



The River Section of the Lethbridge Viaduct.

The 33 high bents in the centre of the bridge have four anchor bolts,  $2\frac{1}{2}$  inches in diameter in the foot of

each column; the remaining bents have two anchor bolts per column. The taper of the towers is 1:6. This, with the girders of the spans spaced at 16-ft. centres, gives ample spread at the base of the towers. The tower spans were made 67 ft. long in order to give longitudinal stiffness to the towers and to reduce the traction stress in the lower legs.

The diagonal bracings, both transverse and longitudinal, are stiff riveted members composed of angles and channels. Latticed and long members, as the illustrations show, are supported at the centre.

#### The Edmonton Viaduct.

The C.P.R. bridge across the North Saskatchewan River in Edmonton is a double deck structure about 2,687 ft. in length, providing a thoroughfare for vehicles, street cars and pedestrians in addition to railway traffic. The river divides the main part of the city from Edmonton South, which until a year or so ago existed as a separate town, Strathcona. As is characteristic of the rivers of the prairie west, the North Saskatchewan is a comparatively shallow stream, but of widely varying flow, traversing at Edmonton a valley upwards of a mile in width, this valley benching abruptly to the prairie level above.

Prior to the erection of the present structure, a low-level swing bridge, used both as a railway and a highway bridge, was the only means of wheel transportation between the two cities.

The new viaduct crosses the river bed by three main double deck truss spans, one 293 ft. 3 inches long, and the other two 291 ft.  $10\frac{1}{2}$  inches long, with trusses 50 ft. deep and at 25-ft. centres. The approach on the Edmonton side includes two double deck truss spans, one 129 ft. 9 in. long, and the other 2 ft. longer, with trusses 19 ft. deep and spaced 25 ft. centre to centre. The balance of the approach on the north side consists of three short girder spans, by which the lower deck, for highway and pedestrian traffic, is diverted from under the rail deck, to escape the embankment which meets the latter.



View of the River Section of the Outlook Bridge. At the Extreme Left is One of the Nine Land Towers.