

Fig. 10.—Methods of Laying Tracks on Bridge Floor.

could not start the load or when the grade was too steep, the hoisting engine, which was on skids, was snubbed to a telephone pole ahead of the load and a wire cable attached to the load; then with both the truck and hoisting engine no difficulty was experienced in moving the load. In this manner a grade as high as  $7\frac{1}{2}$  per cent. was successfully negotiated. On flat grades and generally on light grades the motor truck had no difficulty in "walking right along" with its 40-ton load. It took, on an average, a day to transport one of those big girders to the site, the many corners to turn and the numerous heavy grades to go up and down occupying most of the time. Every time the sleighs stopped for any length of time the runners would freeze tight, necessitating the use of jacks to get started again.

The erection of the small steel was mostly done by means of a hand derrick and gin pole. The 100-ft. girders were erected in the following

manner: The girder was laid down flat and hauled, by means of two gallows frames, into position where it was supported, upon its side, on a platform. The girder was then lifted up till it was standing vertical, and then, after taking away the platform, was lowered into place. Two hoisting engines were used in this work, one for each gallows frame.

After the steel was in place and riveted up, the concrete floor, consisting of a 7-in. reinforced concrete slab, was laid. The reinforcing used was, one layer No. 23 triangle mesh and  $7/16$ -in. square twisted rods at 8-in. centres. The sidewalk slab is 4 in. thick with one layer of No. 23 triangle mesh reinforcing. The floor beams with the exception of the cantilevered portions and the sidewalk stringers are encased in concrete. 1:2:4 concrete was used in this work.

The concrete floor slab was waterproofed in the following manner: (1) The surface was thoroughly cleaned by means of a hose and



Fig. 11.—Method of Reinforcing Sidewalk Slab.

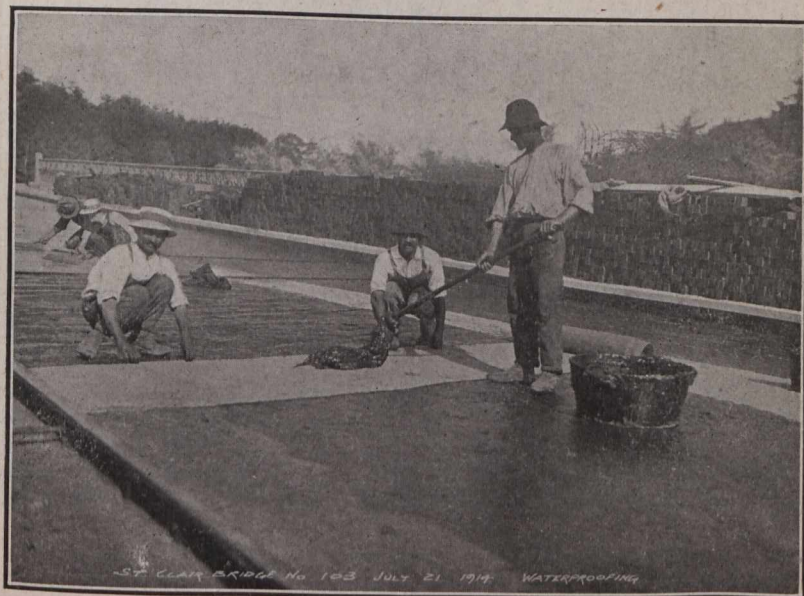


Fig. 12.—Illustrating the Three Stages of Waterproofing.

brooms. (2) The surface was well swabbed over with hot asphalt. (3) Three layers of 8-oz. burlap were well swabbed on with hot asphalt, the burlap being laid shingle fashion. (4) One-inch asphalt mastic was spread on top of the burlap. At the expansion joints the burlap was doubled upon itself to allow for expansion. On top of the asphalt mastic was spread one inch of sand and cement mixed dry on which base a four-inch creosoted wood block pavement was laid.

The rails were fastened to creosoted wood blocks 12 in. x 12 in. x 4 in. laid 3 ft. centres. The method of fastening was by means of  $4\frac{7}{8}$ -in. screw spikes, screwed into holes that had been bored into the blocks before creosoting. These blocks rest in a trough provided in the concrete floor which, after the rails had been properly lined up, was filled in with concrete.

The paint used was as follows: 1 shop coat red lead mixed with 22 lbs. red lead (94% pure) to one gallon pure raw linseed oil. 1st, field