OPENING OF PHILADELPHIA'S COMMERCIAL MUSEUM.

Philadelphia's Commercial Museum, in the Pennsylvania Railroad office, on Fourth Street, was formally opened on June 2, by President McKinley, in the presence of a gathering of notable persons from Washington, and representatives of the leading trade bodies of the United States, Mexico, Central and South America. The event really had international importance, owing to the presence of so many diplomatic representatives of other countries, especially those on the American continent. An inspection was made of the building and a luncheon was served. The formal opening of the museum was held at the Academy of Music at two in the afternoon. The mayor of Philadelphia presided and introduced President McKinley, who made a most excellent speech, after which Dr. William Pepper, president of the Commercial Museum, outlined the character and work of the museum. In brief, he stated that the Commercial Museum possessed the most extensive collections of natural products in existence in any country. These collections are displayed so as to enable manufacturers or traders to study them to the best advantage and gain the information or make the selections needed for their special interest. The library receives regularly over 900 journals of commerce and manufactures from all parts of the world in many languages. An abstract of contents is made on cards and they are duly catalogued. The museum also sends out numerous circulars of inquiry and regularly receives reports of special agents. The bureau of information thus formed contains the fullest and most exact data obtainable on trade conditions. The advantages are open to all manufacturers who pay the moderate membership fee. In the scientific laboratories connected with the museum all new products will be tested and analyzed, and the results are expected to be very valuable. Courses of instruction will be regularly conducted in the institution which will attract earnest students seeking to fit themseives for appointment in the consular service or to other commercial positions.

The purposes of the museum require further that there shall be displayed very complete collections of the manufactured articles which are actually being imported into the markets which it is proposed to share with the countries hitherto controlling them; consequently there will be found extensive series of goods made abroad for sale in Mexico, Central and South America, Africa, Australia and the Orient. It is hoped in time that permanent buildings may be constructed to house the collections, and that the federal government may take some definite official recognition in the form of an annual grant. The result of the three years' work has been most satisfactory.

THE NEW PUBLIC LIBRARY BUILDING COMPETITION.

The bill authorizing the building of the new Public Library building for New York City has been approved by the Governor. The estimated cost of the building is $1,700,000, exclusive of the heating, lighting, ventilating apparatus, furniture, book stacks, shelves, and also for the expenditure for architects' fees and for removing the reservoir. In a pamphlet issued by the trustees of the New York Public Library the various requirements of the building are specified. The building will stand on a lot 482 × 455 feet square. The building will measure about 225 × 350. It is to be fireproof and have a storage capacity for 4,000,000 volumes.

The committee proposes to obtain plans by two consecutive competitions; an open competition for sketches only and a restricted paid competition. Director J. S. Billings, Bernard R. Green, in charge at the Congressional Library, and Prof. Ware, of Columbia University, will be the judges in the preliminary competition. All architects having offices within the limits of Greater New York are invited to compete in the preliminary competition. The commitee will then choose from the work of these architects twelve sketches which in their judgment are the most meritorious. They will be given a premium of four hundred dollars. The committee will then choose from the authors of the twelve sketches so selected certain of the competitors, not more than six in number, to take part in the second competition, selecting only those who, in their judgment, are qualified by their professional training and experience to undertake so important a work. The persons thus selected will then be invited to take part in a second competition, which will be conducted under such conditions as the committee may name. The competitors in the second competition will be given eight hundred dollars as the estimated cost to them of the drawings required. These drawings will be judged by a jury of seven persons, consisting of three members of the board of trustees to be named by the board, the director, and three practicing architects, which may be chosen by the committee. The jury will, by a majority, select the designs, at least three in number, which they find, on the whole, to be the best, and will send them to the trustees, naming them in the order of their merit, with such criticisms as they see fit to make. The trustees will then send these to the Board of Estimate and Apportionment for its approval, subject to such changes as may afterward be deemed advisable, and the trustees will recommend the author of the best plans as the architect of the building. The trustees may also appoint an engineer to superintend the work.

Plans are now being perfected by Dr. Billings to systematize the three large collections with a view to their amalgamation in their new home. It will be at least three years, possibly more, before the collections can be housed under the same roof. It will take a large part of this time to go over the libraries thoroughly, classifying their treasures and have them put in proper shape for the final fusion. Already the collections are being consolidated. Thus the Americana will be taken to the Lenox Library, as will also the works on music. The works on sports and English history will be brought to the Astor Library. When the new library building is erected, the building of the present Lenox Library would make a magnificent home for the New York Historical Society or some other similar institution.

AN ELECTRIC FOUNTAIN FOR BROOKLYN, N. Y.

The city of Brooklyn is to have an electric fountain which will be erected in the Park plaza. Plans for the fountain were made by F. W. Darlington, Philadelphia, who has constructed fountains of a similar character in other cities. The old concrete fountain has been removed and the new fountain will take its place. The position is particularly fortunate, being exactly in front of the great arch at the entrance of Prospect Park. The circumference of the basin is 370 feet, and it will be constructed of kosmocrete. Under the center of the basin will be a cellar in which will be placed a large part of the scenery connected with producing the colored effects. A tunnel will connect this cellar with an operating kiosk, where the person in charge of the fountain will stand, looking out of a window six inches above the water, and thus be enabled to see the effect of the various combinations which he has caused to be produced.

The electrical apparatus will consist of nineteen automatic focusing arc lights, connected in series; each lamp will be of 6,000 candle power, and will be provided with an adjustable stand which permits of throwing the light upon the ascending water. Three rheostats will be provided, one for each series of lamps, and each lamp will be provided with a silver parabolic reflector.

The glass color slides will be operated by compressed air, and they will be controlled by electricity. Eighteen incandescent lights will be arranged about the wall of the basin.

The display of the fountain will consist of fancy jets, umbrella, ball sprays, rings, fans, funnels, wheat sheaves, etc. It is said that an attempt will be made to throw pictures on a wide sheet of spray. If the experiment is successful, it will be very interesting.

Two trolley car companies have entered into an agreement with the Park Commissioners to each supply one-half of the current required, and it is believed 100 horse power will be necessary.

The fountain is capable of throwing 100,000 gallons per hour. The contract price of the fountain is $24,500, and the contractors are the Willson & Baillie Manufacturing Company.

ACCIDENT AT THE YERKES OBSERVATORY.

The Yerkes Observatory of the University of Chicago, at Williams Bay, Wis., will be closed for the summer on account of an accident which occurred on May 29. The great movable floor of the great dome fell 45 feet and rested at an angle of 45 degrees, with one edge of the floor against the bottom of the pit and the other edge 3 feet below the top gallery, against the guides which carry the great counterweights. It appears from an examination made by an engineer that one of the cables was torn from its weight. This unbalanced the floor, which fell to the bottom of the pit. In its fall it carried away the winding stairway and crushed the electric apparatus underneath it. The floor is said to be a complete wreck. There was no one in the building at the time of the accident. Prof. Barnard and Prof. Ellerman had been working all night at observations, but they had stopped at daylight, so that, fortunately, no one was injured. Director Hale at once locked the building, and sent to the University officers to come to the building and commence an investigation. "The cause of the accident," said Major Rust, Comptroller of the University, "has not been decided, and probably will not until representatives of all the parties interested are on the ground. The big telescope was not injured in the falling of the floor in the least, and the damage is confined to the floor itself and the machinery immediately connected with it. As to how the accident occurred we have not come to a conclusion. I think the floor will be again in position inside of sixty days." The results of the official investigation will be looked for with interest.

CHELSEA district in London utilizes its street refuse by separating the rags and paper, which are converted into brown wrapping paper, while the rest of the refuse is burned in the furnaces of the reducing works and the residuum is used in brickmaking.

AN IMPORTANT FIND OF ANCIENT PAPYRI.

A great find of ancient papyri in Egypt has been made by Messrs Grenfell and Hunt, who are exploring for the Egyptian Exploration Fund at Behneseh; many ancient rubbish mounds yielding a rich store. The quantity of rolls found in three of the mounds was large enough to warrant the assumption that a part of the archives had been thrown there. The papyri range from the time of the Roman conquest to early Arab times. Each century is largely represented. Most of the documents are written in Greek, with a sprinkling of Latin, Coptic and Arabic. Little is known of the contents of the documents, but Mr. Grenfell's hope in digging at the site of Oxyrynchus of finding early Christian documents is realized, for among the papyri is a leaf from a third century papyrus book containing a collection of the sayings of Christ. Some of the sayings are not in the Gospel and others exhibit diversions from the text of the Gospels. It is thought that, when the papyri are examined in detail, further discoveries of Christian records, as well as fragments of lost classical literature, will be found, since in some of the mounds a large proportion of the papyri are written in uncials, which were largely employed during the first two centuries of the Christian era. One hundred and fifty rolls which in many cases are several feet long have been retained in Gizeh and the rest are on the way to England. Besides the papyri, a number of coins, two hundred inscribed tiles, bronze and ivory ornaments and other objects of the Roman and Byzantine periods have been recovered. The New York Sun deserves credit for cabling all the details obtainable of the find.

THE HARTFORD MEETING OF THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS.

The opening session of the Hartford meeting of the American Society of Mechanical Engineers was held on May 25. Sessions for the reading and discussions of papers were held on Wednesday, Thursday and Friday mornings and Friday evening. The afternoons were devoted to excursions to interesting shops, institutions, etc., in the neighborhood. On Wednesday, May 26, a reception was given by the President and Faculty of Trinity College. A large number of interesting papers were read, including one by Dr. Leonard Waldo, on the "History of the Development of the Bicycle;" "Hygrometric Properties of Coal," by Prof. R. C. Carpenter; "Electricity vs. Shafting in a Machine Shop," by Prof. Charles H. Benjamin; "Rating Electric Power Plants on the Heat Unit Standard," by Prof. William S. Aldrich; "A Continuous Steam Engine Indicator," by Prof. Thomas Gray. These were only a few of the very interesting papers which were read. The members of the society were well entertained in Hartford, and the excursions in the neighborhood were very interesting.

Among the excursions were trips to visit the third rail system of the N. Y. & H. R.R., the plant of the Berlin Iron Bridge Company, the Pope Manufacturing Company, the Pratt & Whitney Company, the Billings & Spencer Company, the Hartford Rubber Works and other establishments. The Hartford meeting of the society was the largest ever held outside of New York City, 402 members and guests being registered as in attendance. The legislature being in session at the time, the hotels could not accommodate the crowd, so that many members were able to enjoy the hospitality of some of Hartford's homes.

THE LIQUEFACTION OF FLUORINE.

The distinguished chemist Prof. James Dewar has just succeeded in liquefying fluorine gas at a temperature of —185° C. The product was a yellow mobile liquid which had lost chemical activity. Great interest has been felt in the element fluorine since its isolation by M. Moissan, who described it in his celebrated paper in the Annales de Chimie et de Physique for December, 1887. The isolation of flourine was described in detail in the issue of the SCIENTIFIC AMERICAN SUPPLEMENT, January 22, 1887. Further researches upon the element were given in the same paper for December 12, 1891. The element exists in a considerable quantity in combination with calcium, forming the mineral fluorspar, which crystallizes in fine cubes of various colors. Flourine also occurs in small quantity as a constituent of bone and other animal substances. Its intense affinity for metals and for silicon for a long time prevented the attempts to isolate it from being successful. The efforts of the chemists to investigate it in a satisfactory manner were baffled, because its chemical affinities were so numerous and acute that, when driven from one combination, it instantly combined with some other substance with which it came in contact. Owing to this difficulty of investigating its qualities, there has been some uncertainty as to its elementary nature. It is probable that Prof. Dewar's discovery will be of great importance, from the fact that the liquefied gas loses its chemical activity. Full details of Prof. Dewar's discovery are at present lacking, as only a cablegram was received at the time of going to press, but further particulars will be looked for with great interest.