

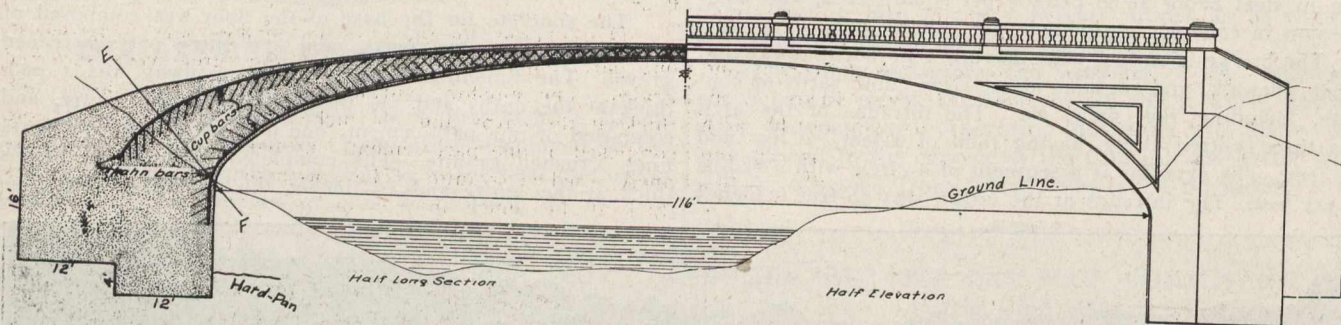
thrown out and wheeled away. This proved a very costly method, as much time and labor might have been saved by rigging up a derrick.

The creek, over which the bridge was built, was very low at this point at this time of the year. This left exposed a good gravel bed, with hard clay below, so it was not necessary to drive piles to support the falsework. Each bent in the falsework was made up of five posts, mostly hickory and ash, of about 9 inches minimum diameter. The spacing of

crete and blocked up and spaced so as to be perfectly rigid. The blocking was taken out as the concreting advanced.

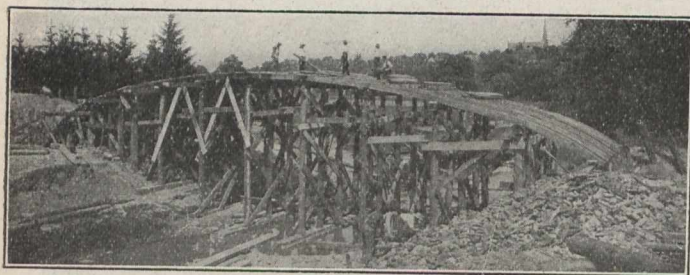
For convenience in stripping the forms and in order to get a smooth surface the forms were well oiled before concreting commenced. Lehigh cement was used, the tests given by the company and the pat tests performed on the work all proving satisfactory.

Two mixers were used, a Smith and a Chicago Cube, both giving very satisfactory results. The concrete was



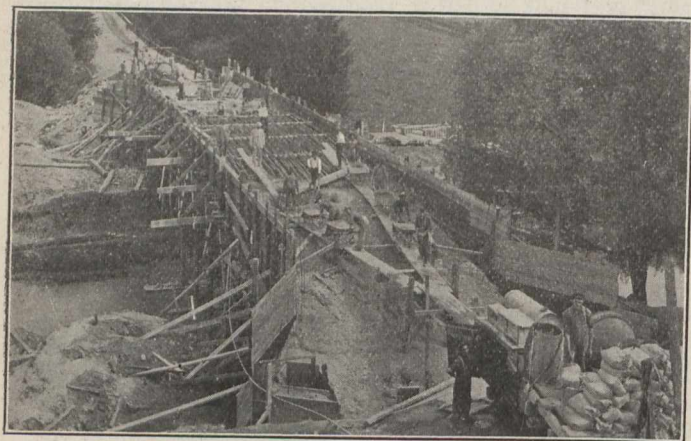
the bents was as follows: 1 foot, 8 feet and 16 feet from the faces of the abutments, and the rest 10 feet 6 inch centres. The caps for these posts were allowed to project out for bracing for the sidewalls. Wedges, for adjusting the grade and for convenience in striking the forms, were placed between the caps and plates above them. The joists, which were cut to fit the intrados of the arch, were made from

brought up evenly on either side of the arch in order to prevent any distortion of the forms. At the end of a day's work the concrete was left as nearly as possible radial to the intrados, and before beginning concreting on the fol-



Falsework in Position.

3 x 12-inch white pine plank. These joists were 27-inch centres, and were braced at the middle. The end joists were particularly well braced to prevent all lateral movement. The lagging, for arch and sidewalls, was 2-inch pine, planed on one side and fitted with close joints. The side walls and spandrel walls were braced from the ground where possible. Otherwise they were braced against the



Forms and Reinforcement in Place.

projecting caps on the outside and wired to the reinforcing inside.

The reinforcing, which was of the Kahn system, consisted of 1-inch longitudinal rods, spaced 9-inch centres, and $\frac{1}{2}$ -inch horizontal cup rods, 4-foot centres, and was placed 3 inches from the intrados and from the extrados of the arch. The reinforcing, in the spandrel and wing walls, consisted of $\frac{1}{2}$ -inch vertical and horizontal cup rods, spaced 18-inch centres. It was put in well in advance of the con-

lowing day the forms and old concrete were well cleaned and washed and the concrete sprinkled with cement. The concrete was run fairly wet in order to form a good bond with the reinforcing and to insure a good surface on the concrete.

