

used (C.X.L. forcite gelatine being of equal strength but with a lower velocity of explosion) so that the dynamite would not only break up the piers, but also heave the debris a certain distance, so that the rushing water could easily wash it away. The polar variety of forcite does not freeze until a low temperature is reached, so that although the work was done in November, the forcite needed no thawing.

All that now remained was to connect up the electric blasting caps, 150 in all, with the leads. This was arranged in multiple series of 15 caps each. Two pairs of 14-gauge copper lead wires were used; one pair took the caps from the holes in the piers and the other pair took the caps from the charges in the inside of the dam. One pair was then connected to the other at the river's edge and one pair ran from this junction to the switch. In this way the electric current reached the two sections of the blasting charge at practically the same instant, preventing cut-offs.

A 500-volt alternating current was used to explode the caps, the switch being thrown by Mr. Russel at 4.30 p.m.

The result obtained was all that could be desired, the dam being completely demolished within the lines intended, not a vestige of concrete, rock or reinforcing being seen, the water having done its work of sweeping the debris away in excellent fashion.

Contrary to expectations, very little jar was experienced. The explosion was very muffled, being due no doubt to the two different forms of dynamite used and the variation in the speeds in which they did their work.

RAILWAYS WILL GET NEW RAILS

According to a press despatch sent from Ottawa, an increase of 20 per cent. in the steel production of Canada over that of last year is promised as the result of conferences held between the War Committee of the Cabinet and the Canadian steel manufacturers.

The immense amount of steel required for the manufacture of munitions has prevented the railways from securing rails from the Canadian mills. While in some cases they had contracts with the steel companies for the manufacture of rails, the railways have waived their claims to permit the fullest possible manufacture of munitions. The railways, however, could no longer continue without a supply of rails for maintenance purposes, therefore the government called the manufacturers into conference.

In a discussion of his own paper on "Multiple-Arch Dams of Rush Creek, California" (Proceedings Am. Soc. C.E., September, 1917), Mr. L. R. Jorgensen states that "good concrete is fairly watertight and gunite is remarkably so." He says:—

"Some tests were carried out in the laboratory of the University of California on the watertightness of plaster 'shot' on the dam face with a cement-gun. Several plaster slabs, from $\frac{3}{8}$ to $1\frac{1}{2}$ ins. thick, made at Gem Lake, were tested with water pressures ranging from 700 to 1,600 ft. for several hours, with no moisture coming through the slab. One 1-in. slab held a head of 1,610 ft. for $2\frac{1}{2}$ hours without showing moisture, then the water pressure was raised gradually to 3,400 ft., and the specimen broke in bending, having leaked a little just before breaking.—From Engineering-Contracting, of Chicago.

REPORT OF THE COUNCIL OF THE CANADIAN SOCIETY OF CIVIL ENGINEERS

THE council of the Canadian Society of Civil Engineers have prepared a report covering the year 1917, which will be submitted to the membership at the annual meeting to be held next week at Montreal. The report includes the financial statement, additions to and removals from the membership roll, an outline of the society's activities during the year, and the report of the library committee. Following is an abstract of the council's summary of the year's activities:—

The suggestion of the president that an executive committee of the council be formed was carried into effect, and this committee, consisting of the president, the local vice-presidents and the chairmen of the committees of council, handled a large part of the detail, the results of these committee meetings being submitted to council in the form of a series of recommendations from the executive.

A legislative committee was appointed to look after all legislative matters affecting engineers, consisting of three members of council, through whom three members of each branch co-operated. The legislative committee's report to council has shown that this departure was an important development in its relation to the society's future.

The importance of the maritime provinces as centres of engineering activity has been considered and the initial steps taken towards the establishing of branches there, it being intended that immediately after the annual meeting the arrangements already instituted will be successfully completed.

Recognition of the great part members of this society are playing in the world war has been exemplified in the preparation and completion of an honor roll containing eight-hundred and fifty-nine names; all of whom have sacrificed much and many of whom have sacrificed all for the world's civilization.

A committee has been appointed to report on a form proposed to be sent to the membership in order to have on file at headquarters a complete and up-to-date record of the professional career of each member, in order that the society may be in a better position to be of service to the individual.

Following the newly adopted policy of the society to engage in useful public service, the decision of the council to co-operate with the Honorary Advisory Council for Scientific and Industrial Research, resulted in the membership at large taking an active part in assisting the Research Council to distribute an industrial questionnaire, the major portion of the detail for Montreal and Quebec being handled from headquarters office.

The spirit of closer affiliations with other organizations has been exemplified in the invitation from the Institution of Civil Engineers, extending to members the use of the Institution's library and reading rooms, and the cordial resolution of the Board of Direction of the American Society of Civil Engineers.

The completion of the Quebec Bridge during the past year, erected from designs and constructed under the direction of members of this society, is an achievement worthy of a permanent place in the society's annals and it is intended to place at headquarters a memorial commemorating this event.

It is with deep regret that council records the death of the late secretary, Professor C. H. McLeod, who for twenty-five years, as secretary and member of council, took a leading part in the direction and development of this organization, and whose sudden passing is a real loss to the society and the engineering profession.