ft. Distance from fifth to seventh range, 2,350 ft. Seventh range passed at 6.59¼. Speed between fifth and seventh ranges, about 4.2 miles per hour.

Distance to eighth range, 1,000 ft. Passed at 7.02¼. Speed, about 3.8 miles per hour.

Distance to ninth range, 6.20 ft. Passed at 7.05½. Speed, about 2.1 miles per hour. The span was then about three-eighths of a mile from the bridge site and was halted and lined up on the centre of the opening,

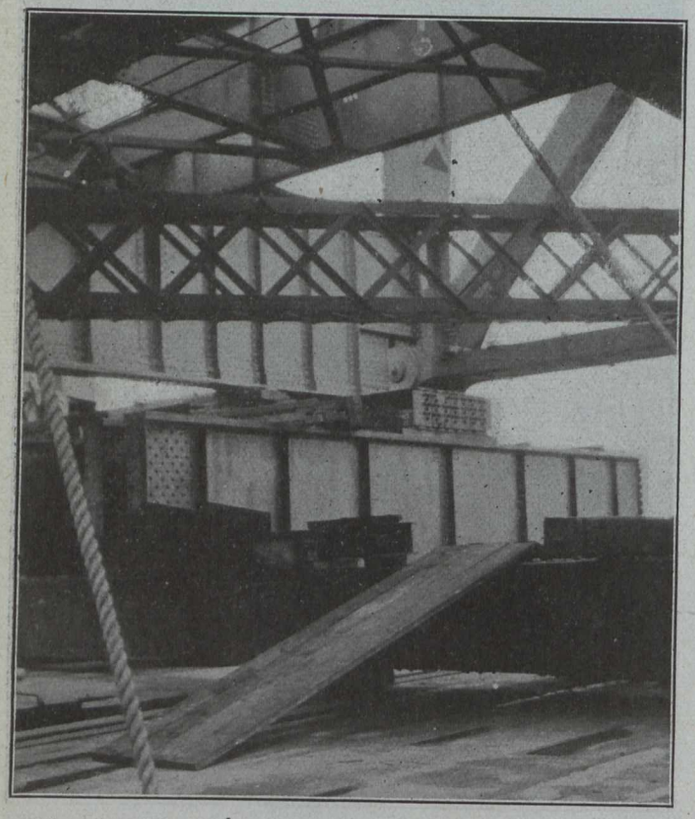

Fig. 8.—View from Floor of Scow While the Span Rested on End Bents, Showing Support for One of the Panel Points of the Bottom Chord, Stringers Under Panel Point Distributing the Load to Girders

which was marked by two balloons hung on lines reaching from the top chords of one cantilever to the top chords of the other cantilever arm. The span was also swung as parallel as possible to the centre line of the bridge.

The distance from the ninth to the tenth range was 1,840 ft., and within that distance the progress of the span was gradually checked, and the span halted at the tenth range, which was only 450 ft. from the bridge site.

A tide gauge had been placed near the north main pier and at the moment of high tide, an observer signalled to a man on the top of the north main pier, and the latter raised a large red and white disc target, signalling to Mr. Davie that the tide had reached its maximum height. When this signal was raised at 7.21, the span was allowed to leave the position where it had been halted opposite the tenth range, and the tidal current, which at the bridge site continues upstream for about an hour after high tide, was allowed to carry the span the 300 feet to the eleventh range in eight minutes, or at a speed of about 0.4 miles per hour. The current was flowing westward with a velocity of about 6 miles per hour.

The centre line of the span was then only about 150 ft. from the centre line of the bridge, and a minute later two ¾-in. wire rope lines were passed out from the south mooring truss and connected to the hoisting engine on the south end of the span, and a few minutes later the same operation was performed at the north mooring truss. The span was then only 75 ft. east of its final floating position. Time, 7.34 a.m.

The 1¼-in. mooring lines were connected—two at each corner of the span—at 7.45, and the span was centered and the mooring lines brought up all tight at 7.55. The current had now slackened to two miles per hour, still flowing westward.

The mooring trusses were lowered to their vertical position at 8 a.m. and the span finally centered and the lifting chains lowered at 8.05.

The connecting of the lifting chains to the stub ends of the lower lifting girders (ELG1) was done at each end by one foreman, two assistant engineers (one in charge of each corner) and twenty men. Besides those forty-six men, Messrs. Johnson, Monsarrat, Mitchell, Duggan, Porter, Davie, Meyers and Atkinson were on board the span throughout its journey up the river, thus making a total "passenger list" for the trip of about fifty-four men.

Telephone connection between each end and the centre of the span was maintained during the trip. Orders to the tugs were shouted through a megaphone. A large platform was built across the centre of the span to enable

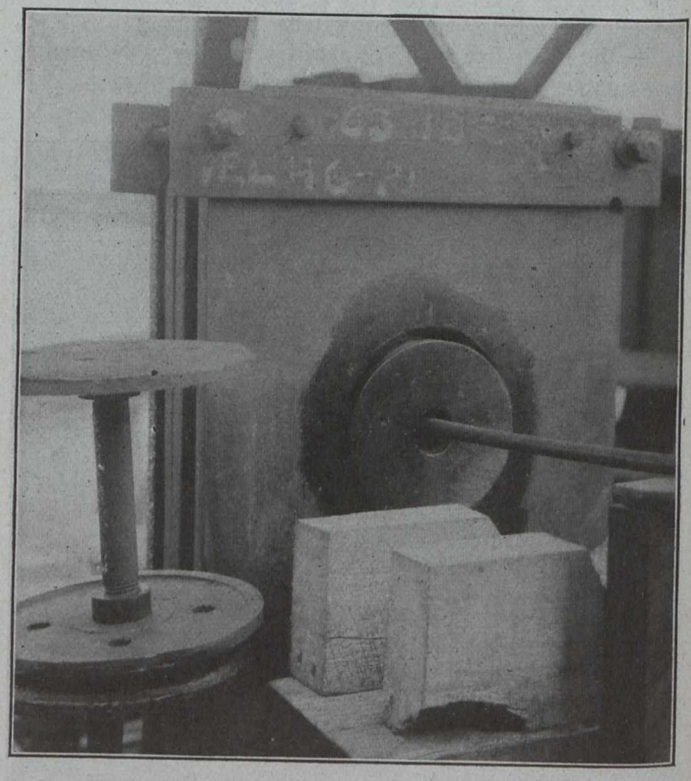

Fig. 9.—Close View of One of the Eight Forged-Steel Lifting Pins Resting in Hole in Stub End of Lifting Girder, Showing Clearance Workmen Had in Driving Lifting Pins. At the Left is a Pair of Caps for the Pin. The Connecting Bolt Goes Through the Centre of the Pin and the Caps Screw on

Mr. Davie to get readily from one side to the other while controlling the tugs.

When the span had been moored and the lifting chains lowered, S. P. Mitchell, the consulting engineer of