 1899. (Exhibit 10) 4T. 2 Wait Pt with 2 letters of rejection and Pt Office references. 6 Wait to Wahl, 24 October 1899 - 13 December 1900. Descr of capacities and uses of Kleidograph and Stereograph. Pt Office to FI, on request of copies of Pt, 30 December 1899. Descr, with samples (Exhibit 9). 3 Bilgram to Wahl, 21 December 1899 - 17 April 1900. Lehman to Wahl, 19 April 1900. Allan to Wahl, 19 April 1900.

2089-2 Wait, William B. Tangible Writing. 19 Patents: Johnston, Hoefer, Mesick and Ayer, Webb, Spiro, Baldrige, Redfield, Brackelsberg, Orndorff, Brady, Allen, Howe, Sholes, Lougee, Hamilton, Leming, Goodson, Brown, Stedman and Stedman. 13 Pages of Samples Writing (Exhibit 7). Music transcribed on Kleidorgaph (exhibit 7-A).

2090 Kneass, Strickland L. Philadelphia. Injector. H. W. Spangler, Hugo Bilgram, Francis Head. The injector is automatic at widely varying steam pressures and the quantity of water ranges to a greater extent than was possible without this improvement. Comm obtained the results of several independent series of experiments made on injectors; the range of operation was greater with this injector than with any other tested. Scott Medal. 12 October 1900. JFI April, December 1900. Kneass to CSA, 23 October 1899. 4 Pts. Draft, referred back to Comm, 4 April 1900. Features of the self-acting Injector, 10 November 1899. Comm Minutes, 29 November 1899 - 28 May 1900. Reprint from Railroad Gazette, 11 December 1896, with 2 abstracts (reprints, on tests, conducted by Wm. Sellers & Co., Inc.). 9 Blueprints. 4 pages Illus. Wahl to Spangler, 9 April 1900. List of Injector Pts. 8 Spangler to Wahl, 16 January - 24 May 1900. Kenshaw, Illinois Central Railroad Co. to Spangler, with test data, 2 May 1900. Wille, Baldwin Locomotive Works, to Spangler, test data, 5 February 1900. Colvin to Spangler, 11 May 1900. Kneass to Spangler, with Illus, 22 May 1900. Kneass to Spangler, 7 April 1900. 2 Dup Reports, one signed by Head. Kitson, 23 December 1899. Note on Illus. 3 Kneass to Wahl, 10 April 1900 - 19 February 1901, the last donating premium to FI.

2091 Hornish, Frank W. Chicago, Illinois. Boiler Cleaner, Mechanical. Thomas P. Conard, A. Faulkenau, H. F. Colvin, H. W. Spangler. Case dismissed 6 March 1901. Hornish to CSA, 20 October 1899. 4 Hornish, Hornish Co., to Wahl, 17 February 1899 - 18 February 1901, the last requesting delay in the investigation and note to dismiss it. Comm Minutes, 20 January 1900. Wahl to Conard, 25 January 1901. 2 T. Falkenau to Wahl, 5 November 1899. 2 Conard to Wahl, 17 January 1900 - 14 February 1901. Pt.

2092 McGill, Andrew. Dunedin, New Zealand. Barr, Peter (Agent). Street Railway System. James Christie, Francis Head. The proposition is to construct a conduit of sufficient capacity to receive the truck and running gear of an electric or cable car. It appears to Comm that the advantages claimed are insufficient to offset the disadvantages of inaccessibility to the truck mechanism, and to give proper stability to an ordinary street car would require an expensive conduit of considerable sectional area. Made Advisory. 6 December 1899. JFI January 1900. McGill to CSA, 25 October 1899, per Barr. McGill, Descr and Illus. Comm Minutes, 8 November 1899. Christie, Draft. Christie to Wahl, 21 November 1899. Card of Peter Barr, Agent for McGill, of Barr, Leary & Co., New Zealand.

2093 Yearicks, George W. Philadelphia. Ventilation System. L. F. Rondinella. These tin devices which are based upon well-known principles in the flow of air of different temperatures, should operate satisfactorily, and could be used where the unsightliness of the metal gutter could not be objectionable. Advisory, 6 December 1899. JFI January 1900. Yearicks to CSA, 2 November 1899, marked 'An Advisoty Report.' Yearicks' card, Bricklayer and Builder. Yearicks, Descr, 6 December 1899. 2 Yearicks to Wahl, 29 November 1899. Comm Minutes, 21 November 1899.

2094 Baker, John G. Philadelphia. Stereoscopic Camera. F. E. Ives, W. N. Jennings, Louis E. Levy. An ordinary camera of long extension has been specially adapted for making stereoscopic photographs of whole insects and similar objects which are too large to be photographed successfully by attaching a camera to the ordinary microscope. Photographs of insects obtained with this camera with comparatively little trouble show that it is admirably adapted for this special work. 7 March 1900. JFI April 1900. Application referred by Photographic and Miscroscopic Section, 10 November 1899. Baker to Wahl, 2 May 1900.

2095 Davis, Job Albert. Philadelphia. Motor for Vehicles. William Penn Evans, W. C. L. Eglin. The contrivance consists of a pair of pedals which by being worked up and down act as the lever on a ratchet. The small amount of work a man is capable of developing in proportion to his size compared with other prime movers restrict its use to very light vehicles if speed is not going to be sacrificed to a very great extent. Made Advisory, 7 February 1900. JFI March 1900. Davis to CSA, requesting Advisory Report, 9 November 1899. Illus. Blueprint. Descr. Card. Draft. Wahl to Davis, 23 February 1900, forwarding Report with note from Davis on its receipt. Marburg to Wahl, 18 November 1899. 2 Wahl to Evans, 16 December 1899 - 16 January 1900. 2 Evans to Wahl, 5 - 19 January 1900.

2096 Manufactured Rubber Co. Artificial Rubber. No Report. Case dismissed without prejudice. 2 May 1900. Folder Missing.

2097 Spence, Watson and Nolan, Johnston. Philadelphia. Roller Bearings for Pistons. Appl Rej, November 1899. Spence and Nolan to CSA, 17 November 1899, with note on dismissal. Spence and Nolan to CSA, 18 November 1899. Pt. Wahl to Marburg, 20 November 1899, with 3 notes: E. M. to Dr. W. H. W., suggesting Appl be referred to Prof. Spangler; E. M. to Prof. H. W. S. requesting opinion in half dozen words; H. W. S. "will work o.k. but isn't worth doing."

2098 Koblinski, Leopold. Philadelphia. Filter. J. deKinder. No Report. Case dismissed without prejudice. 7 February 1900. Koblinski to CSA, 27 November 1899. 2 Koblinski to Wahl, 20-27 November 1899; with Illus. deKinder, recommending dismissal, 5 February 1900.

2099 Goldman, Henry, Chocago, Illinois. Calculator. Hugo Bilgram, George S. Cullen. The mechanism is enclosed in a neat aluminum housing and consists of as many independent sections as it contains digits (eight in the machine examined). Each section contains a ten toothed registering wheel. Subtractions can be effected by supplemental addition. Longstreth Medal. 12 October 1900. JFI November 1900. Spangler, recommending Arithmachine, manufactured by Office Men's Record Co., for investigation, 28 February 1898. Goldman, The International Arithmachine Co., General Manager, to CSA, 27 December 1899. 2 Pt. Copy Pt Appl, 26 January 1898, Shipping Invoice, 27 December 1899. 5 Office Men's Record Co. to Wahl, 26 May 1898 - 22 April 1899. 6 Bilgram to Wahl, 26 February - 24 September 1900. "Special Instructions." 11 Adv. Pamphlets. 17 International Arithmachine Co. to Wahl, 24 October

2099 (continued) 1899 - 26 April 1901. International Arithmachine Co. to Secy, FI, 7 August 1900, on submitting a new model for investigation, in place of model Comm now has. Wahl to Bilgram, 13 August 1900, on new model. Bilgram to Wahl, returning letter and will return old model on receipt of new, 14 August 1900. Lever for operating mechanism removed from folder. Comm members not signing report: L. d'Auria, Edward F. Moody.

2100 Lowry, George A. Boston, Massachusetts. Jones, Henry P. (Applicant). Cotton Bailing Machine. Charles E. Ronaldson, M. R. Muchle, Jr., James Christie, Charles A. Teal. The machine can be equally well adapted to concentrate and bale all varieties of fibre, coarse or fine hay, cotton, wool, jute, and scrap tin plate. The cottom, as the bale is being formed, has a rotary motion, imparted to it; the finished bale is a continuous thin strip of cotton in helical form with no lateral tendency to expand, all the expansion being parallel to the axis of the cylindrical bale. Scott Medal, 4 April 1900. JFI May 1900. Jones to CSA, 4 December 1899. 7 Jones, Indo-Egyptian Compress Co. and Planters Compress Co., to Wahl, 4 November 1899 - 9 August 1900. 3 Jones to CSA, 4-25 December 1899. Jones to CSA, Descr, 9 March 1900. Comm Minutes, 3 January - 27 February 1900. 3 Christie to Wahl, 23 December 1899 - 2 February 1900. Lewis to Wahl, 3 January 1900. Muchle to Wahl, 3 January 1900. Kirkpatrick, Minor City Trusts, to Wahl, on delay in awarding medal during summer, 2 August 1900. Instruction booklet. 2 Adv. Photo from exhibit of Indo-Egyptian Compress Co., National Export Exposition, 1899, with card announcing the exhibit and business card. Indo-Egyptian Co. to Wahl, with names of users, 13 February 1900. Corres from 4 companies using Lowry press, one Dup with note to Lowry. Draft Report. Lowry, on 15 May, protested award given to CSA 2118. For additional corres. see CSA 2118 (not microfilmed).

INDEX

Inventors, inventions, subcommittee chairmen, and manufacturing companies form the bulk of the entries. Because individuals are not labeled "inventor," "applicant," or "chairman," the researcher is directed to the calendar to identify the individual's role in each case. Noteworthy figures and institutions not directly connected with the inventor or investigation have been indexed only when their involvement was significant or when the documents provided substantive information on the subject. All case numbers without a prefix refer to the work of the Committee on Science and the Arts, formally named in 1834. Prefixes before a number are explained on the abbreviation pages preceding the calendar. All numbers refer to cases except for the Committee on Inventions Report Book, which is indexed to the page on which the report begins, as in CI-R, p. 29. Frequently the inventor's title for the invention has been retained. Subject headings, while extensive and diverse, nonetheless cannot include all the inventions with specific titles. Finding these titles in the index will require the researcher to use imagination.