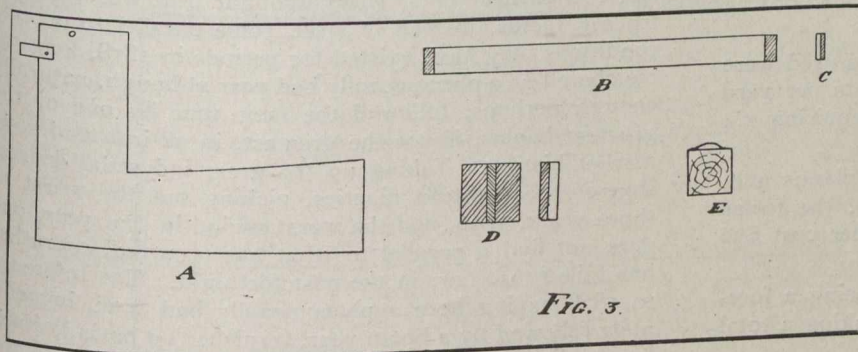


pulled out easily after the concrete has set. A small piece of steel is riveted on the side 12 in. from the bottom, or at just the height of the curb. In this way the plate stays in place, as shown by *A* of Fig. 3. One of these is placed every 8 ft. in the length of the curb.

The next step must be made with planks which must be made in a special manner and cut to fit. These are 2-in. dressed lumber with one edge bevelled, as shown in *B* and *C* of Fig. 3. These planks are in lengths of 7 ft. 11 in., and the ends of each plank are cut half through 3 in. from the end and this small piece cut out. *D* of



Details of Expansion Joint Forms.

Fig. 3 is the connecting piece between the plank. It is cut into 7-in. lengths, as shown. The boards forming the front of the curb are now placed on the steel forms, being held apart by means of blocks 6 in. square, as shown in *E* of Fig. 3. The ends of the plank are kept just an inch apart to allow the part *D* to fit in. This is put in place and makes the front form solid by the joint. Clamps are now put on and the back and front forms are clamped together, the wooden block only allowing them to be clamped to their proper distance—6 in. This is shown in Fig. 4.

The form for the edge of the gutter must be put in place. This is made of plank 6 in. wide and cut to any suitable length. The plank is placed against the gutter part of the steel form with the top of the plank just level with the top of the gutter part of the steel form. Earth is then filled in to keep the plank in place. The forms are now complete and ready for the concrete, as shown in *B* of Fig. 4.

**Mixing.**—As one crew is mixing the concrete and placing the forms, another can be sprinkling the old work, backfilling, etc.

The mixing is done with a small hand-turned mixer capable of mixing 1/10 yard of concrete in one mix. This answered the purpose very well, mixing quite fast enough to keep a small crew of men busy. The mixer should be on wheels, to be wheeled easily from one part of the work to another, so that, while one man turns the machine, two shovel into the mixer and one man with a wheelbarrow may easily handle all the concrete being mixed.

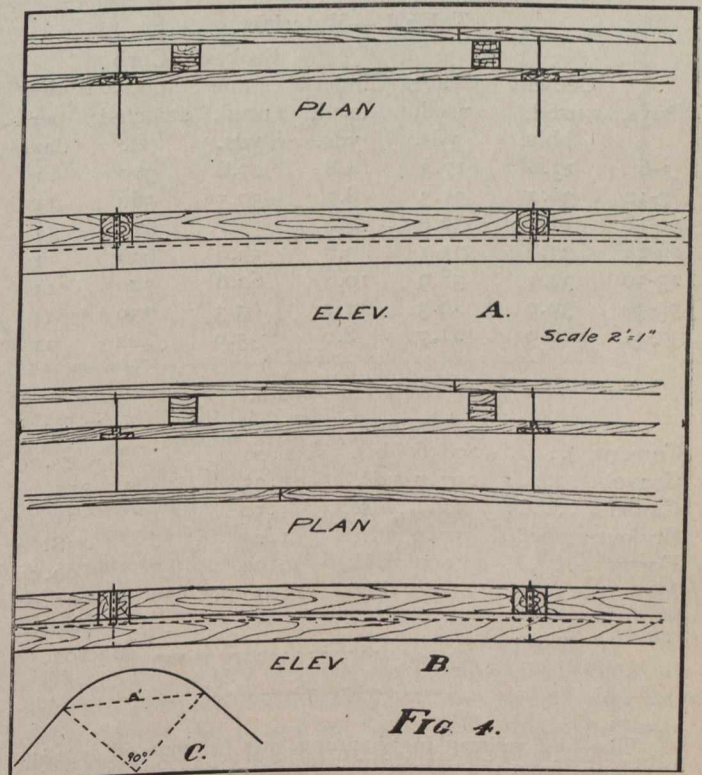
**Corners.**—Taking the combined curb and gutter around the corners should be one of the most carefully done parts of the work, as an even, symmetrical corner adds more to the general appearance of the work than the ordinary workman would imagine. The general public is much more liable to notice a small error in the corner turn than a large one in the block length of the curb and gutter. A design of the turn is given in *C* of Fig. 4. The form for the back of the curb is the usual plank used on the block cut to a length of 8 ft. The steel forms are put in at the ends of this plank and the ordinary 7-ft. 11-in. plank put in to make the tangent to the curve. The form

for the front of the curb on the turn is made of some pliable lumber, 1/2-in. thick, and is bent to the required circle. If necessary, it is braced into place until the concrete has taken its initial set. The forms are then taken off and the concrete is patched up at any place that the forms have not left in good shape.

**Finishing.**—In the finishing up of the work the trowel is used very sparingly on the concrete, the work being floated with wooden floaters and only where it is necessary to round the edges is the former used. It has been found by experience that a steel trowel tends to bring the cement

in the mixture to the top, thus making a very rich mix on the surface, which, with age, will make hair cracks and cause checking. After the forms are taken off any rough parts in the concrete may be gone over with a concrete brick mixed in the proportion of 1:2, which fills up the small voids, takes off any rough edges and gives a general finished appearance to the work.

**Cost Data.**—The work in Fredericton was handled by one foreman with a crew of 11 men, arranged as follows: One man turned the mixer and dumped it; two men placed the cement and gravel in the mixer while one man wheeled the concrete from the mixer to the forms, thus making a total of 4 men required to do the mixing. One man placed and tamped the concrete in the forms, putting in the top dressing as the concrete was placed; two men were required to place the forms, leaving them ready for the placing of the concrete, while two more



Details of Forms.

dug the trench and placed the broken rock and cinders. One experienced man was needed to do the finishing and floating while the rest of the workmen were common laborers without much knowledge of concrete.