THE OPENING OF THE NEW EAST RIVER BRIDGE.

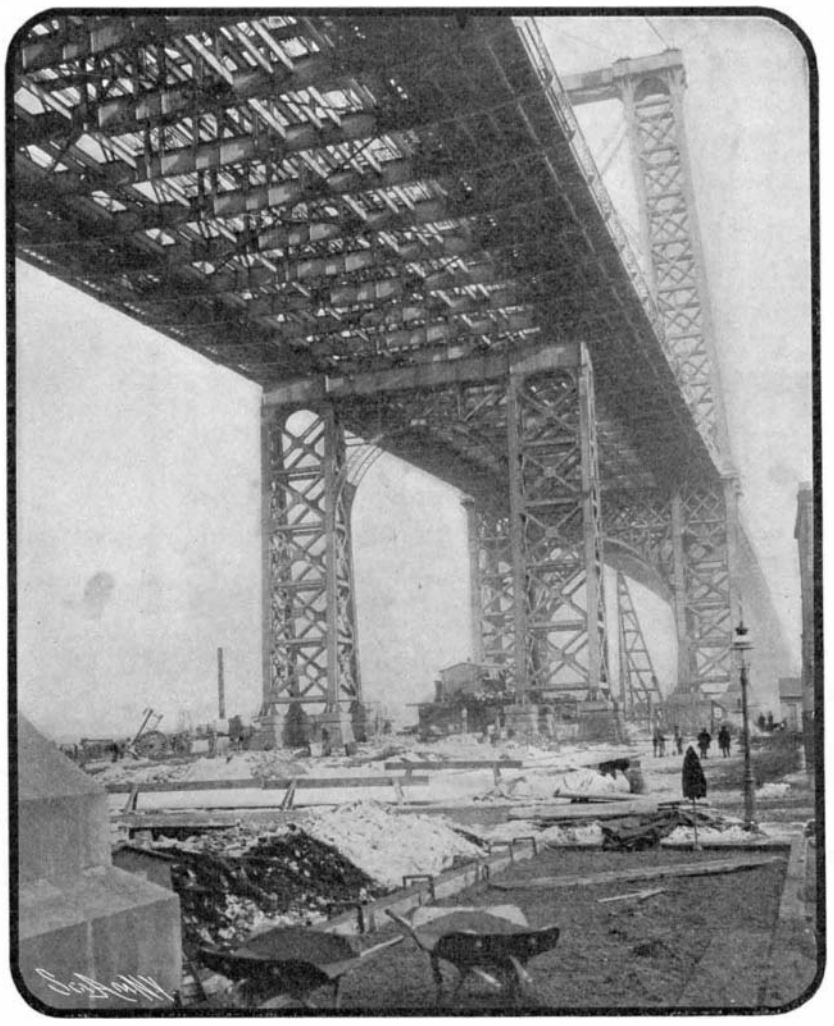
By a curious and fortunate coincidence, it has fallen to the lot of the gentleman who as Mayor of Brooklyn had the honor of opening the Brooklyn Bridge some twenty years ago to perform the same ceremony as Mayor of Greater New York for the new East River Bridge. The opening of the bridge, which took place on December 19, is an event of such importance that we have published contemporaneously with the present issue a special edition of the SUPPLEMENT, in which the progress of the bridge, from the sinking of the foundation to the completion of the structure, is described and illustrated in very full detail. At the same time, we present herewith an entirely new set of views of the completed structure, which have been taken specially for the present issue.

The new bridge is the widest, the strongest, if not the most handsome of the large suspension bridges of the world. Its entire length between terminals is 7,200 feet, the length of the main span, center to center of towers, is 1,600 feet, and the extreme width of the floor, from railing to railing of the outside sidewalks, is 118 feet. The next largest suspension bridge is the famous structure a mile and a half down the East River, which is 1,595½ feet between towers, 3,455 feet long between the anchorages, and 5,989 feet over all. It is in the great width of the floor and number of railway tracks carried that the new bridge exceeds the older structure. The present bridge is only 85 feet wide as against 118 feet, and carries only four tracks as against six. The new bridge, moreover, having the advantage of later improvements in the materials and methods of bridge building, will be a much stiffer and, relatively to the loads it will carry, a much stronger structure.

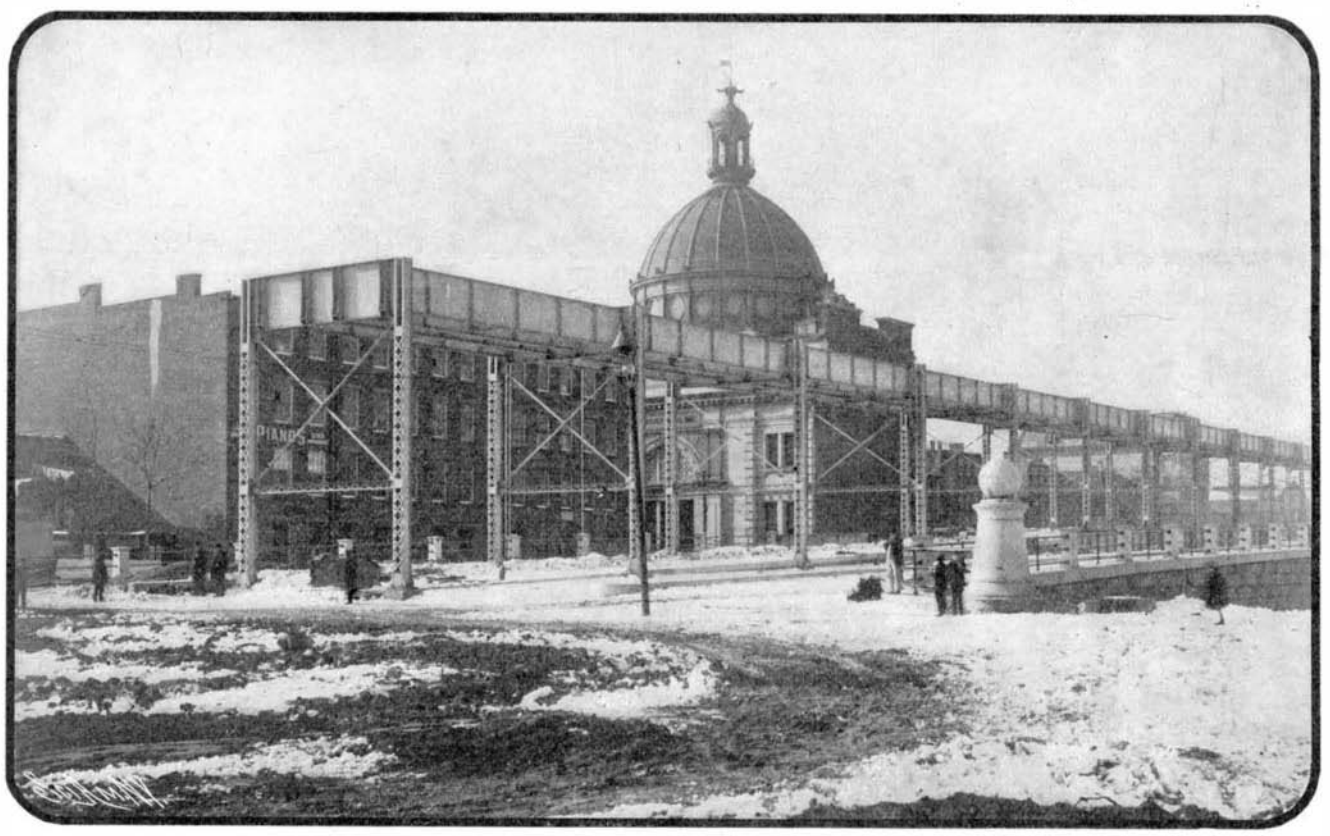
The foundations of the towers are timber and concrete caissons sunk in every case to bedrock. Above these are solid masonry piers, two for each tower, which are carried up to 23 feet above high water. Upon each pier, one at each corner, are laid four massive pedestal blocks of dressed granite to form the footings for the four legs of the towers. The towers consist of four corner posts or legs strongly braced together, the two groups of four on each pier being connected by massive transverse lattice trusses and diagonal ties. The tops of the towers are 335 feet above the river and 442 feet above the lowest foundation. The center span is carried upon four 18-inch steel wire cables which extend inshore 590 feet, where they are anchored to masonry anchorages. The inshore portion of the cables does not, as in the Brooklyn Bridge, carry the shore spans, but the latter are supported by the tower, the anchorages, and an intermediate pier.

A further point of difference from the Brooklyn Bridge is the method of stiffening the floor against deformation. In the Brooklyn Bridge this is accomplished by six shallow trusses assisted by a series of stiffening cables running from the panel points of the trusses to the tops of the towers—an unsatisfactory and unscientific arrangement, as the buckling of the trusses has more than once proved. In the new bridge stiffness is imparted by two continuous lattice trusses 40 feet in depth and of great solidity. At each panel point of the trusses a deep plate-girder floorbeam, reaching clear across the floor, is riveted to the trusses. The stiffening trusses are 67 feet apart, and to support the floorbeams at the center, vertical ties are carried up from two points on the floorbeams to connect with light transverse trusses which connect the stiffening trusses overhead.

The new bridge has no terminal stations, the purpose being to provide a broad, continuous thoroughfare over which trains, vehicles, and pedestrians may pass without any interruption, the bridge thus forming a part of the street system of Greater New York.



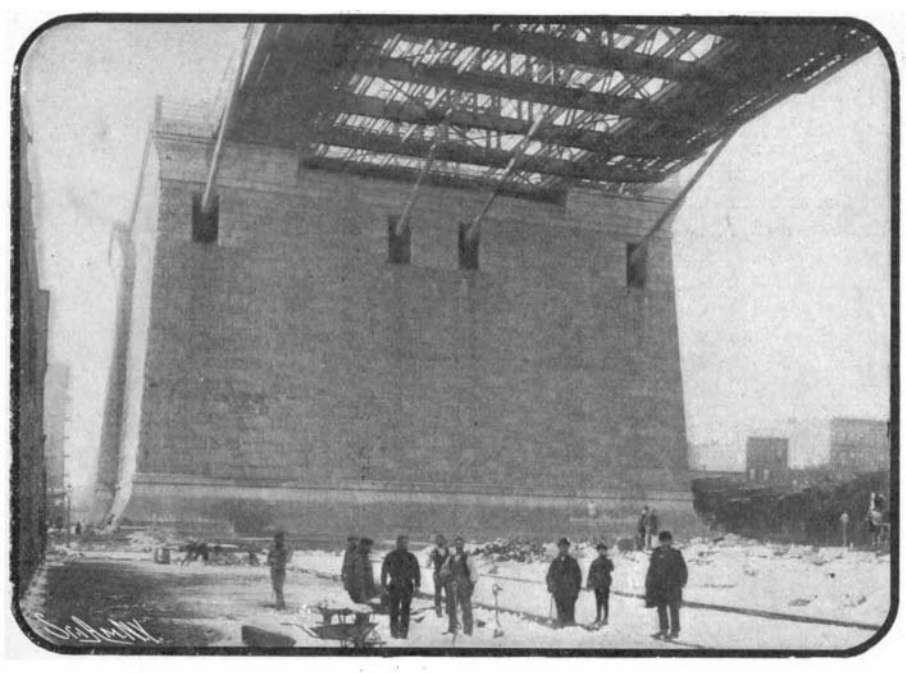
Pier Between Tower and Anchorage, Carrying Shore Span.



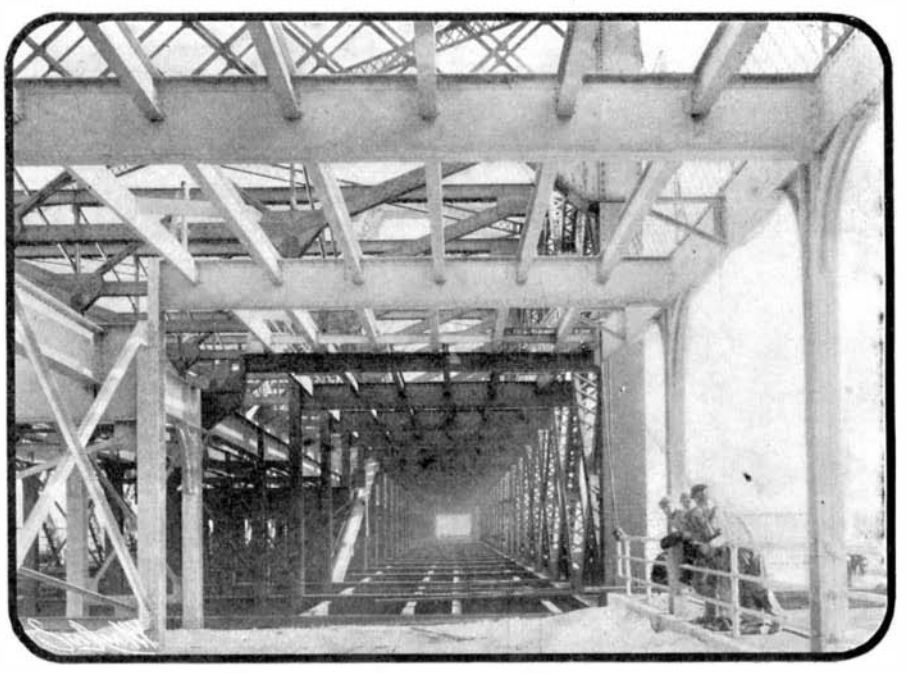
Entrance of Brooklyn Approach, Showing the Elevated Structure.

Sea Water for Street Sprinkling.

Although sea water is more effective in damping down dust on macadam roads than fresh water, in Hastings, where it has been used for street watering, objection has been taken to it on the ground that it injures the varnish on carriages, while the tradesmen complain that the salt-laden dust from the streets affects articles of food exposed for sale, thereby endangering public health.



The Brooklyn Anchorage.



The Roadway for Two of the Six Railway Tracks.

THE OPENING OF THE NEW EAST RIVER BRIDGE.