

supported by both a long and a shorter plate, putting four of six bolts in bearing on web of 18-in. I and two in single shear. (See Drawing No. 1.)

The only other long span types of bridge were the 120-ft. Hopkins with an 18-ft. roadway, and a 75-ft. Hopkins. In the former, all chord and diagonal material was identical with the standard 120-ft. type, but the overhead horizontal wind-bracing was revised to suit, and two long plates at each end were used to fasten the 3-ft. cross girders. The 18-in. I's for stringers were practically unchanged in design but were increased to five in number.

The other type, the 75-ft. Hopkins, at the time of the armistice had never been erected. Its floor was to be identical with the 120-ft., but its top and bottom chords were to be only two 9-in. 19½-lb. channels, and its diagonals the same. It was designed to carry Class AA loads or tanks at 75 ft., single tanks at 105 ft., and all Class A loads of 17 tons at 120 ft.

The 60-ft. type was launched with tackle similar to that used for the 120-ft. type, but there was only one set to each bridge instead of one to each truss. The single derrick was braced sideways and allowed to lean slightly to-

wards the bridge. Care had to be taken in every case when launching to adjust all tackle correctly, as it was only by fastening the tackle to the bottom of the forward end and the top of the rear end that the rotating couple of the downward thrust of the bridge and the upward thrust of the roller were counterbalanced by an equal and opposite couple.

The normal time for launching alone was about 40 minutes, and the labor cost of the entire erection of a 120-ft. Hopkins was 4,000 man-hours. On military work time is of more value than men, but about 200 men were the most that could be employed, so about three days was the minimum time of erection.

The Inglis was sometimes erected in one day on the true site, the Hopkins near it in a week on a diversion site, and the permanent civilian bridge a year or more later on the true site.

The military bridging practically ceased with the armistice. In both France and Belgium there were so many workless mechanics and laborers that the civilian authorities were encouraged to do as much as possible, and in the ensuing six months a great many of the permanent railway and highway bridges were replaced.

## Fortieth Annual Convention of the American Water Works Association to be Held June 21-26, 1920, in Montreal

AT a recent meeting of the convention committee of the American Water Works Association, it was decided that the dates of the next annual convention should be June 21-26, 1920. It was decided at the last convention to hold the next assembly in Montreal, but the dates were left to the convention committee. The dates selected by this committee have to be confirmed by the executive committee of the association, but this no doubt will be largely a matter of form, as the convention committee is a sub-committee of the executive committee.

The five members of the convention committee met in Montreal last week and made final arrangements with the manager of the Windsor Hotel. Windsor Hall, adjoining the hotel, will be used for the exhibition. Access to Windsor Hall can be obtained from the hotel or directly from the street. Delegates entering Windsor Hall from the hotel will pass the rooms used as convention offices, and in order to reach the room where the papers will be read, the delegates will have to go through the exhibition hall. The convention hall will not immediately adjoin the exhibition hall, so the

reading of papers will not be interfered with by the noise incidental to the exhibition.

The members of the convention committee declared that they were delighted with the arrangements that had been made, and that at no time in the history of the association have facilities been so absolutely ideal. The committee expect a big attendance of water works superintendents, contractors, consulting engineers and manufacturers from all parts of the United States and Canada. The conventions are attended every year by nearly a thousand members and guests, and it is thought that next year's convention at Montreal may prove to be a record-breaker, as a number of very interesting trips are being planned for the entertainment side of the program, and special effort will be made to have interesting papers, including a number of papers on Canadian work.

The convention committee have appointed a local committee on arrangements, consisting of a number of Montreal and Toronto members of the association, with H. G. Hunter, of Montreal, as chairman.

## Association of C. B. & C. I.'s Proposed Constitution

AS a result of several months' thought and study, and after a large number of conferences with many members of the association from coast to coast, J. P. Anglin, president of the Association of Canadian Building and Construction Industries, has perfected a draft of proposed constitution and by-laws for the association. Last December the national council appointed Mr. Anglin as a committee of one to carry out this work. The constitution as prepared by Mr. Anglin has been submitted to the various members of the council, and while it has not yet been officially adopted, as no letter ballot has been sent out, a great many of the members of the council have expressed their approval, and it is thought that the constitution will be adopted with few, if any changes.

The constitution as prepared by Mr. Anglin consists of sixteen articles, covering respectively name, purpose, membership, annual fees, meetings, government and election, officers, duties of officers, executive committee, committees, order of business, expulsion and discipline, audit, seal, arbitration, and amendments.

The objects of the association are stated to be: (a) To promote better relations between the members on the one hand; and owners, architects and engineers on the other; (b) To establish and maintain standard methods of practice between members within the industry; (c) To acquire, preserve and disseminate valuable information concerning the industry; (d) To extend construction and improve conditions in the combined industry; (e) To co-ordinate the units of the industry in its producing, manufacturing, distribution, professional and constructive activities, thereby increasing its efficiency and extending its usefulness, to the end that the industry shall be established.

The membership is divided, as planned at the conference in Ottawa last November, into three sections: (a) General contractors and contracting engineers; (b) trade and sub-contractors; and (c) supply firms, manufacturers and producers of building materials and plant. Each section may be further sub-divided.

Two classes of membership are provided for: Direct,