

By A. C. Polk.

* Paper to be presented to American Society of Civil Engineers, Oct. 16th, 1912, and published in the August proceedings of the society.

Fastenings.—The rail was fastened to the tie by special lugs and T-headed bolts with square shoulders next to the head. These bolts could be inserted from the top, if so desired, being dropped through the rectangular hole punched in the tie, turned, and then raised until the square shoulder fitted up into the rectangular hole, which prevented it from turning while running down the nuts. The lug had a projection on its under side which also fitted into the rectangular

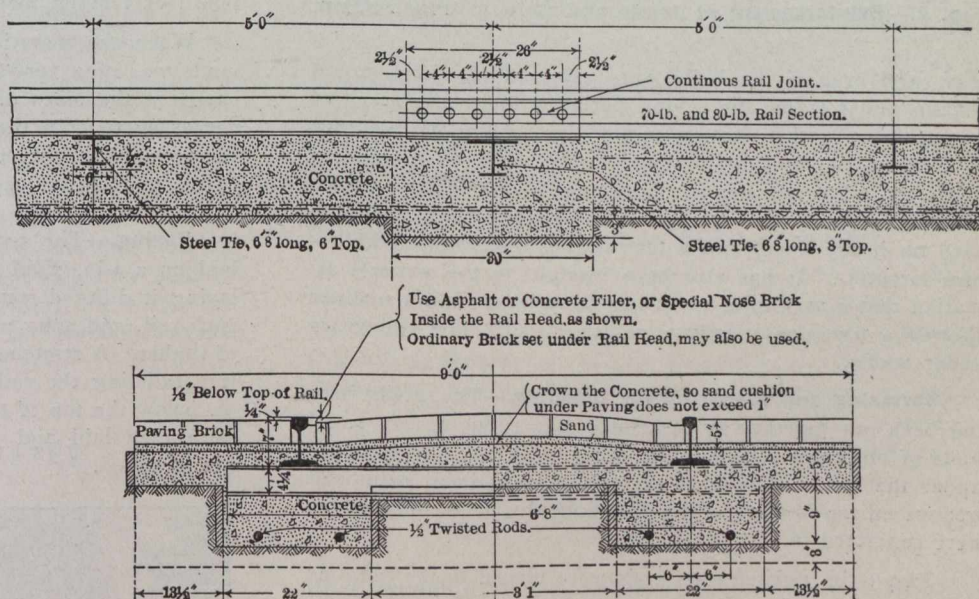


Fig. 1.—Section of Concrete Steel Tie Track Construction.

First, those parts of the rail with which the joint came in contact were carefully cleaned and polished with files and emery cloth until all scale, rust, and particles of dirt were removed and the surface was bright. Then those parts of the joints which came in contact with the rail received the same treatment. All contact parts were then greased and the joint put on. The tightening of the bolts was started from the centre, working out toward the ends, pulling up a bolt on one side of the centre and then the corresponding bolt on the other side, and when the bolts were