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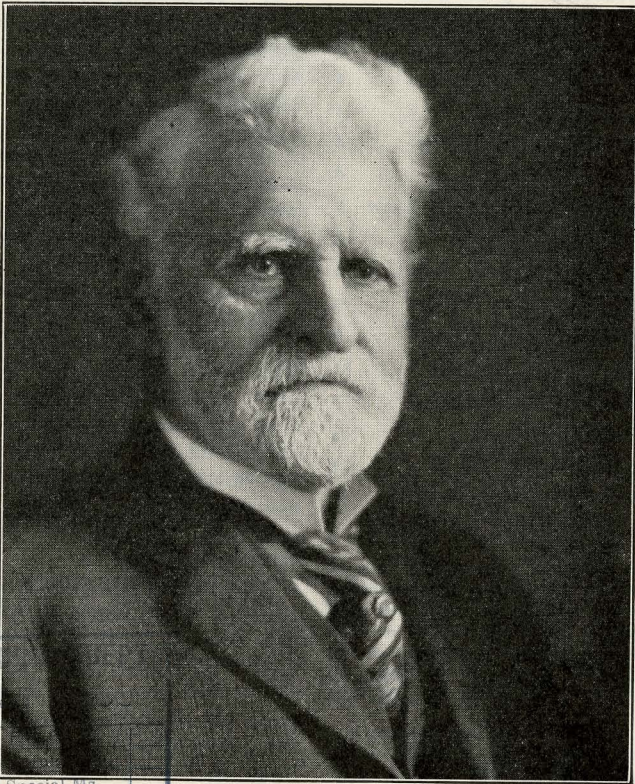
# Engineering Experiment Station News

THE OHIO STATE UNIVERSITY

Vol. VII, No. 1

Columbus, Ohio

FEBRUARY, 1935



AMBROSE SWASEY  
 OF WARNER AND SWASEY, CLEVELAND,  
 AND THE UNIVERSE

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Even during hard times Americans give to gasoline a foremost rank among the necessities of life. . . . The development which we need most is a large increase in the volume of residential construction, but the one that we are getting is a strong advance in the output of automobiles.—*Cleveland Trust Company Bulletin*.

Automobile builders have no monopoly on technology. The same scientific approach to the problem of production costs and the same courage in creating markets where they seem not to exist can be applied to almost any industry in this country. . . . If every industry were as progressive and courageous as this one, sound prosperity would be universal.—*Business Week*.

Direct-labor projects and hand-labor methods are twin roads to economic chaos.

—*Engineering News-Record*.

## The Engineering Scene

### *Recognition of an Engineer*

Thought is mighty. But thought alone is not sufficient to be of material aid in solving the problem of making the most of our environment in attaining standards of living that are comfortable and satisfying. The cultural and scientific values of fine workmanship as a complement to knowledge and intelligence are coming more and more to be recognized.

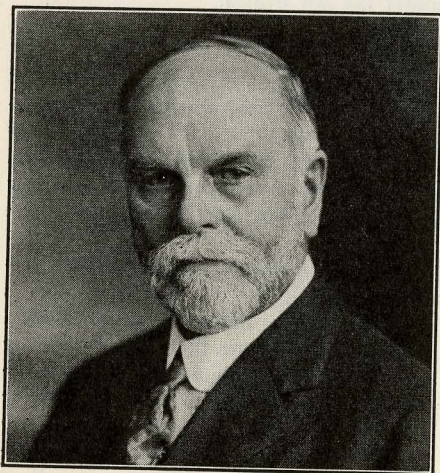
It is particularly fitting, therefore, that one of the most important honors of the engineering world should go to a man who, although he is renowned for his intellectual interests, has been associated for a great many years with the manufacture of fine machine tools and first-rate astronomical equipment. That man is Ambrose Swasey of Cleveland who recently received the Washington Award "In recognition of accomplishments which preeminently promote the happiness, comfort, and well being of humanity and as the recognition of an engineer by his fellow engineers." This honor was accorded Mr. Swasey by joint action of the American Society of Civil Engineers, the American Institute of Mining and Metallurgical Engineers, the American Society of Mechanical Engineers, the American Institute of Electrical Engineers, and the Western Society of Engineers.

The Washington Award is the latest of a long series of honors that have come to Mr. Swasey. He is an officer of France's Legion of Honor. The engineering profession had previously (in 1924) recognized his achievements by giving him the John Fritz Medal. For his eighty-eighth birthday, the 19th of last December, he was notified that a planet had been named for him, a small planet, to be sure—for all the large ones have long since been named—but a planet nevertheless. This heavenly body, known technically as an asteroid, has its orbit between those of Mars and Jupiter. It was discovered by

Otto Struve, director of Yerkes Observatory, who called it Swaseya.

#### *Warner & Swasey of Cleveland*

For those who wonder why Mr. Swasey happened to be singled out for the signal honor of giving his name to a celestial body, it may be explained that the firm of Warner and Swasey of Cleveland has furnished astronomical equipment for the largest and best-known observatories of the



WORCESTER R. WARNER

world. Beginning with the 36-inch refracting telescope for the Lick Observatory on Mount Hamilton in California, Warner and Swasey became recognized for work in that field. The 40-inch refracting instrument with its 90-foot revolving dome and 75-foot elevating floor built for the Yerkes Observatory in Wisconsin was exhibited at the Chicago World's Fair of 1893 and attracted wide attention. Then came the reflectors. In 1916 the Company completed the 72-inch reflecting telescope for the Dominion Astrophysical Observatory of Canada. Other achievements are the 60-inch instrument for the Argentine National Observatory and the 61-incher for the Perkins Memorial at Ohio Wesleyan University.

Work is now in progress on the *magnum opus* of Warner and Swasey, the 82-inch reflecting telescope for the McDonald Observatory, a joint venture of the University of Texas and the University of Chicago. This instrument will be located on Mt. Locke, 6790 feet above sea level, in the Davis Mountains of southwestern Texas, about 15 miles from the town of Ft. Davis.

Besides observatory equipment the Warner and Swasey Company builds a line of turret lathes. That manufacture, of course, makes up the great volume of business of the Company, which was established in Cleveland in 1881.

#### *Partners and Philanthropists*

There is quite a bit of sentiment in the story of the association of Worcester Reed Warner and Ambrose Swasey. They were both New Englanders, and both were born in 1846, Warner being a few months the older. They met as apprentices in a machine shop, they advanced in skill and responsibility by years of work in the plant of Pratt & Whitney in Connecticut, and in 1880 they formed a partnership, first in Chicago, but moving to Cleveland the following year. Thereafter they were constantly associated, living in adjoining mansions on Euclid Avenue, sharing a common interest in astronomy, each taking his responsibility in civic and technical matters by taking his turn at being president of the Cleveland Chamber of Commerce and president of the American Society of Mechanical Engineers. Mr. Warner was perhaps a little more the business man, Mr. Swasey the technician. In 1900 the partnership became a company. But the business associates continued to complement each other admirably in this unique relationship that was broken by the death of Mr. Warner in 1929.

Mr. Warner's interest in astronomy was shown by the fact that whenever he set out from Cleveland on a business or

pleasure trip he always took along his small telescope and tripod.

Back of their adjoining houses Warner and Swasey had a completely equipped observatory, which in 1916 they presented to Case School of Applied Science.

The gift of that observatory was only one of many benevolences of both Warner and Swasey. The laboratory for study of mechanics and hydraulics at Case School was the gift of Mr. and Mrs. Warner. From one of his hobbies grew the establishment of the Warner Collection in the Cleveland Art Museum. Mr. Swasey established a professorship in physics at Case, and gave the observatory and the chapel building to Denison University. As a citizen of the world, rejoicing over the "open door" policy in China, he donated a Y.M.C.A. building in Canton in 1913.

The Engineering Foundation owes its existence, in a sense, to Mr. Swasey, for he started the endowment by a gift of \$250,000 in 1914, "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." Additional contributions have brought the total that he has given to the Foundation up to \$750,000.

### *Registered Engineers and Surveyors*

The first year of operation of the registration law in Ohio has given the engineering profession in Ohio a feeling of solidarity in being thus recognized, according to Perry T. Ford, secretary of the Board. This feeling is expressed by the organization of local groups throughout the state.

Statistics on the first year of registration, as of February 25, throw an interesting light on the distribution among the various technical branches. Civils lead all the rest, 2,012 having qualified for that field, plus 259 who are designated as structural, a specialty that is always con-

sidered as particularly close to civil. Mechanicals are next, numbering 265. Registered electrical engineers total 145. The remaining designations are:

Chemical .....	50
Mining .....	47
Metallurgical .....	17
Ceramic .....	1
Industrial .....	1
Special Classification .....	3

The number of surveyors registered under the law is 879.

### *The 26th of March*

The registration figures do not nearly account for the practitioners of engineering within the state, for a great many more applicants are on file awaiting action by the Board. At the tail end of February a total of 4,239 applications had been received.

One reason that the Board is being deluged with applications just at present is that the eighteen months of grace allowed to file applications on the ground of being in practice at the time the act became effective will expire March 26. After that date the provisions for determining eligibility will apply as outlined in the law, either graduation from an accredited school and a satisfactory record of practice or the passing of an examination and a record of practice, although the door to registration on performance in practice will not be closed completely until September 26, 1938. There is the usual provision for honoring registration from another accredited board.

The registration fee for engineer is \$15, for surveyor \$10. The office of the STATE BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND SURVEYORS is in the Wyandotte Building in Columbus.

### *Ohio Society of Professional Engineers*

One effect of the professional solidarity resulting from registration appeared to be an increase in the turnout for the annual meeting of the Ohio Engineering Society,