

retarded by ice jams, and while still opposite the town they were overtaken by the steamboat and secured, having suffered no material damage ; but no trace of piles or crib-work remained, and two months later one of the cribs was observed forty miles down the river, with a pile still remaining in it. This gorge was accompanied by a considerable scour, the water at the site of the second set of piles having been deepened about twelve feet.

The piles were at once replaced, and the cribs built, sunk and protected by additional riprap ; the piles were then capped and surmounted by trestle piers, which were planked on the sides and provided with timber starlings, eight or ten feet high, as a protection against drift. Between the third and fourth spaces, where the depth of sand was much greater, a single row of five piles was driven, which were braced to the false-works of Pier No. 4, riprapped and surmounted by a trestle bent. Other bents were raised on the caisson surrounding Pier No. 3, and on the false-works at No. 4, and a false pier of timber was erected immediately south of Pier No. 4, the masonry being still unfinished, one side of which rested on the upper section of the caisson, and the other side on the false-works. Eight trussed girders, made of track stringers and rods which had been used at No. 4, were built upon the shore, and raised by a floating derrick into position on the trestles, one being placed under each bridge chord ; on these were laid the cross-timbers and other staging required. These false-works proved amply stiff, and when removed after the erection of the span, it was found easier to break the piles off immediately above the cribs than to withdraw them. The false-works between Piers 4 and 5 were built at the same time, resting on piles, and a light track was laid from the north end of the bridge, nearly to Pier No. 3.*

The 198 ft. span was raised as soon as these false-works were ready. As Pier No. 4 was still incomplete, the last panel was not put in, but a bearing was taken on the false pier, one panel short of the end of the truss, the top stood projecting over, the links of the bottom chord being left to hang down. On the completion of the pier the last panel was added, and the bearing was transferred to the masonry. The erection of the long span between Piers 4 and 5 followed, completing the number of fixed spans.

*These false-works are shown on Plate VII.