

The Knowledge Bank at The Ohio State University
Ohio State Engineer

Title: Forty-Eighth Annual Meeting of the American Society of Mechanical Engineers

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Issue Date: Jan-1928

Publisher: Ohio State University, College of Engineering

Citation: Ohio State Engineer, vol. 11, no. 3 (January, 1928), 6, 26, 28-29.


URI: <http://hdl.handle.net/1811/34333>

Appears in Collections: [Ohio State Engineer: Volume 11, no. 3 \(January, 1928\)](#)

Forty-Eighth Annual Meeting of the American Society of Mechanical Engineers

By J. ROYAL BALDER, '28

The Ohio State University Student Branch (A. S. M. E.) Delegate.

 HAT the dignity of their chosen profession may be maintained, it is the duty of all engineers to co-operate in upholding the engineering profession by exchanging general information and experience with fellow-engineers, and also by contributing to the work of the engineering societies, etc." (From the A. S. M. E. Code of Ethics).

The American Society of Mechanical Engineers was first organized in 1880 with a membership of 189. At the present time it has a membership of over 20,000 in the United States and Canada. Sixty-seven local branches at the centers of industrial activity and eighty-nine student branches divide the members into easily controlled groups. Over 400 meetings are held each year throughout the country by the various groups. Their purpose is to develop the field of Mechanical Engineering through public discussion, research, and standardization.

The annual meeting, held in New York for four or five days in the first week of December, brings together more than 2,000 representatives from all of the groups in an unexcelled atmosphere of good fellowship. They are eager to propound technical subjects in engineering which are criticized by their fellow members. These criticisms tend to uncover obstacles unseen by the author of the idea and hasten the development of the subject.

However the program does not consist entirely of business meetings and technical sessions. In addition there are interesting lectures, addresses, excursions, and entertainments. That the engineers are active in the social field as well as engineering is shown at these entertainments which are not stag parties but functions in which the ladies take an active part.

The 1927 annual meeting was held at the national headquarters in the Engineering Societies Building, New York, New York. It featured sixty-three technical sessions, and fifty committee meetings and luncheons. The committee meetings were mostly on the subject of research while the technical sessions covered a wide field including: industrial power, railroad, hydraulic, photography, fuels, research, materials handling, central station power, management, oil and gas power, lubrication, educational training, and general sessions.

The conference of the Student Branch delegates will interest the young engineer more than the other parts of the program. Questions come up before the Student Branches that are as much in need of solution as those of the parent society. The students are the future of the society and their development must be watched. Past President Durant in an address at the student delegate

luncheon stressed the importance of the proper handling of Student Branches.

The student delegate conference is comprised wholly of discussion on topics submitted by various universities and colleges during the year. Each delegate was allowed a three-minute discussion. The following results of opinions brought out by the delegates do not apply only to the Student Branches in Mechanical Engineering but also may prove to be a solution to some of the questions that confront other societies of like character.

It is necessary to get the students in touch with industry. This can be accomplished by having the students work during the summer in some industry and thereby acquaint themselves with shop practices. In the near future the parent society is planning to publish a bulletin on the leading industries and methods of getting in touch with them.

Where the Branches are not creating interest they may be stimulated by having live topics for the addresses given at the meetings and it is well to have the students themselves give part of these addresses. It is estimated that two-thirds of the students never get to deliver a talk of this character. The subjects taken for discussion should be of a semi-technical nature. Dinner meetings will increase attendance according to the quality of the menu.

It was suggested that with the help of the local section a miniature corporation is useful in dramatizing the engineering profession to students. Appoint students to act as plant engineers, development engineers, etc. These men are to come before a board of directors composed of the local section and discuss theory and problems of the society under the instruction of the local section.

The question of interesting High School and Preparatory School men in engineering seems to have received little attention at most universities. It is known that a majority of men in the engineering college entered blindly and had to start the course before they knew whether they were capable and desirous of the profession. Rutgers University has handled the proposition by issuing bulletins and circulars on the University courses and requirements. They also publish a book called "The Profession of Engineering," which gives complete information on the subject of engineering. "The Engineer," by Hammond, is a similar publication at other schools.

It was suggested that in small colleges where the enrollment is from 200 to 300 students that a General Engineering Branch might be organized for greater strength. In larger schools however the General Engineering Branch would become too large to operate successfully. The recognized

(Continued on Page 26)



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A. S. M. E. REPORT

(Continued from Page 6)

General Engineering Branch includes the professions of Mechanical Engineering, Electrical Engineering, Civil Engineering, and Mining Engineering.

The question of financing the student delegates to the Annual Meeting is a difficult one and is not yet completely solved. The society cannot pay the expense of student representatives and those in the western part of the country are thereby unable to attend the meeting. The headquarters of the Annual Spring Meeting will be moved farther West for their convenience. The local section might be influenced to assist these western schools or have an alumnus of the school now living near New York to act as an honorary representative for the school at the conference.

It was the general opinion of the delegates that students should not be appointed on national committees due to their inexperience. Instead they may be appointed to act as assistants on these committees.

Each school has a different opinion when the question is raised as to the advisability of giving the Student Branch activities a place on the regular curriculum. It would appear to rest in the hands of each for the advisability of any action to be taken.

The Ohio State University was well represented at the meeting by Professor W. T. Magruder (Head of the Mechanical Engineering Department), Professor K. W. Stinson, and E. G. Bailey, a graduate of this university, now President of the Fuller-Lehigh Company.

Professor Magruder was the Presiding Officer at the general session at which Professor Stinson read an excellent report on "The Modern Fire Engine." Professor Stinson gave in his paper a history of fire engine development; requirements of the modern type; the gasoline engine; types of pumps; comparison of steam and gasoline fire engines; and the need for a standard specification for fire apparatus. The reading of the paper was followed by a very spirited discussion.

Mr. Bailey's subject was "Some Factors in Furnace Design for High Capacity." He says that the factors controlling furnace design are: complete combustion with a minimum of excess air, controllable rate of combustion over a reasonable range, long endurance of furnace walls, prevention of slag on boiler tubes, and the removal of ash. He shows the results from several furnace designs in relation to these factors.

Another interesting report from the railroad division was "The Progress of Railroad Mechanical Engineering," by H. B. Oatley. He gives the following figures to show the high proportion of the American railroad industry today. "The total investment in class 1 roads now amounts to more than 24 billions of dollars; their mileage is in excess of 250,000 representing more than one-third of the world's total. On January 1, 1927, these roads operated 62,800 steam locomotives, which had an aggregate tractive power of 1,304,000 tons. At the same date these roads operated 2,350,000 freight cars which had a total carrying capacity of 105,717,000 tons. Over 1,000,000 cars were loaded each week during the

(Continued on Page 28)

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(Continued from Page 26)



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year and they carried 3,791 tons of freight one mile for each inhabitant of this country.” He then proceeds to outline the advancement of locomotive design and railroad interests in recent years, and their present status.

In contrast with this type of report and most of the other technical papers was the session on photography. Things can be photographed that cannot be seen or measured because the action is too quick for observation, or the available light too faint, or the eye insensitive to the radiation. One paper discussed Stereoscopic photography, use of motion pictures with time acceleration or retardation, and the use of photography as a recording medium. Another paper discussed the usefulness of the X-ray to Mechanical Engineers in clarifying knowledge of structural materials, thus paving the way for the development of still additional materials to meet new requirements. A profusion of illustrations were used and brought out various points very effectively.

An inspection trip to the Holland Tunnels brought forth the following data that may be of interest. The tunnels were opened on November 12, 1927. They pierce 1,000 feet of rock on the New York side and then pass through silt where it was necessary to use shields and compressed air to advance them. The equipment now in the tunnels includes a patrol, fire fighting apparatus, emergency stations, emergency exits from one tunnel to the other, lights approximately twenty feet apart, and a transverse ventilating system. The roadway is twenty feet wide; capacity of tubes 3,800 vehicles per hour; estimated maximum daily traffic 46,000; estimated yearly traffic 15,000,000; air changes per hour 42; air supplied to tube per minute 3,701,000 cubic feet; carbon monoxide limited to four parts in 10,000 parts of air; horse power of fan equipment 6,000; toll rates: motorcycle \$0.25, passenger automobile \$0.50, bus \$1.00, truck from \$0.50 to \$2.00.

The Power Show is an event of the Annual Meeting that is of interest to anyone no matter what his profession may be. The exhibits in the Power Show were shown in booths on four floors of the Grand Central Palace Theatre in New York. These exhibits include all of the recent industrial and machine developments: turbines, lathes, stokers, fire brick, roller bearings, heating systems, ventilating systems, refrigeration plants, boiler auxiliaries, lubricators, chains, belts, valves, etc. When one spends a day in this huge collection of mechanical art he is probably thinking that if there was another flood and the Grand Central Palace would float the new world would not suffer from the lack of mechanical models and literature. Competent engineers are in the booths to explain the operation and special features of their exhibits.

From the discussion in this article it will be seen that the engineer is indeed fortunate that is able and makes an effort to attend the Annual Meeting of the American Society of Mechanical Engineers. There is no substitute for the benefit he derives from the addition to his technical knowledge, from his new contacts and acquaintances, or the striking lectures of men like President Schwab and President-elect Dow.



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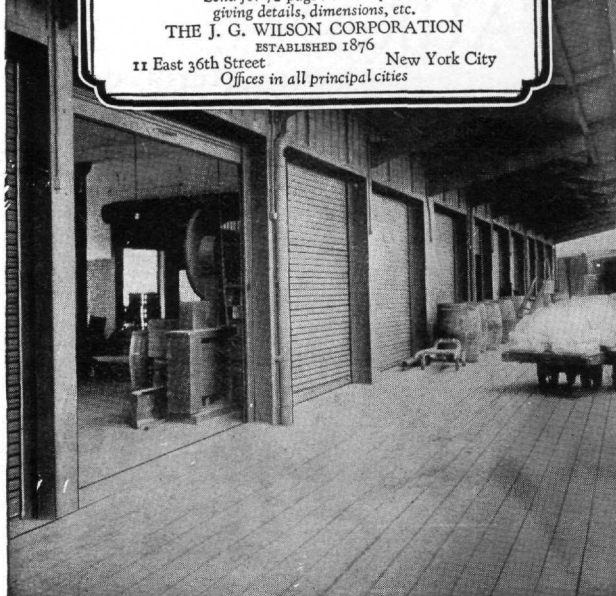
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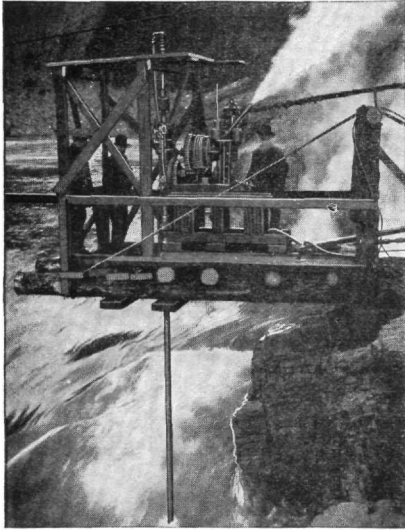
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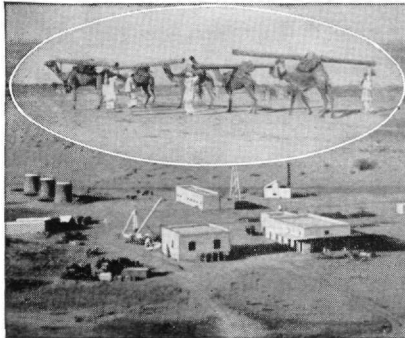
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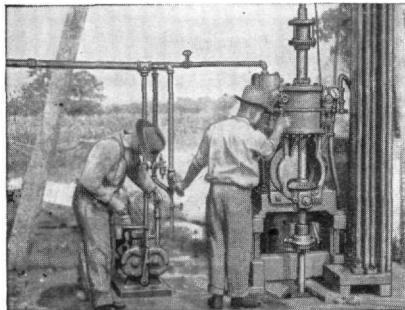




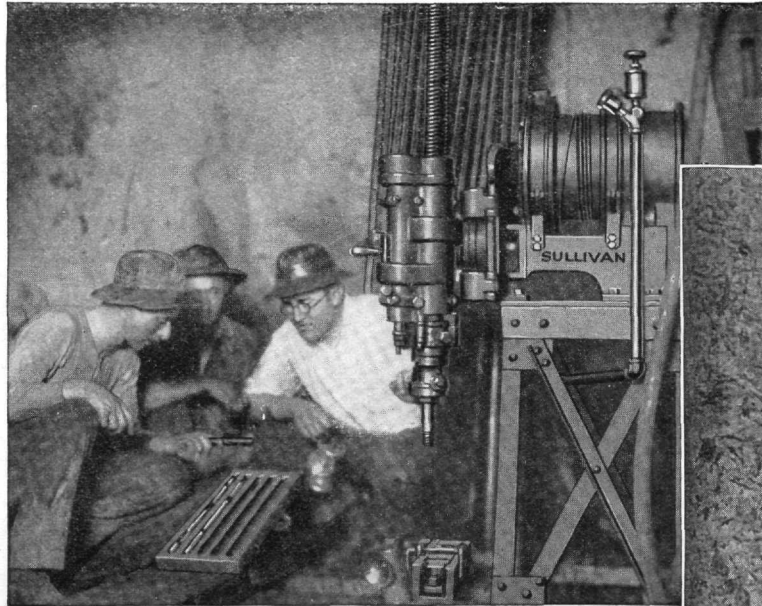
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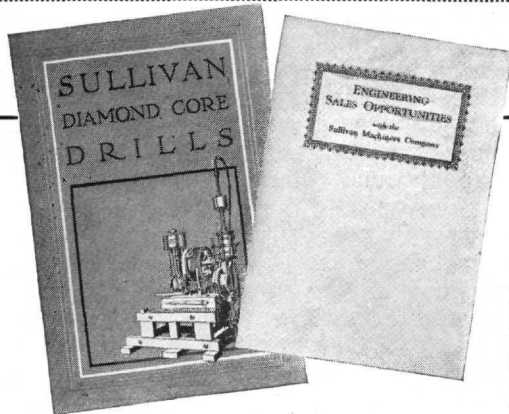
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