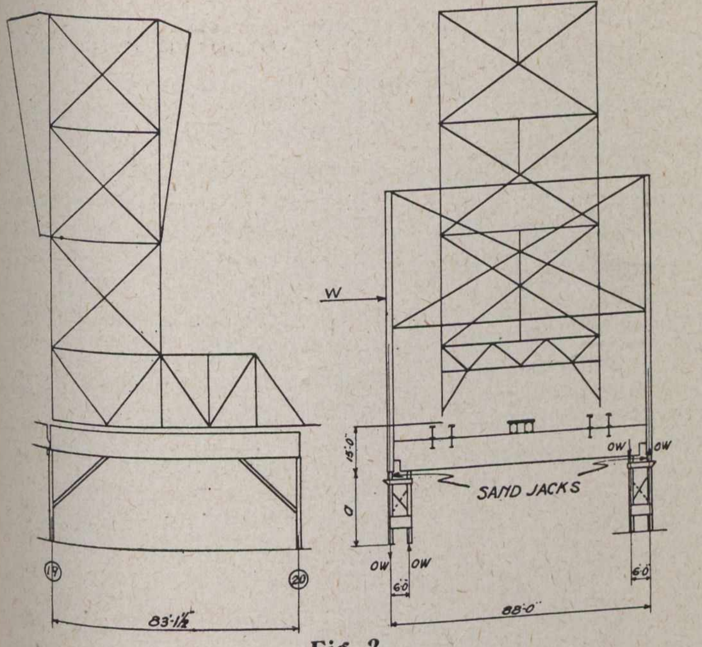

Fig. 2.

longitudinal bracing, floorbeams, bottom chords, bottom laterals and web members, except the upper half of the main diagonals and vertical sub-posts, as it advances until it reaches bent 17. It will then move backwards, completing the erection of the truss members, top laterals and sway bracing.

In Fig. 1 the members erected as the traveler advances are shown in full lines, the members placed on the return trip are shown by dotted lines.

Sand jacks will be used at the even panel points, directly under and with top bolted to the vertical posts, to transfer the load to the outer columns of the staging. Timber blocking will be used for the same purpose at the sub-panel points and also between the floorbeams and inside columns of the staging at all panel points.

The span being completely erected, the timber blocking at the intermediate staging supports will be removed, the sand jacks lowered, and the span will rest on the end bents at L_0 and L_{18}. In this condition, as shown in Figs. 3 and 4, six scows 32 feet wide, 160 feet long, and 11 feet 7 inches draft, will be floated in and placed under the panel points L_1, L_2, L_3, L_{15}, L_{16} and L_{17}. The valves in the bottom of the scows will be opened and the scows sunk until they rest on their foundation supports. The cross-girders and bracing which transfer the loads to the scows will then be placed.

To raise the span from the end supports at L_0 and L_{18}, preparatory to floating out, the scows will be drained at low tide, the bottom valves closed, and as the tide rises the span will be gradually lifted and be in readiness for proceeding on its journey to the bridge site, if the weather and tide conditions are considered favorable. If conditions are not considered favorable, arrangements will be made by means of timber crib guides, tackle running to anchorages on the shore and tugs, so that the span can be returned to its supports.

While the span is on its way to the bridge site, it will be kept under control by means of tugs of sufficient power capacity to overcome all anticipated resistances due to wind and current.

Arriving at the bridge site, the span will be anchored to the ends of the hanging trusses shown in Fig. 5, coupled up to the hanger slabs provided at each of the four corners of the cantilever arms, and raised into its final position by means of the movable jacking girders and eight 1,000-ton hydraulic jacks, two at each corner, as shown on Fig. 3.

It is expected that this span will be floated into place sometime during September or October, 1916. If this programme is carried out, it will be possible to run trains over this great steel bridge, the largest in the world, and the last link in the National Transcontinental Railway system between the Atlantic and the Pacific, before the close of the year 1916.

The work is being executed under the supervision of the Board of Engineers, Quebec Bridge, composed of C. N. Monsarrat (chairman and chief engineer), Ralph Modjeski and H. P. Borden.

The St. Lawrence Bridge Company are the contractors for the superstructure, George F. Porter being engineer of construction, W. B. Fortune, superintendent, and S. P. Mitchell, consulting engineer of erection.

NOTE:—The construction of the new Quebec Bridge is replete with unique engineering methods and has been

Fig. 4.