passing through pipe spacers, were placed diametrically across the inside of the inner ring at right angles to each other. There was a lattice bracing of single 2 by 2 by ¼-in. channels between the curved channels. The upper flanges of the curved channels were bored every 3 ft. to receive the bolts for the nailing strips. Planks, 2 in thick and 6 ft. long, were nailed on the curved channels, making a solid floor of this width which cleared the inside of the wall by 6 in., and was very rigid and satisfactory. A floor of boards, 2 ft. wide, ran across one pair of diametrical channels, and on this was stored wheel-barrows, and other tools when not in use. The uprights for this stage were 4 by 4-in. spruce posts. Ledges, composed of two 1 by 6-in. boards, were nailed on each pair of uprights, and the 8-in. channels rested on these. The outside posts went down vertically to the point where the wall commenced to flare in, and there they also bent toward the centre and rested on the bottom close

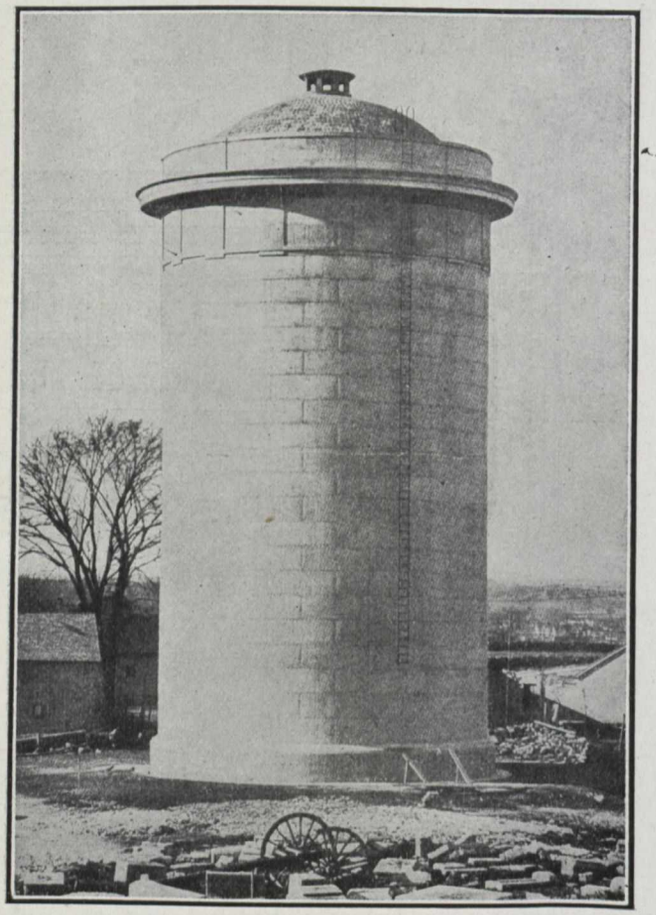

Fig. 2.—Reinforced Concrete Stand-Pipe at Westerly, R.I.

to the wall. The bottoms were braced apart by horizontal, radial struts, and the inside posts were all diagonally braced in radial planes down to these struts. All the bracing was of 1-in. spruce boards, 6 in. wide. The posts, in 16-ft. lengths, were kept ahead of the stage, and a 4 by 6-in. cross-head was put across the top of each pair, the inner end at the inner posts, and the other end projecting 2 ft. beyond the outer posts. This cross-head had a wire hook half way between the posts, and there was a corresponding hook at the middle of a 4 by 4-in. piece parallel to the ledges, and wedged in between the 8-in. channels radially.

When the stage was to be raised, eight 2,000-lb. differential chain falls were hooked into these loops, and, with two men on each, the stage was raised in a few moments, the whole floor moving as a unit. When the proper height was reached, new ledges were put on, and bracing below if necessary, and the stage was ready to use. The concrete, hoisted in a bucket, was dumped into a hopper hung on the face of the construction tower about 3 ft. above the stage; a platform 6 ft. wide was laid down between the stage and the tower, over the top of the wall. The wheel-barrows received their load from a gate in the bottom of the hopper, and were wheeled around and dumped directly into the forms, the stage during the pouring being flush with the top of the form which was being filled.

The forms for the outside of the base were of wood with 2 by 8-in. horizontal ribs and ⅞-in. vertical laggings. These forms, and also the soft pine moulding forms, were made in a local lumber yard. The forms for the inside of the base were made at the site, and were in short chords instead of arcs.

Steel forms were used successfully for all plain wall. They were made in panels about 3 ft. deep, and 8 ft. long. The exact depth was one-twentieth of the distance from the top of the moulding at the base to the under side of the triglyphs. Each panel was of ⅛-in. plate with 1½ by 1½ by ⅛-in. angles riveted on the edge, the back of the angle being toward the edge of the plate. They also had two vertical stiffener angles. The angles on the edge were bored to receive the bolts which held the panels together and kept one set in place on top of the other. The panels were of such a size that they could be handled easily by two men, and two complete sets were used.

Pieces of 2-in. plank cut radially were bolted under the top flange of the twentieth form, and supported wooden forms for the lower ends of the triglyphs and the fillet. Both steel forms were set up on the fillet, with spacers between the panels to spread them to the outside diameter of the triglyphs. Through holes bored in the steel forms nailing strips were bolted, and vertical lagging was nailed to these, to make boxes for the indentions between triglyphs. The pieces of plank which had supported the fillet forms were again bolted under the top flange of the forms, and supported wooden forms for the short section of walls between the top of the triglyphs and the bottom of the cornice.

The plans called for overflow holes, 12 in. wide and 3 in. deep, spaced 45° apart around the circumference, but as these openings provided the only opportunity to support the cornice forms, they were spaced 11¼° apart, and the extra ones were filled up afterward. One day's pouring was ended at the top of these openings, and flat concrete blocks were placed over them and incorporated in the wall, in order to obviate the difficulty of removing forms from such small openings. Pieces of 4 by 4-in., 6 ft. long, were cut down to 3 by 4 in. for 18 in. at one end, and two were put in each overflow hole, making as great an angle as possible with each other. The outer ends of these brackets were braced down to the fillet 6 ft. below. On these 64 brackets the cornice forms were built, partly of lumber sawed in the yard and partly of plaster of Paris on metal lath which was used so that the concrete would not be damaged by the swelling of the wood when wet. The plaster was composed of equal parts of plaster of Paris and Limoid. It was placed and shaped by trowel and template, and smoothed with a 4-in. paint brush and water while still green.

The outside base forms, with boxes built inside to give the proper shape, were used in building the parapet. The inside steel forms were used from the top of the base to the top of the parapet, spreaders being put between the panels above the dome seat. For carrying up the centre, short vertical planks were bolted into four sockets inside the wall. These were set at the same height and equally spaced. To the tops of these planks two wires were fastened so as to stretch diametrically across the tank.