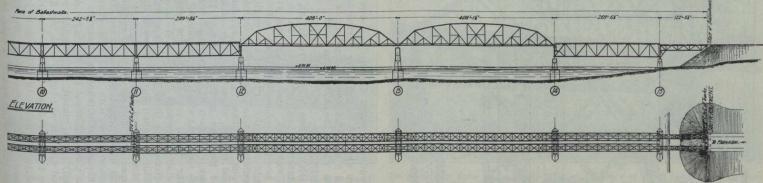
type, and the top chords are curved, as far as possible, to an approximate parabola. In the web members, solid web plates have been largely used instead of lattice bars.

work. There were on an average 10 trains between 8 a.m. and 12 noon, and sometimes an average of eight in the afternoon during the usual working hours. In order to carry bodily into the location of the old 240 ft. span, and the latter moved upstream upon timber towers prepared for it. The downstream new spans between piers 6 and 7



Plan 1.-Lachine Bridge, C.P.R. General Elevation and Plan. (See opposite page.)

In addition to this, the vertical posts are all of I sections, composed in most cases of bulb angles and web plates, and, where necessary, there are stiffeners on the webs especially of the longer vertical posts. The top and bottom chords are of very stiff cross section, partly to allow them to be cantilevered out during erection. The 408 ft. spans were also calculated for the stresses caused by the special method of cantilevering and launching, which will be described later. The portal and other subsidiary bracing is generally of a stiff design, consistent with the main trusses, to which it is attached. The 270 ft. spans were also calculated for the concentrated weight of One end of the 408 ft. spans, which was to be carried upon them during the process of launching.

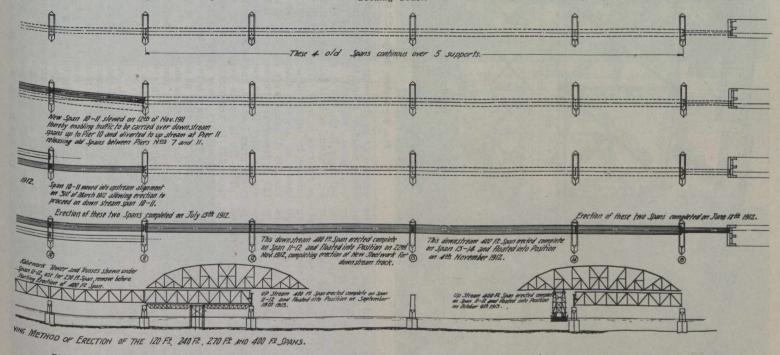
The alignment on the bridge is ruled by the overall width of the 408 ft. spans. At pier 11, and the south abutment, the two single track bridges are 27 ft., centre to centre, and from pier 11 to the north abutment the spans grow closer together till they are 16 ft. 4 ins. at the north abutment. This slight kink in the alignment is quite im-



Bird's Eye View from Top of Up Stream Span 12-13, Looking South.

were then erected. Traffic was now diverted over the four new spans between piers 6 and 7 by means of a cross-over laid on suitable wooden ties spanning from span to span, so that all old spans between pier 7 and the north abutment were thus released. These were taken down, and new spans erected. Next, the new spans on the downstream side between piers 7 and 11 were erected.

In order to release some more upstream spans, it was simply necessary to slew over the 240 ft. span between piers 10 and 11, as shown on diagram B, plan 2, all new spans between the north abutment and pier 11 now being under traffic and all old spans between these points being released. After the new spans on the upstream side between the north abutment and pier 10 had been erected, it was simply necessary to pull span 10-11 into alignment, as shown on diagram C, plan 2, and thereby put the traffic on all new spans between the north abutment and pier 11, the old spans between pier 11 and the south abutment being still under traffic. Then spans were erected between piers 10 and 11, 11 and 12, 14 and



Plan 2.-Lachine Bridge, C.P.R. Diagrams Showing Maintenance of Traffic During Reconstruction, and Method of Erection. (See opposite page.)

material from an operating point of view, and allowed a valuable saving in masonry from pier 11 northwards.

ERECTION.—One of the most important problems in the work was the maintenance of traffic during the erection of the steel-

out the work without interference with traffic, it was decided to erect first, all spans on the downstream side from the north abutment to pier 7 (See diagram A, plan 2.) When this was done the two new 120 ft. spans between piers 6 and 7 were moved

15, and 15 and south abutment. After these were finished, the 408 ft. downstream spans were erected on top of the 270 ft. spans, as shown in the photographs and in diagram E, at the lower portion of plan 2.

The modus operandi in connection with