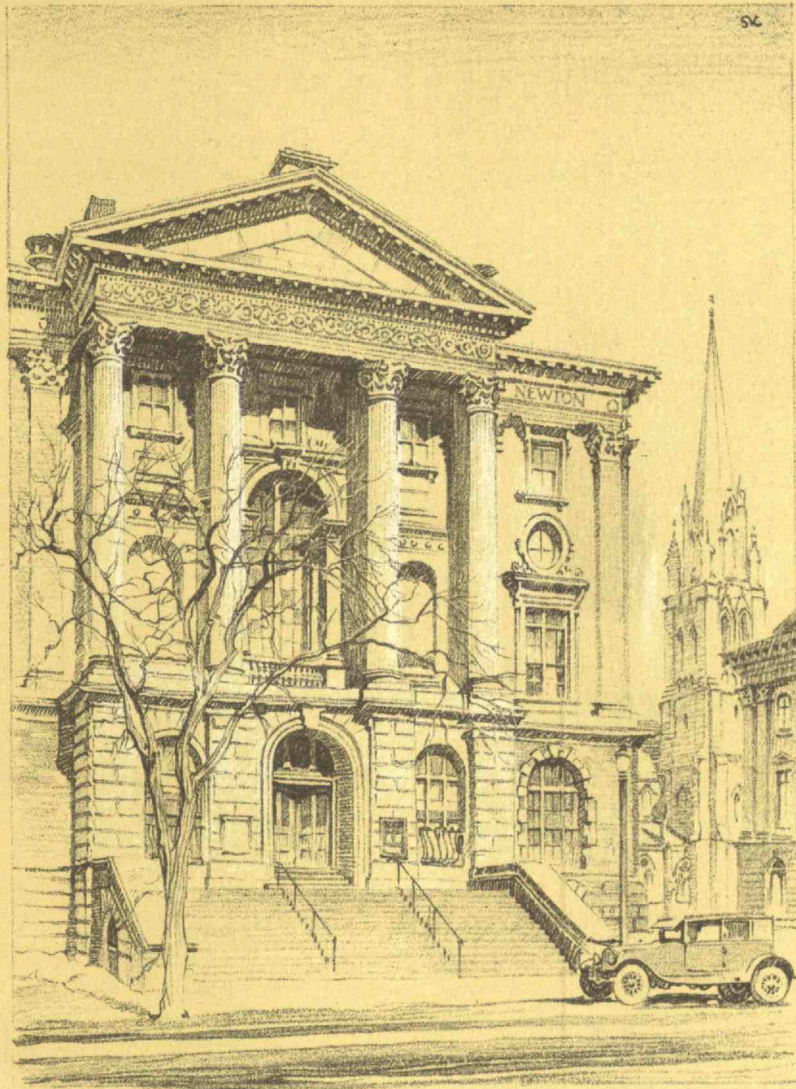


THE TECHNOLOGY REVIEW



ROGERS BUILDING

BY SAMUEL CHAMBERLAIN, '18

JULY 1927

RELATING TO THE
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

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Night and Day Control

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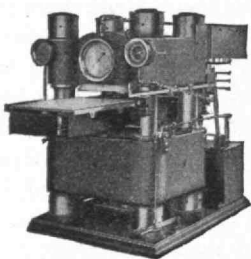
July 1, 1927

Dear Alumni:

Technology Club of Central Ohio has been in action again. At a recent meeting Dean Burton was our honored guest. His Dormitory Project was backed by our unanimous vote.

I notice that Dean Burton carries with him several pictures showing the proposed dormitory quadrangle and its relation to the other buildings. Thus we can visualize the plan in an instant more clearly than pages of words could tell. I guess we are all picture readers. There is a popular expression in advertising circles that "your story in pictures leaves nothing untold."

H-P-M Presses play an important part in the making of printed pictures of all kinds. You are all, no doubt, more or less familiar with the photo-engraving process for making the master cuts, i. e., half-tones or etchings from the original photo or drawing. Our presses come in on the reproduction of these original engravings in making electrotypes which are the printing plates. A quantity of these may be reproduced from a single original.



This photo shows a typical H-P-M Electrototype Press of 1000-tons pressure capacity. It produces molds of the original engraving by pressing it into a sheet of wax or lead. Copper is electrically deposited in the mold, forming the electrototype. The lead molds give the most perfect reproduction and require the most pressure to form. This amounts to about 10,000 pounds per square inch of engraving surface.

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Yours for Tech.

Howard F. MacMillin
II-21.

Howard F. MacMillin,
Vice-Pres. in charge of Sales,
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The TECHNOLOGY REVIEW

Relating to the Massachusetts Institute of Technology

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HENRY F. BRYANT, '87 }

ORVILLE B. DENISON, '11, *Secretary-Treasurer*

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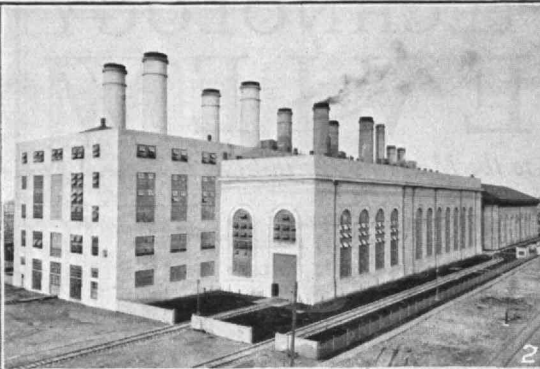
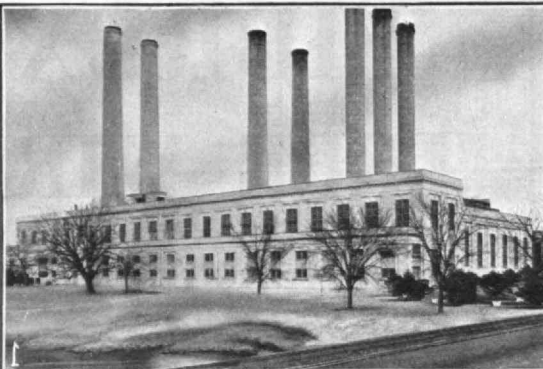
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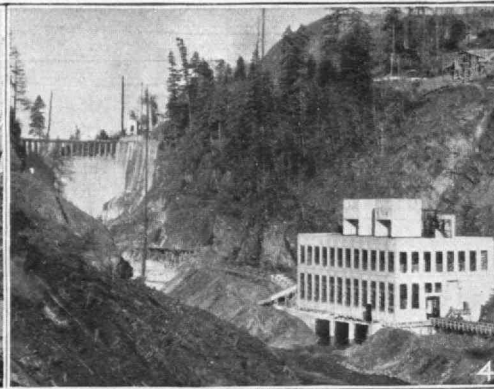
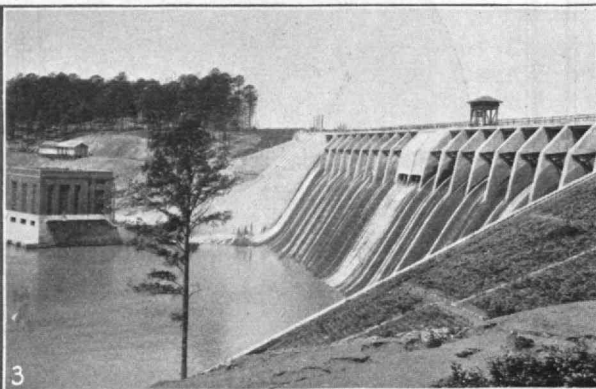
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The TECHNOLOGY REVIEW

VOLUME 29

JULY, 1927

NUMBER 8

The Trend of Affairs

Graduation

EIGHT Doctors of Philosophy, four Doctors of Science, one Doctor of Public Health, six Masters of Architecture, 145 Masters of Science, and 409 Bachelors of Science, or a total of 573 degree holders stepped down from the rostrum during the Institute's graduation exercises on June 7. For this year as for the past two years, weather permitted the exercises to be held successfully in du Pont Court and sufficient calm prevailed to permit an orderly and unruffled academic procession from the façade of the main building to the platform—an impressive march, dignified and colorful, silhouetted against the white limestone.

Leading the procession was President Samuel W. Stratton, with his escort, Alexander Macomber, '07. John E. Aldred, later to deliver the Commencement Address, followed with Professor Charles M. Spofford, '93, Chairman of the Faculty. Then marched Bishop William Lawrence escorted by Professor H. M. Goodwin, '90, Dean of Graduate Students; Col. Charles D. Roberts, Chief of Staff of the First Corps Area, by Col. Harold E. Cloke, Head of the Department of Military Science and Tactics, and Admiral Philip Andrews, Commandant of the Boston Navy Yard, by Professor James R. Jack, Head of the Department of Naval Architecture. The Class of 1877 which had been holding its fiftieth anniversary was given a place of honor in the academic procession. Twenty-one members of the Class led by their President, Charles A. Clarke, and their Secretary, Richard A. Hale, with Professor Samuel C. Prescott, '94, acting

as Class Marshal, marched behind the Corporation and Faculty. Candidates for degrees from Doctorates to Bachelors followed.

Ceremonies were opened by the invocation of Bishop Lawrence and this was followed by the Commencement Address of John E. Aldred of New York. Col. Roberts addressed the members of the Reserve Officers Corps and Major Lewis E. Goodier administered the oath of office to the budding second lieutenants.

President Stratton then announced a score or more of special awards and honors. These awards included the following: Guggenheim Memorial Fellows: Philip Franklin, Assistant Professor of Mathematics and Manuel Sandoval Vallarta, '21, Assistant Professor of Physics. Traveling fellowships for study abroad: John B.

Drisko, '27, Traveling Fellow in Hydraulic Engineering; Robert C. Dean, '26, Traveling Fellow in Architecture; Eli Lurie, '22, Moore Traveling Fellow in Chemistry.

Gerard Swope Fellowships: Frank Massa, '27, Department of Electrical Engineering; Elwood A. Church, '27, Department of Physics. Automotive Engineering Fellowships: Charles S. Draper, '26, Electrochemical Engineering; Harold Heins, '27, Physics; Augustus R. Rogowski, of the Senior Class, Sheffield Scientific School, Yale University; Victor C. Smith, '24, Research Assistant, Department of Chemical Engineering.

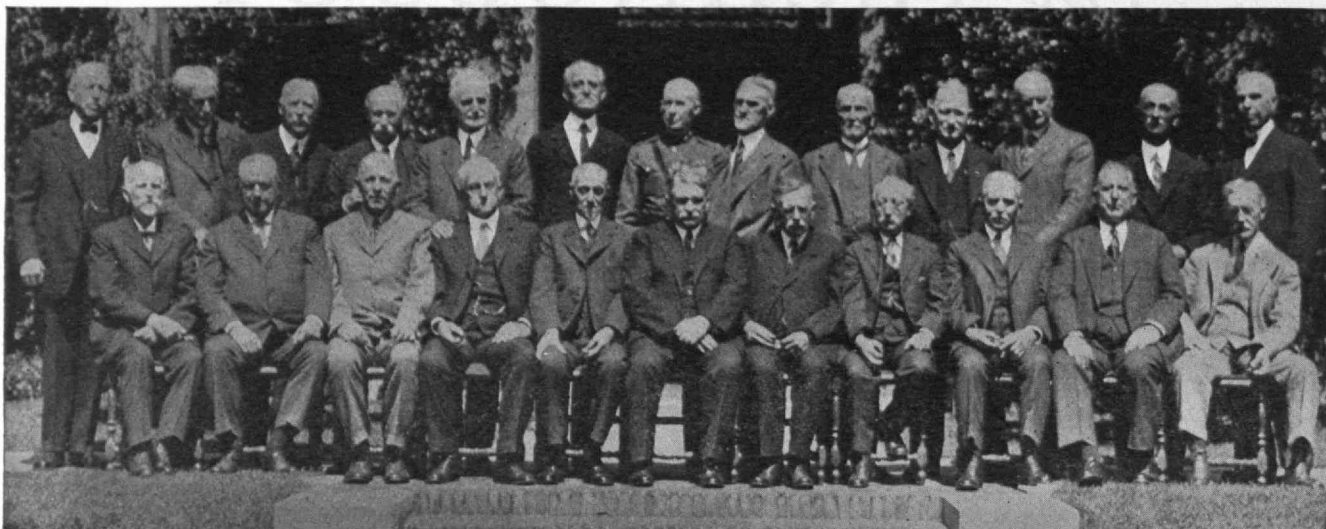
Fellowships awarded to graduate students: Julian W. Hill, Susan H. Swett Fellowship; Robert J. Horn, Fuel and Gas Engineering Fellowship; Ralph B. Johnson, Verges Fellowship; Hans O. Kundt, Edward Austen Fellowship; Campbell R. McCullough, James Savage



*From a lithograph drawn for
The Review by Kenneth Reid, '18*

ERIC F. HODGINS, '22

*Since 1922, the Managing Editor of The Review, he resigns
on July 1 to take a similar position with the Youth's Com-
panion. See page 478*



FIFTY YEARS OUT

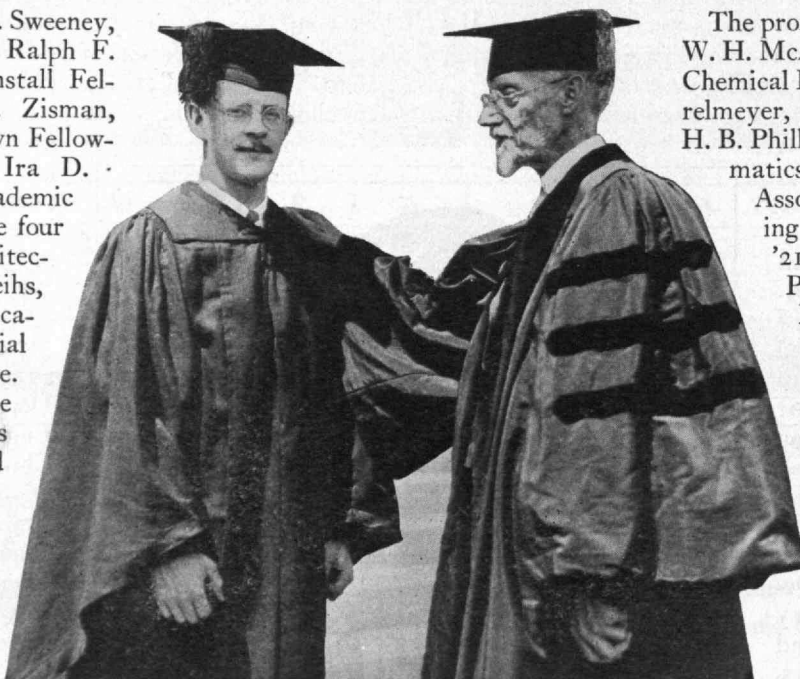
Members of the Class of 1877 on June 6, celebrated their Fiftieth Anniversary by a luncheon with the President of the Institute, an event now well established for fifty-year classes. President Samuel W. Stratton is seated in the center with the President and the Secretary of the Class, Charles A. Clarke and Richard A. Hale, seated on his right and left respectively. Below: President Clarke proffers felicitations to James A. Lyles, who follows him in the Senior Class Presidency, fifty years afterward

Fellowship; William J. Sweeney, du Pont Fellowship; Ralph F. Tefft, Richard Saltonstall Fellowship; William A. Zisman, Malcolm Cotton Brown Fellowship. Rotch Prizes: Ira D. Beals, for the best academic record throughout the four year course in Architecture; Thomas H. Dreihls, '22, for the best academic record of a special student in architecture.

Immediately after the close of the ceremonies President Stratton held the customary reception at Walker Memorial for the degree holders, their friends and parents. In the receiving line with him were Mr. and Mrs. Aldred, Mr. and Mrs. Munroe, Dr. and Mrs. Prescott, Dr. and Mrs. Goodwin and Professor Spofford.

Cooptions

AT A meeting of the Corporation on June 3, two candidates, John E. Aldred and Frank W. Lovejoy, '94, were accepted for life membership in that body. The three nominees for term membership from the Alumni Association, Roger W. Babson, '98, Elisha Lee, '92, and William Z. Ripley, '90, were likewise elected. The list of Faculty promotions included three to the grade of Professor, three to the grade of Associate Professor, nine to the grade of Assistant Professor, ten to the grade of Instructor.



Courtesy Boston Advertiser

The promotions were as follows: W. H. McAdams, '17, Professor of Chemical Engineering; H. R. Kurlmeyer, Professor of German; H. B. Phillips, Professor of Mathematics; I. H. Cowdrey, '05, Associate Professor of Testing Materials; J. L. Gillson, '21, Associate Professor of Petrography; W. P. Ryan, '18, Associate Professor of Chemical Engineering; H. O. Forrest, '20, Assistant Professor of Chemical Engineering; P. K. Frölich, '23, Assistant Professor of Chemical Engineering; F. W. Adams, '21, Assistant Professor of Chemical Engineering; T. H. Frost, '21, Assistant Professor of Physics; James Holt, '19, Assistant Professor of Heat Engineering; A. S. Jenney, '83, Assistant Professor of Architecture; W. H. Newhouse, '23, Assistant Professor of Mineralogy; P. W. Norton, '08, Assistant Professor of Architecture; F. J. Robinson, '08, Assistant Professor of Architecture; A. L. Russell, '18, Assistant Professor of Electrical Engineering; D. C. Stockbarger, '19, Assistant Professor of Physics.

Two Meetings

SINCE the last issue of The Review two meetings of the 1926-27 Alumni Council have occurred. Both of these drew small attendances; the optimistic minutes of the Secretary credited thirty-four to the first and

thirty to the second. The average figure for the year was sixty-one and the attendance at the last two meetings of 1925-26 were seventy-one and fifty-six. This sharp decrease is commonly ascribed to the scheduling of meetings on Friday instead of on Monday evening.

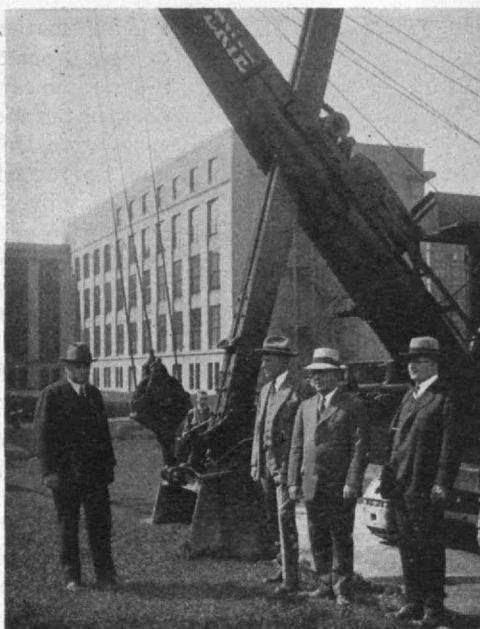
The 127th Meeting had a salad orator, the last of the year. He was Charles C. Smith, '27, who described the then forthcoming Open House night. One other speaker from the outside was on the program, Thomas C. Desmond, '09, of New York, who

added to his thrice-told tale of the Convention of the Technology Clubs Associated and the plans for the National Technology Center.

The remaining part of the meeting was a business routine. President Elisha Lee, '92, announced that the Executive Committee, prior to the Council Meeting, had re-appointed Orville B. Denison, '11, to his fifth year as Secretary-Treasurer of the Alumni Association. He also announced the result of the election of officers for 1927-28 as follows: President for one year, Samuel C. Prescott, '94; Vice-President for two years, George E. Merryweather, '96; Executive Committee for two years, Frederick Bernard, '17, and Allan W. Rowe, '01; representatives at large, for two years, Prescott V. Kelly, '13, Charles W. Loomis, '16, Neal E. Tourtellotte, '17, Paul M. Wiswall, '09, and Harry H. Young, '91. (See The Technology Review for March, 1927.)

Classes, the numerals of which ended in three or eight, had chosen new representatives for five-year terms. They were: 1868, Robert H. Richards; 1873, Francis H. Williams; 1878, James W. Rollins; 1883, Horace B. Gale; 1888, John C. Runkle; 1893, George B. Glidden; 1898, Elliott R. Barker; 1903, John W. Howard; 1908, Herbert T. Gerrish; 1913, Ellis W. Brewster; 1918, Julian C. Howe; 1923, E. E. Kattwinkel.

In the Committee appointments were John E. Burchard, '2d, '23, succeeding



THE FATE OF THE MAJOR'S GRASS

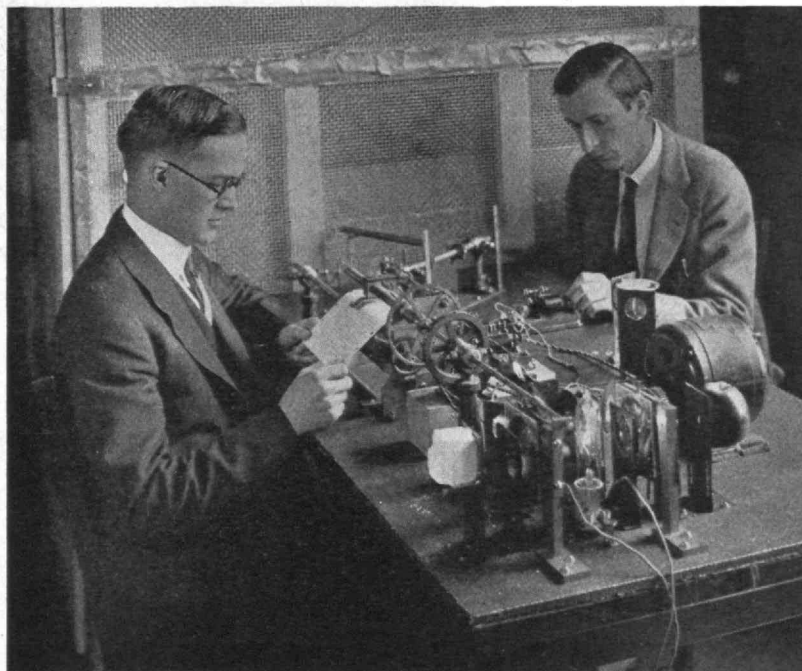
President Samuel W. Stratton, with Drs. George W. Morse, Medical Director, Lewis W. Croke, Assistant Medical Director, and Benjamin E. Sibley of the Institute's Department of Hygiene, preside at the breaking of ground for the new Homberg Memorial Infirmary, June 9

Frank H. Bourne, '95, on the Committee on Assemblies; Henry D. Jackson, '97, succeeding himself on the Committee on Historical Collection; and Frank A. Merrill, '87, succeeding himself on the Committee on Permanent Funds. The report of the Special Committee to Nominate Representatives for Alumni Advisory Councils, all for a term of three years, was accepted, with its nominations as follows: Athletics, Allan W. Rowe, '01, and H. S. Wilkins, '14; Tech Show, Frederick Bernard, '17; Boat House, John L. Batchelder, '90; Walker Memorial Building, Arthur L. Shaw, '09; Musical Clubs, William P. Lowell, Jr., '26. To take the place of Henry A. Morss, '93, on the Alumni Dormitory Fund Committee, President Lee appointed Merton L. Emerson, '04.

128th Meeting

THE meeting, May 27, aside from a discussion of the Convention of the Technology Clubs Associated by Paul M. Wiswall, '09, was a succession of reports, several of which were read by the Secretary-Treasurer himself in the absence of committee chairmen. The annual election of members of the Nominating Committee for a three-year term was held at

the beginning of the meeting with the result that George L. Gilmore, '90; Percy R. Ziegler, '00; and Edward L. Moreland, '07, were chosen. The report of Frederick A. Hannah, '95, on the Walker Memorial Building precipitated a discussion of the necessity of enlarging this building to give activities more office space and students more



AN EYE FOR COLOR

The accurate new colorimeter, developed in the Institute laboratories, here shown classifying the color of an apple. Assistant Professor Arthur C. Hardy, '18, (left) and Frederick W. Cunningham, '25, are operating the apparatus. See the story on page 472

lounging room. Definite action was deferred. This meeting lasted one hour longer than did the preceding one; adjournment *sine die* came at 9:45 P.M.

Matching Machine

MEASUREMENT of color, hitherto a tedious process depending upon the skill of the observer, has been reduced to an automatic operation through the development of a colorimeter by Assistant Professor Arthur C. Hardy, '18, and Frederick W. Cunningham, '25, of the Department of Physics. This new device entirely eliminates the element of human judgment and operates mechanically. Where it was possible to make only a few observations a day under old methods, this colorimeter makes accurate records as rapidly as color specimens can be placed in the instrument.

Not only does it measure a color accurately, but it makes a record by which it is possible to match that shade at any future time. Thus all possibility of fading of a standard color is eliminated and any color can be reproduced indefinitely. The fact that the new instrument records on paper means that a color sample can be examined in Cambridge, the record transmitted across the continent by wire, and the original color accurately reproduced in San Francisco within a few hours.

The specimen color placed in the holder is lighted by a tungsten filament lamp which gives an illumination of more than fifty times the intensity of bright sunlight. Water filters are used to prevent the light from setting fire to the specimens. In making the measurement, magnesium carbonate is used as the standard of comparison. Light is alternately reflected from the specimen and the magnesium carbonate and acts upon a photoelectric cell in which it sets up an alternating current. This current is fed to a vacuum tube amplifier which increases the power ten quadrillion * times

*10,000,000,000,000,000 is commonly called ten quadrillion in the numerical notation of France and the United States. In the English and German system this number would be called ten thousand billion.



and automatically keeps the amount of light from the specimen and the magnesium carbonate balanced. The color of the specimen is analyzed at each wave length of the spectrum and the record is reproduced automatically by a pencil. The result is a description of the color by means of which the identical shade may be reproduced as often as desired.

Seismological Society

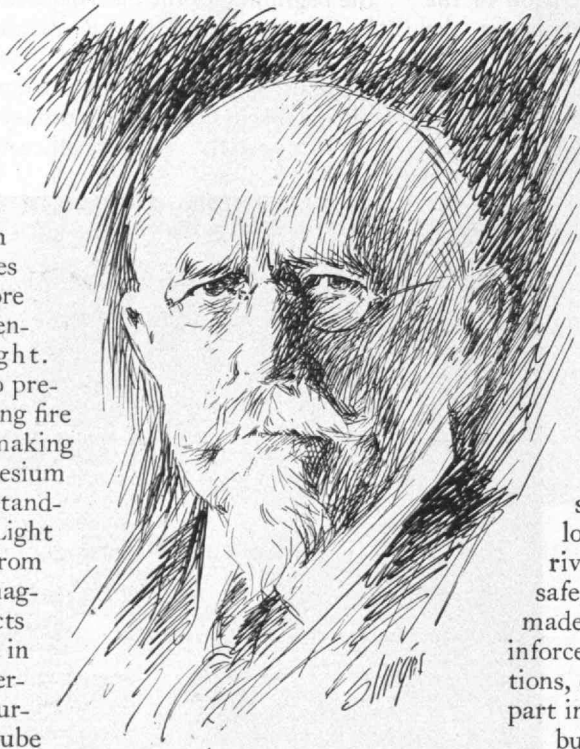
ANTICIPATING and preparing for earthquakes were the major subjects discussed at the meetings of the eastern section of the Seismological Society of America, in session at the Institute, May 4 and 5. A general awakening to the obligation and forethought the structural engineer must assume in preventing disastrous building destruction was made evident at this meeting with its emphasis on the engineering aspects of the problem.

That the seismologist with his seismographic records has done little to aid the engineer in constructing quake-proof buildings was brought to the surface very pointedly by John R. Freeman, '76, when he stated that his study of earthquake data on the Pacific coast and his general experience had forced him to the conclusion that the

seismograph is merely a plaything for the super-scientist and not a practical instrument for structural engineers.

Professor Charles M. Spofford, '93, Head of the Institute's Department of Civil Engineering, gave a paper on "Types of Structures Best Fitted to Resist Earthquakes." "The engineering question," read he, "is not merely that of determining an earthquake-resisting type of construction, since this is a problem which in itself presents no serious difficulty. The ocean traveler who rides with safety over great seas in the gigantic *Leviathan* travels in a structure which would be as safe in time of earthquake as in time of storm. The steel-framed buildings of lower Broadway, founded on solid rock and riveted securely together, would be equally safe, if walls, doors and partitions were to be made of steel plates as is the ship, or of reinforced concrete. As in other engineering questions, economy must, however, play a leading part in the solution. It is necessary not only to build securely, but also with due regard to economy of construction, to the customs and tastes of the people, and to the natural resources of the country."

Following these papers on the engineering aspects of the problem, the Reverend Francis C. Tondorf, S. J., of Georgetown University, queried if engineers could build an earthquake-proof building at a cost not



Courtesy of the Christian Science Monitor
JOHN R. FREEMAN, '76

Former consulting engineer for the Chinese Government, for the Panama Canal, and many other projects, he holds an eminent position in the engineering world. He spoke to the Faculty Club, June 3, on Mississippi River Flood Control, and addressed the Seismological Society meeting at the Institute, May 4