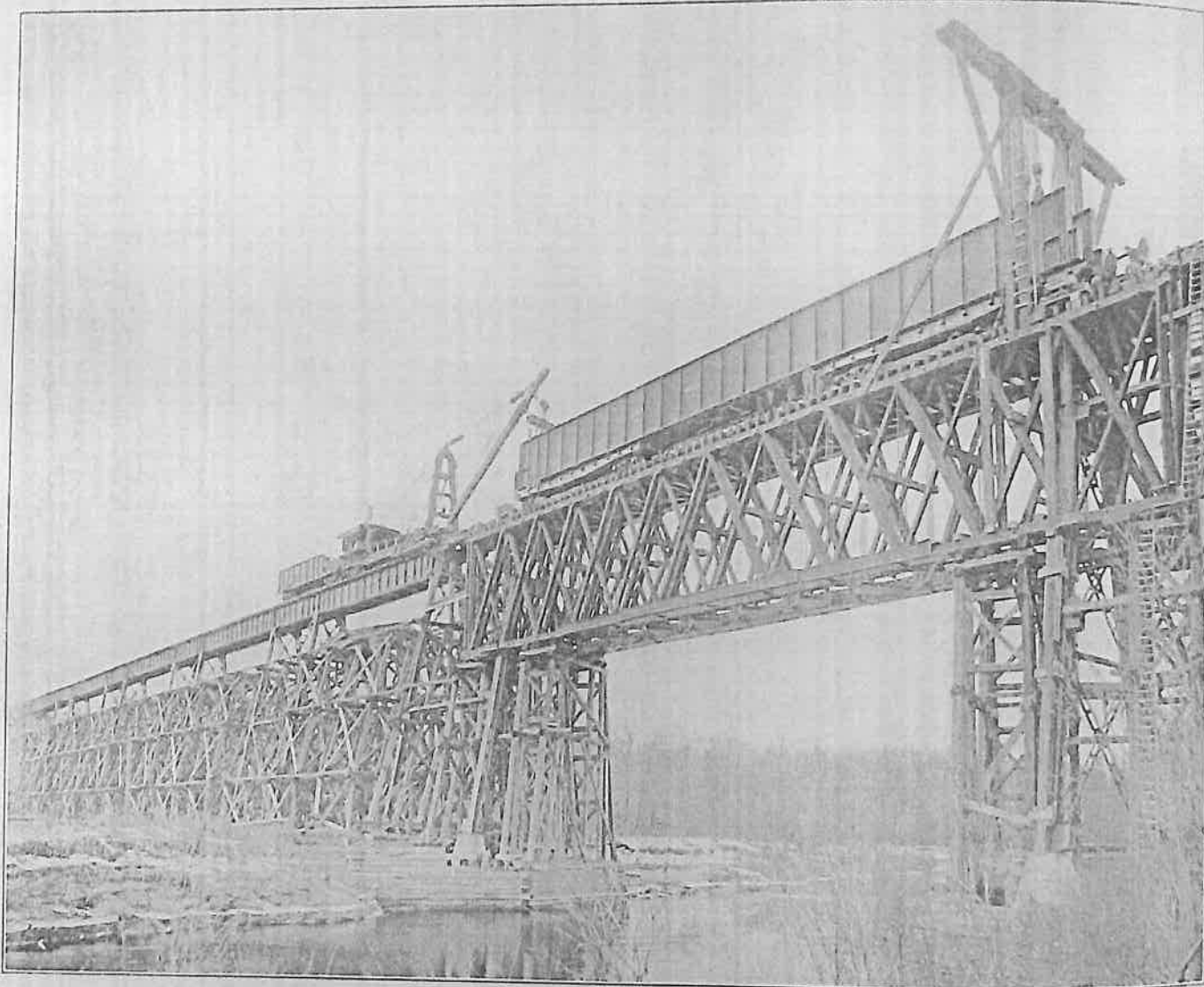


ERECTING A LONG STEEL GIRDER SPAN

One of the longest steel girder railway bridge spans ever put in service in the northwest was erected on November 16 for the Duluth, South Shore & Atlantic, near Shilo, Wis., by the American Bridge Company. This span, 121 ft. long, center to center of end bearings, 122.5 ft. over all, weighing 108 tons, and designed for Cooper's E-50 loading, was a portion of a shipment of 93 cars of fabricated bridge material which is being used to replace as rapidly as possible the wooden trestles and trusses on the company's lines. This forms a part of the general program of increasing efficiency inaugurated in 1912 by W. W. Walker, general manager. The bridges are being designed by the engineering department, E. R. Lewis, assistant to general

difficulty, owing to the necessity for cutting the members of the Howe truss and its wooden bridge seats in order to place the steel bents and braces. This work was accomplished without mishap by the erecting department of the American Bridge Company, after the wooden structure had been sufficiently reinforced. The entire river span was assembled and bolted together on two standard steel flat cars and moved out to position on the old bridge by a derrick car at 7:30 a. m. With the derrick car on one end, and a gallow's frame and falls handled by a hoisting engine on the other end, the span was hoisted clear of the cars and the latter were then pulled out on to the wooden trestle at the gallow's bent end. The deck of the old wooden span was then removed and dropped piece by piece into the river, where it was caught by a boom and thence piled on the banks.



Placing Girders in Bad River Viaduct at Shilo, Wis.

manager in charge of engineering and J. E. Bebb, office engineer.

The bridge west of Shilo is a single track structure spanning Bad river on the main line between Sault Ste. Marie, Mich., and Duluth, Minn. The new structure replaces a 150 ft. deck Howe truss with trestle approaches having a total length of 1,349 ft., all but 955 ft. of which was filled in 1912 and 1913. The new steel structure is a deck girder viaduct on reinforced concrete footings, built on pile foundations. The long river span is about 90 ft. above the bed of the river, and 73 ft. above high water. The approaches consist of 30-ft. tower spans and 64-ft. intermediate girder spans. The total weight of steel in the structure is 773 tons.

The erection of the river span under traffic was of marked

The 108-ton girder span was then lowered into position inside the Howe trusses and final connections made at 2:30 p. m.

The long girder was used for the river span of this bridge in preference to a truss span on account of the wide difference in cost of erection of the two types of bridge under the conditions governing this particular case. Pile foundations and heavy reinforcement of concrete footings were made necessary on account of the treacherous red clay bottom.

NEW STREET RAILWAY IN PALESTINE—The Turkish government has recently granted a concession to a French bank for the construction of a street car line from Jerusalem to Bethlehlem, and for the lighting of Jerusalem by electricity.