defects in the forms. Care must be taken that the surfaces so treated shall be thoroughly wet before the grout is applied."

The steel work of the bridge consists of four rows of

The expansion joints are so arranged as to be invisible from the finished bridge floor, the paving and waterproofing being carried right over the joint. The expansion joint in the bridge floor is constructed of two



Fig. 6.—Temporary Timber Trestle to Carry Car Line During Construction.

girders, the centre span 100 ft. and the two outer spans 40 ft.; 20-in. I-beams at 65 lbs. spaced 3 ft. centres rest directly on top of these girders. Every fifth beam cantilevers out to carry the fence

and sidewalk stringers. An ornamental iron fence extends from end to end of wing walls on each side of the bridge. The girders are the common plate and angle type; the flange of the inside 100-ft. girder is made up of 2 angles 8 in. x 8 in. $x \frac{34}{4}$ in. and 4 cover plates 19 in. $x \frac{34}{4}$ in. which with one-eighth of the web gives a net flange area of 76.88

This particular

girder weighs 40 tons. Cross frames composed of angles are placed about every 18 feet centres between the girders. No horizontal diagonal bracing was used, the great width of the bridge and also the solid type of reinforced concrete floor used making

this type of bracing unnecessary. The trolley poles are placed in the centre of

the roadway and are carried in an 8-in. diam. iron pipe socket about 3 ft. deep,

sq. in.

vertical web plates, cut on top to the curve of the roadway and fastened at the base by means of an angle to the floor beams. To the top of each of these plates is riveted



which is supported on beams between the floor beams. This construction permits the easy removal of the trolley pole when necessary, the pole being merely wedged in the socket and a cast iron wheel guard placed around the base. an angle also bent to the curve of the roadway, a cover plate riveted to one of these angles and free to slide over the top of the other completes the expansion joint. On account of the skew of the bridge and the fact that the