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THE ECONOMIC BASIS OF ENGINEERING

MODERN engineering is very much a matter of dollars and cents. The problem of the technologist is not to determine whether it is humanly possible to do a thing, but whether the doing is commercially worth while. The mountain sections of our railways might conceivably be rebuilt to practically level grades, a 3,000-ft. span might be thrown across the river at Windsor, or freight might be transported from Toronto to Montreal by aeroplane. There is nothing scientifically impossible in these proposals, but there is no immediate likelihood of their being carried out. And the simple reason is that it would not pay.

Of course, what is not now practicable may become so in a few years through patient labor and observation, or perhaps overnight through revolutionary discovery. The unbelievable of to-day becomes the commonplace of to-morrow. A learned gentleman once proved to the satisfaction of himself, if not of the rest of the world, that a steamship could never carry enough coal to propel itself across the Atlantic, and conservatives in engineering may this very moment be taking positions equally absurd. The principle remains, however, that the merits or demerits of a project are weighed in the unemotional balance of commercial practicability.

In other days, investigators were wont to withdraw to a seclusion as profound as their thought, and there, lone-handed and free from the dreaded taint of commercialism, toil long and hard in the effort to usher in a new scientific epoch. Their interest was less in the practical value of results than in the satisfaction of discovery. But times have changed. The lone recluse, with test-tube and toy furnace, has small chance of revolutionizing industry as compared with a vast research laboratory boasting an annual budget of a million dollars and a staff of hundreds of trained investigators systematically and aggressively working toward

commercial ends. The commercial spirit is now the major force back of research. Invention and discovery have become the objective of highly-trained corps of workers directed by Napoleons of science.

It has thus come about that the big things now done in the world of engineering are done with an economic motive. Little interest is manifested in results that are merely curious or are simply satisfying demonstrations of the working out of natural law. Such belong to a cloistered age, when the elements of time or cost or practical usefulness were but little considered. Engineering has now become, to quote a modern apostle of engineering economics: "The conscious application of science to the problems of economic production."

FORTHCOMING CONVENTION OF AMERICAN WATER WORKS ASSOCIATION

AS the time for the holding of the Fortieth Annual Convention of the American Water Works Association draws near, interest is steadily growing, and it looks now as though it would eclipse all that have preceded it in point of numbers and interest generally.

Many men who have made a name for themselves in the realm of water works engineering will be there, and a most cordial invitation is extended to all water works men throughout Canada to be present at all or any of the sessions of the convention, and to take part in the entertainment and inspection trips.

The conventions of the American Water Works Association are designed primarily for the improvement of public water supplies through friendly intercourse of experience and knowledge by men who are responsible for the design, construction and operation of water works plants.

An invitation, together with program, has been sent to all water works officials in Canada who are not now represented in the association to attend this convention, which will be held at the Windsor Hotel, Montreal, from the 21st to the 25th of June, 1920.

If any of our readers connected with water works plants in Canada have failed to receive such an invitation and program and will simply drop a line to that effect to Mr. J. M. Diven, secretary, American Water Works Association, 153 West 71st Street, New York, one will be promptly forwarded.

A NOTABLE ENGINEERING CONFERENCE

ONE of the most important meetings that has ever been held in the history of the engineering profession in the United States will take the form of a conference of delegates from the national, local, state and regional engineering organizations at Washington, D.C., on June 3rd to 4th. It is the first attempt to bring about a solidarity in the profession through a federation of the engineering organizations in that country in a comprehensive organization dedicated to the city, state and nation. The gathering together is the direct outcome of the recommendations of the Joint Conference Committee, representing the American Society of Civil Engineers, the American Society of Mechanical Engineers, the American Institute of Electrical Engineers, and the American Institute of Mining and Metallurgical Engineers. To these recommendations the American Society for Testing Materials and the Trustees of the United Engineering Society subsequently subscribed. The call has been issued to about one hundred engineering organizations in the United States, inviting them to send delegates to the conference. More than sixty organizations have already signified their intention to participate, and will be represented by more than 125 delegates, who will represent an aggregate membership of more than 100,000 engineers.

There is much promise in this for the profession the continent over. Whenever engineers get together, join forces and suppress petty institutional rivalries, there is undoubted