

HISTORY

A UNION HOME FOR ENGINEERING SOCIETIES

Preliminary Steps and the Carnegie Gift

During the 19th century, out of the progress of the arts and sciences, grew diversification of the engineering profession, accompanied with the creation of numerous engineering societies. Efforts were made for a building in New York to be occupied by two or more national organizations, the first, possibly, in 1887 by a few members of the American Institute of Electrical Engineers. At the turn of the century, several leaders of the larger national societies in the United States of America perceived that benefit could be had by cooperation and took more definite steps in that direction.

In 1895, a plan for a union home for engineers, submitted to Andrew Carnegie by W. D. Weaver, a member of the Electrical Engineers, received warm commendation but led to no action. Early in 1901, Mr. Weaver persuaded Schuyler Skaats Wheeler, also of the Electrical Engineers, to purchase the remarkable Latimer Clark library, second most important electrical and scientific library in the world, then for sale on account of the death of its owner, and to present it to the Institute May 17, 1901, on condition that a suitable building be provided within five years.

President Carl Hering of the Electrical Engineers then appointed a committee consisting of himself, John W. Lieb and Gano Dunn, that, on Mr. Weaver's arrangement, called on Mr. Carnegie and asked him for a building to meet the condition. Mr. Carnegie immediately gave \$8,000 for bookcases and a catalog for the library and asked the committee to call again when their plans had been further advanced.

On February 9, 1903, under the presidency of Charles F. Scott, the Electrical Engineers organized a "library dinner" committee, with T. Commerford Martin as chairman, which gave a dinner in New York, at which Mr. Carnegie was a guest. February 10, Calvin W. Rice, Chairman of the Building Committee, and Mr. Scott called on Mr. Carnegie at his invitation and discussed a "union engineering building." On February 11, eleven informal representatives of the societies of Civil, Mining, Mechanical and Electrical Engineers, and of The Engineers' Club, met at the Club's headquarters, 374 Fifth Avenue, New York, and concluded that the plan of union among the societies was feasible. February 14, six members of this group con-

ferred with Mr. Carnegie, who addressed a letter to the four Societies and the Club, offering a million dollars for a building and the foundation for a great national engineering library. Three societies promptly accepted the plan to bring their headquarters into one building. The American Society of Civil Engineers, having built a house on Fifty-seventh Street, New York, did not then join in the proposed plan.*

March 14, 1904, Mr. Carnegie, after further conferences, wrote the following letter:

"Gentlemen of The Mechanical Engineers, Institute of Mining Engineers, Institute of Electrical Engineers, Engineers' Club of New York:

"It will give me great pleasure to devote, say, one and a half million dollars for the erection of a suitable union home for you all in New York City. With best wishes,

Very truly yours,
ANDREW CARNEGIE."

This gift, backed by the conviction that in union lay the best interests of the engineering profession, led to the profession's present solidarity in the United States.

THE ENGINEERING BUILDING COMMITTEE

March 18, 1904, the Joint Committee formally adopted the name "The Engineering Building Committee" and elected Charles F. Scott, Chairman; Albert R. Ledoux, Vice-Chairman; Frederick R. Hutton, Secretary; and John C. Kafer, Treasurer. The committee was divided into two groups, one dealing with the Engineering Societies Building and the other with the building for The Engineers' Club. Of the gift, \$1,050,000 was allotted to the Founder Societies and \$450,000 to the Club. This committee† continued its activities until the dedication of the building.

CREATION OF UNITED ENGINEERING SOCIETY (Now United Engineering Trustees, Inc.)

The Mining Engineers, being as yet unincorporated, could not participate in the ownership and occupancy of property on the same basis as the other organizations. For this and other reasons it was

Note: For a more detailed statement see booklets "Union Engineering Building, May 4, 1903" and "Engineering Societies Building: Historical and Descriptive, April, 1907," on file in Engineering Societies Library.

*The building of the Civil Engineers on 57th Street was completed and occupied in November, 1897.

†See page 25 for membership.

decided to create a joint holding, or trustee, corporation. Representatives of the Founder Societies, therefore, introduced into the Legislature of New York a bill to create United Engineering Society, a body corporate to administer the building and in other ways "advance the engineering arts and sciences." This bill became a law by signature of Governor Benjamin B. Odell, May 11, 1904. United Engineering Society held its first meeting at Number 12 West 31st Street, New York, December 16, 1904, and there established its temporary office as the guest of The American Society of Mechanical Engineers. There were present duly elected Trustees: from American Institute of Mining Engineers, Albert R. Ledoux and Charles Kirchhoff; from The American Society of Mechanical Engineers, James M. Dodge, Charles Wallace Hunt and Frederick R. Hutton; from American Institute of Electrical Engineers, Charles F. Scott, Bion J. Arnold and Schuyler Skaats Wheeler. Theodore Dwight, of the Mining Engineers, was absent. Dr. Ledoux was elected President; Mr. Hunt, First Vice-President; Mr. Arnold, Second Vice-President; Dr. Hutton, Secretary; and Mr. Wheeler, Treasurer.*

ERECTION OF ENGINEERING SOCIETIES BUILDING

With funds contributed by the societies and individuals, land for Engineering Societies Building, Numbers 25, 27, 29, 31 and 33 West 39th Street, was purchased by the societies, through United Engineering Society, in December, 1904, from Robert A. Franks for \$541,380.18. It has a frontage of 125 feet on the north side of 39th Street and a depth of 98 feet 9 inches. Number 23 West 39th Street was purchased for \$100,000 and sold for the same amount in February, 1905, to The Engineers' Club, the deed restricting the height of any building which might be erected. Mr. Franks, as agent for Mr. Carnegie, had acquired the properties from their several owners.

Because of the unique purposes of the proposed building, a design and an architect were selected by a competition in which twenty-six sets of drawings were submitted June 20, 1904. The unanimous choice of the Committee, confirmed by the recommendation of the architectural adviser, William R. Ware, Professor of Architecture, Columbia University, favored the design of Herbert D. Hale (later of Hale & Rogers), and his associate, Henry G. Morse, who were chosen architects.

During the Spring and Summer of 1904, old residences on the land were removed. The Building Committee, July 17, 1905, authorized a contract with Wells Brothers & Company, of New York, for the erection of the building. May 8, 1906, the cornerstone was laid by Mrs.

*See Charter and By-Laws for further information.

Carnegie. November 22, 1906, United Engineering Society met for the first time in the building; December 1 the building was completed; the Society assumed management December 15. The building had thirteen stories, basement and sub-basement, containing offices, a large auditorium, smaller meeting halls, a reading room and stack-rooms for library purposes, storage rooms and other accommodations. Besides the Founder Societies a number of associate societies were assigned space.

DEDICATION OF BUILDING

Engineering Societies Building was dedicated April 15 to 20, 1907. Felicitations were received from the Presidents of the United States and of Mexico, the Governor General of Canada and foreign and American scientific societies and institutions of learning. Mr. Carnegie was guest of honor. The John Fritz Medal was presented to Alexander Graham Bell for "the invention and introduction of the telephone." Rossiter W. Raymond, Frederick R. Hutton and Ralph W. Pope, secretaries for twenty-five years or more respectively of the Mining, Mechanical and Electrical Engineers, each received a gold medal from his Society in appreciation of distinguished services. On the 16th and 17th there were impressive ceremonies; an oration on "The Professional Ideals of the Twentieth Century" was delivered by Arthur T. Hadley, President of Yale University, and addresses were made by Mr. Carnegie, the presidents of the Societies and the Club, and by other eminent engineers. On the 15th and 18th many technical papers were presented. On the 19th an informal "smoker" and vaudeville were given in Madison Square Garden Concert Hall. On the 20th visits were made to tunnels under construction in New York City. A general reception in the Auditorium on the evening of the 16th was followed by receptions in the new quarters of each society. John W. Lieb, Jr., was chairman of the Dedication Committee.

ADDITION TO BUILDING

Early in 1916, negotiations were reopened with the American Society of Civil Engineers. On August 10, this Society became the fourth Founder Society. Within a few years after the building was opened, it had become fully utilized by the original Founder Societies and by associate societies. The three original Founder Societies had grown from an aggregate membership of 8,500 in 1903 to 20,500 in 1916. The corresponding figures for the Civil Engineers are 2,700 and 7,900. (At the end of 1936 the aggregate membership of the four Founder Societies was nearly 60,000.) Consequently, to provide for the Civil Engineers, three stories were added and were first occupied

in November, 1917. This addition cost \$300,000, of which the Civil Engineers provided \$262,500 and the other Founder Societies \$12,500 each. This allocation was determined as equitable in making these four societies equal contributors to the foundation, the original Founder Societies having each paid one-third for the land. The total cost of land and building has been two million dollars, of which Andrew Carnegie gave \$1,050,000 and the Societies and other friends the remainder.

ENGINEERING SOCIETIES LIBRARY

The Founder Societies brought their libraries into the building, but for a time maintained them separately. April 4, 1907, a Library Committee was appointed, having one member from each Founder Society. In the Summer of 1908, administration of the libraries was placed in the hands of a chief librarian, Miss L. E. Howard. December 22, 1910, W. P. Cutter was appointed Librarian; he severed his connection in March, 1917. November, 1912, by amendment of the by-laws, provision was made for management of the libraries by a Library Board, as a free, public engineering library. An agreement for a joint library, to be known as Engineering Societies Library, was made January 1, 1915. August 10, 1916, this agreement was revised to include the American Society of Civil Engineers. The society brought its books to the building in 1917, upon completion of the enlargement and alteration of the library rooms necessary to accommodate that addition.

In 1916, James Douglas, of the Mining Engineers, gave \$100,000 as the beginning of an endowment. Since then Edward Dean Adams, James H. McGraw, William S. Barstow and others have made substantial additions.

February 23, 1917, the office of Director of the Library was created and Harrison W. Craver, of the Carnegie Library, Pittsburgh, was engaged. The libraries have since then been combined and recataloged as one collection. Duplicates and other books no longer useful here are eliminated from time to time by gift or sale.

THE ENGINEERING FOUNDATION

May 28, 1914, at a meeting of United Engineering Society, President Gano Dunn reported that an eminent engineer had expressed his desire to present a considerable sum for the advancement of the profession of engineering. A special committee, two persons from each Founder Society, Alex. C. Humphreys, Chairman, Jesse M. Smith, Charles F. Rand, James F. Kemp, Gano Dunn, C. E. Scribner, was appointed to consider the best means to accept the gift and administer

and establish an engineering foundation. Upon recommendation of this committee, The Engineering Foundation was established "for the furtherance of research in science and engineering, or for the advancement in any other manner of the profession of engineering and the good of mankind," as defined by the donor. The then United Engineering Society was made the custodian of the capital funds, the income of which was to be applied to the purposes of The Engineering Foundation, by its Board.

January 27, 1915, the Foundation was inaugurated in the Auditorium with the following speakers: Gano Dunn, President, United Engineering Society, Past-President, American Institute of Electrical Engineers; Henry S. Pritchett, President, Carnegie Foundation for the Advancement of Teaching; Robert W. Hunt, Past-President, American Institute of Mining Engineers; Alexander C. Humphreys, Past-President, The American Society of Mechanical Engineers; Charles MacDonald, Past-President, American Society of Civil Engineers. Ambrose Swasey, of Cleveland, Ohio, Past-President, The American Society of Mechanical Engineers, was then revealed to be the Founder. The Foundation held its organization meeting April 15, 1915, and on October 18, 1934, celebrated its twentieth anniversary.

ENGINEERING COUNCIL

Engineering Council was established in the Spring of 1917 in response to requests of the Founder Societies to provide for convenient cooperation among these four societies, for the consideration of questions of general interest to engineers and to the public, and to provide the means for united action upon questions of common concern to engineers. Provision was made in the by-laws for election to membership of other national technical societies. The American Society for Testing Materials became a member in February, 1919, and American Railway Engineering Association in April, 1920. Engineering Council was discontinued December 31, 1920, on its own recommendation, because of the creation by a larger group of societies of the Federated American Engineering Societies, now known as American Engineering Council.

Ira N. Hollis was chairman from June, 1917, to February, 1918, and J. Parke Channing thereafter. Harold W. Buck, D. S. Jacobus, George F. Swain and Charles S. Churchill were vice-chairmen. Calvert Townley was secretary June to December, 1917, and Alfred D. Flinn followed.

During its three and a half years, Engineering Council demonstrated the feasibility of a joint organization to deal with matters of

general interest to engineers and the public, made progress in delimiting the field, developed methods, established contacts with other organizations and the Government, and performed a number of specific services.

RECEPTION OF FOURTH FOUNDER SOCIETY

December 17, 1917, the American Society of Civil Engineers was formally welcomed as the fourth Founder Society. Its President and Board of Direction were entertained at luncheon. In the evening, in Engineering Auditorium, Charles F. Rand, President, United Engineering Society, and Past-President, American Institute of Mining Engineers, presiding, Gano Dunn, Past-President, American Institute of Electrical Engineers, Ira N. Hollis, Past-President, The American Society of Mechanical Engineers, and Rossiter W. Raymond, Secretary Emeritus of the Mining Engineers, made addresses of welcome; William L. Saunders, Past-President of the Mining Engineers, and member also of the Civil Engineers and the Mechanical Engineers, spoke for the Profession generally; President George H. Pegram responded for the Civil Engineers and Past-President George F. Swain for distant members. Charles Warren Hunt, Secretary of the Civil Engineers, and Vice-President, United Engineering Society, made the closing remarks. The new quarters of the Civil Engineers in Engineering Societies Building were open for inspection during the evening.

JOHN FRITZ MEDAL

In memory of John Fritz, of Bethlehem, Pennsylvania, one of America's great pioneers in the iron and steel industries, Honorary Member of several societies, the four societies in 1902 established the John Fritz Medal. The founding of this medal and the brilliant success of the dinner at which it was announced inspired the idea of continual cooperation, which might be brought about if the projected building for one of the societies were expanded into a building for all. The medal is awarded annually "for notable scientific or industrial achievement" and is the highest honor bestowed by the Profession in the United States. Awards are made by a board of sixteen members, four from each Founder Society.

CHANGES OF NAMES

The American Institute of Mining Engineers changed its name June 27, 1919, to American Institute of Mining and Metallurgical Engineers.

United Engineering Society changed its name January 1, 1930, to Engineering Foundation, Inc., and on January 2, 1931, to United Engineering Trustees, Inc.

MEMORIALS

In November, 1906, a bronze bust of Andrew Carnegie, Member, The American Society of Mechanical Engineers, steel-master and philanthropist, was presented by the members of the Building Committee and placed in the Library. In 1907, companion bronze tablets memorializing Mr. Carnegie's gift of funds for constructing Engineering Societies Building and the gifts for the site, from many members and friends of the Societies, were affixed to the north wall of the Entrance Hall.

In 1918, an oil portrait of Dr. James Douglas, Past-President, American Institute of Mining Engineers, was hung in Engineering Societies Library in remembrance of his gift beginning an endowment for the Library.

In May, 1918, an oil portrait of Ambrose Swasey, Honorary Member, The American Society of Mechanical Engineers and American Society of Civil Engineers, was placed in the Library, a tribute to him as Founder of The Engineering Foundation.

March 15, 1922, a bronze tablet in honor of Alfred Noble, presented by the American Institute of Consulting Engineers, was unveiled in the Entrance Hall. It commemorates his services as engineer adviser in the construction of the Panama Canal, the locks at Sault Sainte Marie, notable bridges, the Pennsylvania Railroad tunnels under New York harbor, the Catskill Aqueduct and other engineering works.

In January, 1925, a life-size bronze portrait tablet of Rossiter W. Raymond was placed in the Entrance Hall by the American Institute of Mining and Metallurgical Engineers to perpetuate his memory as a pioneer in establishing the profession of mining engineering in the United States and his long service as secretary of the Institute.

In November, 1924, United Engineering Society accepted custody of the World War flags of the 27th Regiment of Engineers, the Mining Engineer regiment, and placed them in a display cabinet in the Entrance Hall as a memorial to that regiment, recruited from the mining engineers and miners of all parts of our country. Similarly, December 4, 1925, the flags of the 24th Regiment of Engineers, the Mechanical Engineer regiment, were received and placed in the same cabinet, in memory of these mechanical engineers and mechanics from many states. To these were added in November, 1929, the standard of the 312th Field Signal Battalion, an Electrical Engineer unit and in May, 1931 the flag of the 17th Engineers, a Railway Regiment; in June, 1933, the Colors of the 11th Engineers Regiment; in June, 1935, the Colors of the 342nd Engineer Regiment.