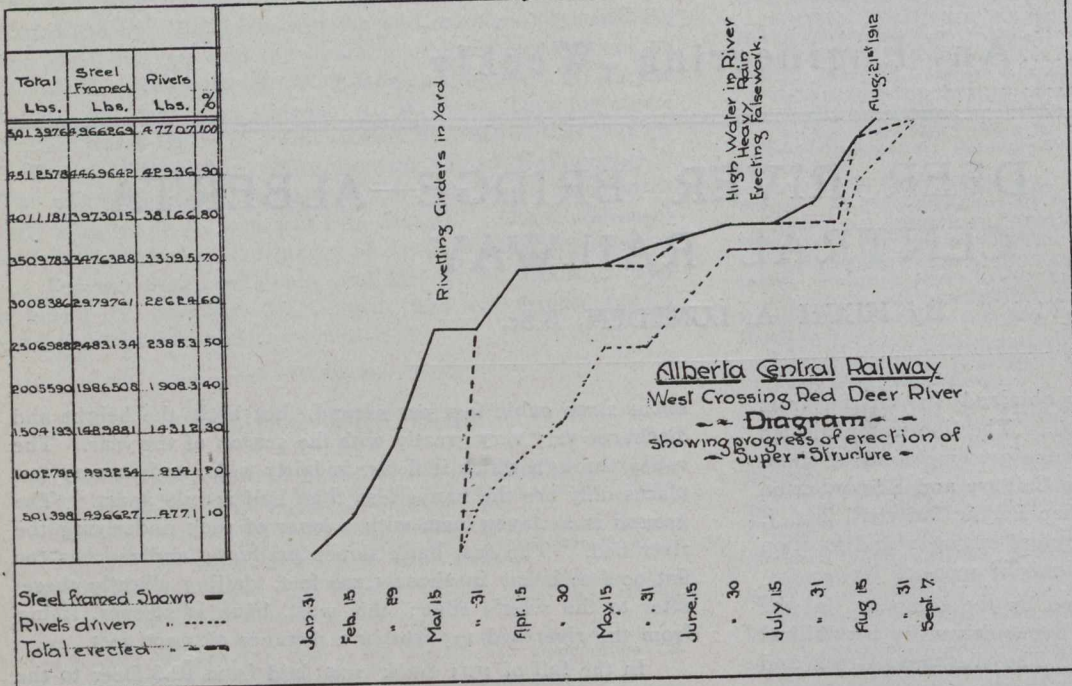


The embankment at the end of the east abutment is about fifty-five feet high and that at the west about forty feet; the approaches were graded by sub-contractors under D. F. McArthur and Company. Some trouble was later experienced,

ed Messrs. Jackson and Goldie, of Winnipeg. Excavation was commenced by them on March 1st, 1911, and the last pier completed on November 21st.

The contract for the superstructure was awarded the Canadian Bridge Company, of Walkerville, Ont., who commenced erection on the last day of January, 1912, having previously erected their traveller and assembled much of their material on a siding just east of the bridge site. Erection proceeded very rapidly and towards the end of April tower 24 (numbered from east to west) was reached, and the erection of falsework for the first main span across the river commenced. Here the first and only accident occurred, a man being instantly killed by falling about 40 feet while erecting falsework. Considerable delay was now experienced, due the excessively heavy rain which fell the greater part of July and not only prevented work,

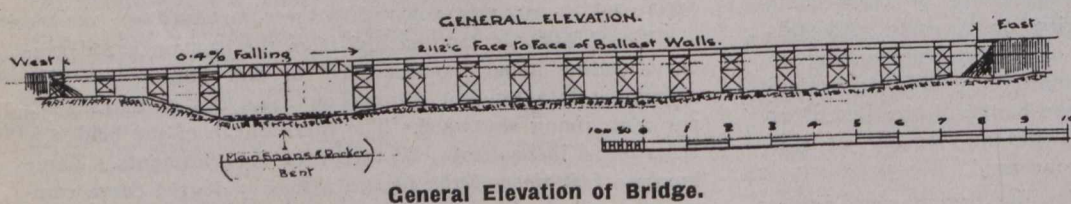
but raised the river to such an extent that even the erection of falsework had to be discontinued for nearly three weeks. A few bents which were being used as a temporary platform



due the sinking and shoving forward of these abutments caused by the shrinking and pressure of the embankments, but it is the intention in due time to replace the present structures by those of concrete.

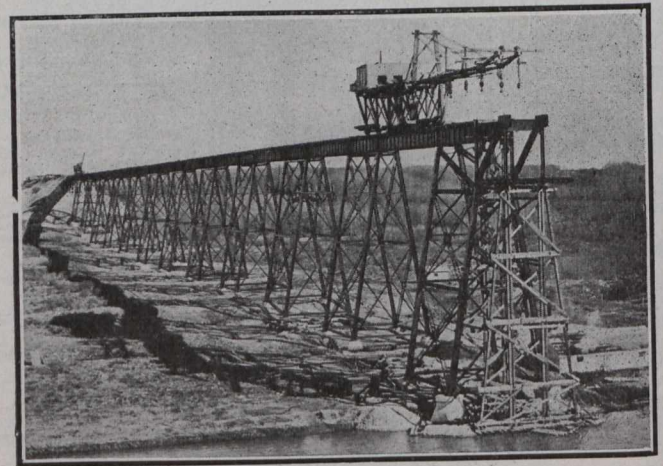
The original design for this bridge was prepared by the chief engineer in 1909 and submitted in 1910 to Mr. P. B. Motley, consulting bridge engineer for the Alberta Central and Canadian Pacific Railways, who made certain changes and modifications and introduced a rocker bent. The design thus decided upon, with the exception of the main truss spans, the rocker bent and the deck floor, was very similar to that of the Lethbridge viaduct, built by the Canadian Pacific Railway in 1907-08. It consists of fifteen deck plate girder spans each 74 feet 10 inches long and fifteen similar girder spans each 45 feet long, carried on 30 rigidly braced steel towers, the distance centre to centre being 45 feet, and of adjacent towers 75 feet. The river itself was spanned by two rivetted deck truss spans of the Warren type, each 150 feet long, supported by towers at one end of each and at the centre by a single pair of legs about 80 feet long forming a rocker bent. This rocker bent is perhaps the most unusual feature of the whole bridge, and is a form of construction which has not been very widely used in bridge building in Canada hitherto; in such a case as this, however, replacing, as it does, a very high and expensive concrete pier it makes a very serviceable and neat member.

The contract for the substructure of the bridge, consist-



General Elevation of Bridge.

ing of 56 pedestals, 4 piers, two on either side of the river and a large centre pier in the middle of the river, and containing in all about 3,122 cubic yards of concrete, was award-



Progress of Erection, Middle of May, 1912, Looking East.

were carried down the river and recovered near Red Deer. In the meantime rivetting up of back work was proceeded with by "four guns," steam being obtained from an engine in a shed close to the river bank, where also the bridge camp was situated. The falsework, consisting of six bents resting on piling, is well illustrated in one of the accompanying photographs.

The rocker bent and second main span were completed by the middle of August, and on August 21st, 1912, the last girder was lowered into place, and after two weeks more spent in rivetting and paint-