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Metal plates in sidewalks seem to be good practice, but marks on curbs are generally condemned as very poor practice.

The number of monuments or marks varies from one at the street-center intersection to two at each corner, one offset in each street. From the great number of the smaller cities which use street-center monuments, this would seem to be good practice, in spite of the danger of molestation from street construction work, and the necessity of opening the street surface to find the monument, unless some expensive type of boxed monument is used. Many complaints of disturbance of such monuments, however, were received.

Half-Circle Corrugated Culverts for Street Drainage

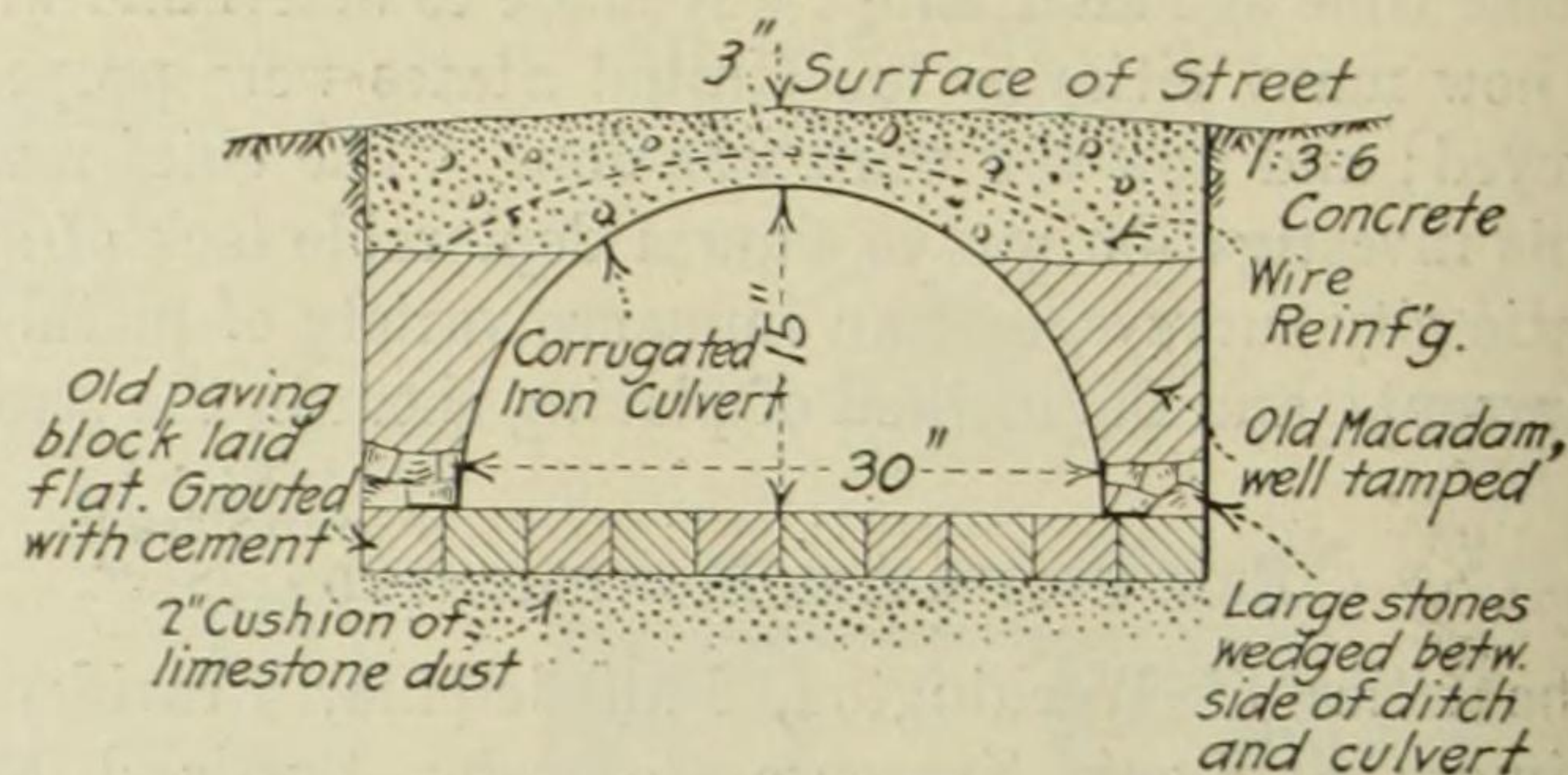
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One of the most annoying problems of the average small city without proper storm sewers is taking care of the surface water at street intersections.

In Carlisle, Penn., at present practically all culverts across intersections are constructed of iron plates, $\frac{3}{4}$ in. thick, laid on old flagstone curbs, forming a conduit without a smooth flow line, having nothing more than a dirt floor (see Fig. 1). The plates are continually broken by traffic, entailing a repair cost of \$2.50 per plate. The first cost of the plate culverts on a 60-ft. street is approximately \$200.

The new corrugated culvert shown in detail in Fig. 3, is made of half-circle sections of corrugated culvert pipe with a bottom of bricks laid flat. The bricks were second-

Had there been sufficient covering over the culvert, concrete would not have been used, but as we only had about 3 in. of top covering, the crushed stone would have been



Cross-Section

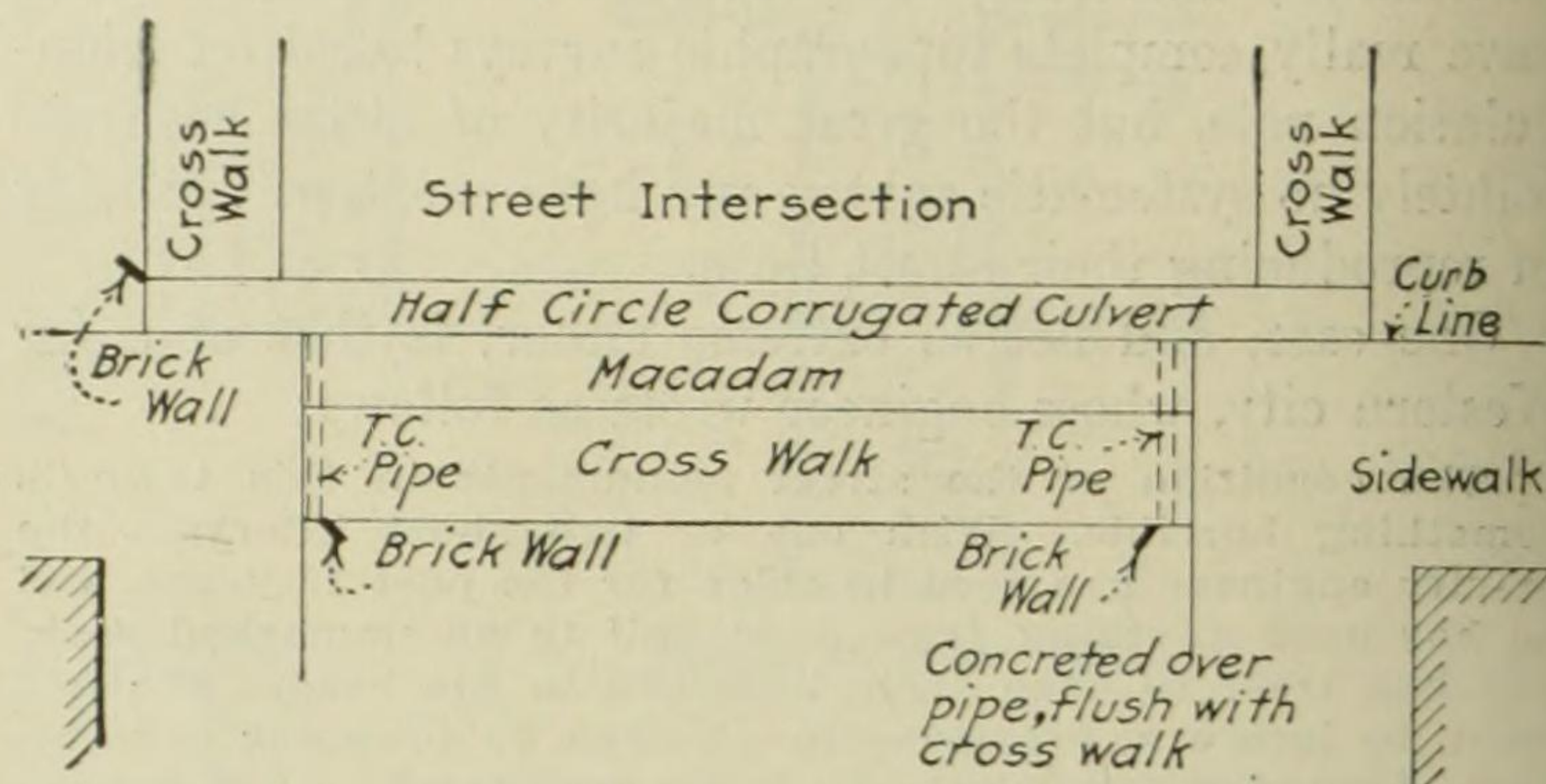


FIG. 3. DETAILS OF HALF-CIRCLE CORRUGATED CULVERTS, CARLISLE, PENN.

kicked loose by horses' hoofs, and would continually require patching. Light reinforcing wire was also placed in the concrete over the culvert to bond the thin concrete on top to the heavier mass on either side.

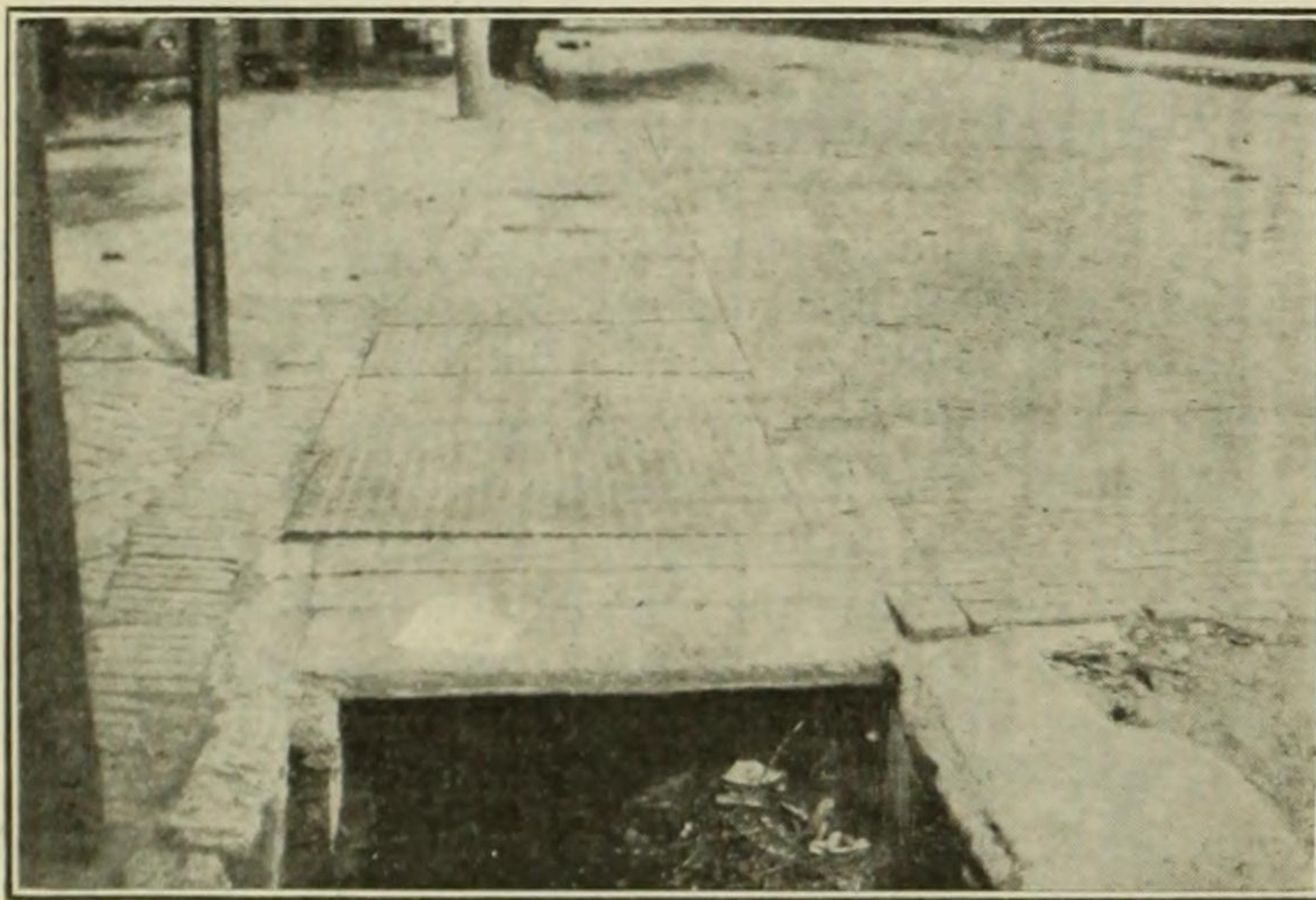


FIG. 1. OLD-STYLE CAST-IRON PLATE CULVERT

hand, having been previously used for brick gutters on streets that have been paved.

The ditch was excavated roughly to grade, and limestone screenings spread to proper grade, a brick gutter was then laid and rammed by hand hammer (using a 2x10-in. plank on the bricks), and then grouted with cement and sand, mixed 1:1 $\frac{1}{2}$. The half-circle was then placed and overlapped. Large stones were then laid between the culvert and the side of the ditch, so that there could be no spreading of the culvert pipe. These were well rammed, and a layer of macadam was then placed over the large stone for a depth of about 6 in., and well rammed, then concreted to the surface of the street.

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FIG. 2. NEW HALF-CIRCLE CORRUGATED CULVERT

Not only is a much neater and satisfactory job obtained, but the cost is less than half that of the old-style culverts.

Recent Cast-Iron Bridge Decorations

Two recent interesting examples of decorative treatment of girder bridges in a city can be seen in Cleveland, Ohio. The Pennsylvania Co., at a new bridge crossing at Euclid Ave. and 55th St., Fig. 1, has incased the steel columns supporting the girders in an ornamental cast-iron housing. There are a few other decorative details about this bridge, as for instance a cast-iron coping

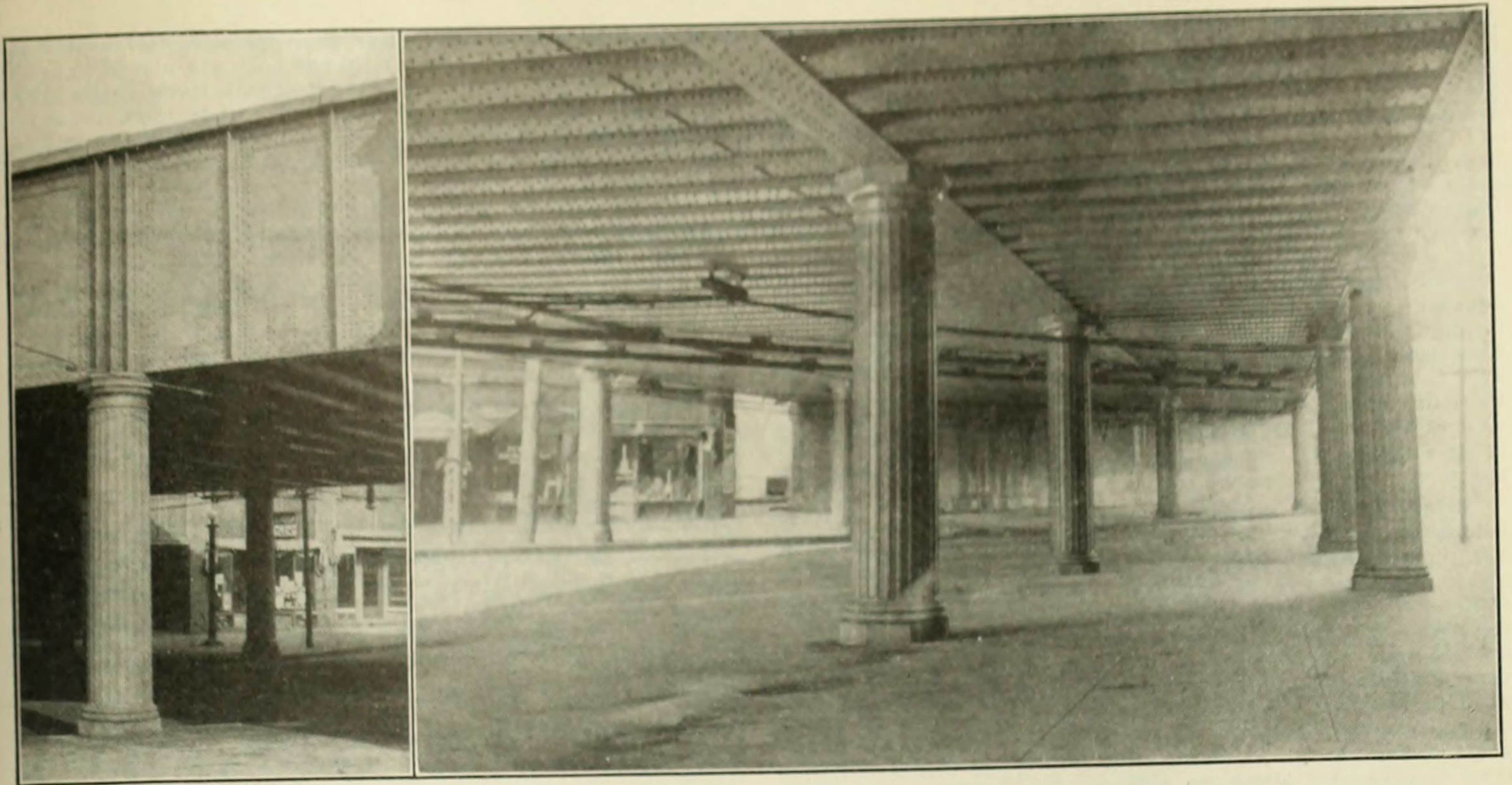


FIG. 1. CAST-IRON ORNAMENTAL CASING OF STEEL BRIDGE COLUMNS, EUCLID AVE. CROSSING, CLEVELAND, PENNSYLVANIA Co.

on the top flanges of the girders. The bridge is painted a concrete gray.

The Lake Ave. bridge, on the Lake Shore & Michigan Southern Ry. at the entrance of Edgewater Park, is a far more elaborate attempt at cast-iron incasement. Fig. 2 shows this. The original proposal was that the whole soffit of the structure should also be incased, but the objections to this course were substantial enough to bring

about the simplified proposal which was carried into execution. A remarkable feature of this work is its enormous cost, amounting to about \$10,000, which, while made upon the requirement of the city, had to be paid 65% by the railway company and 35% by the city. Undoubtedly the similarity of the result to painted stonework in appearance will prove pleasing to a large number of people who see the bridge.

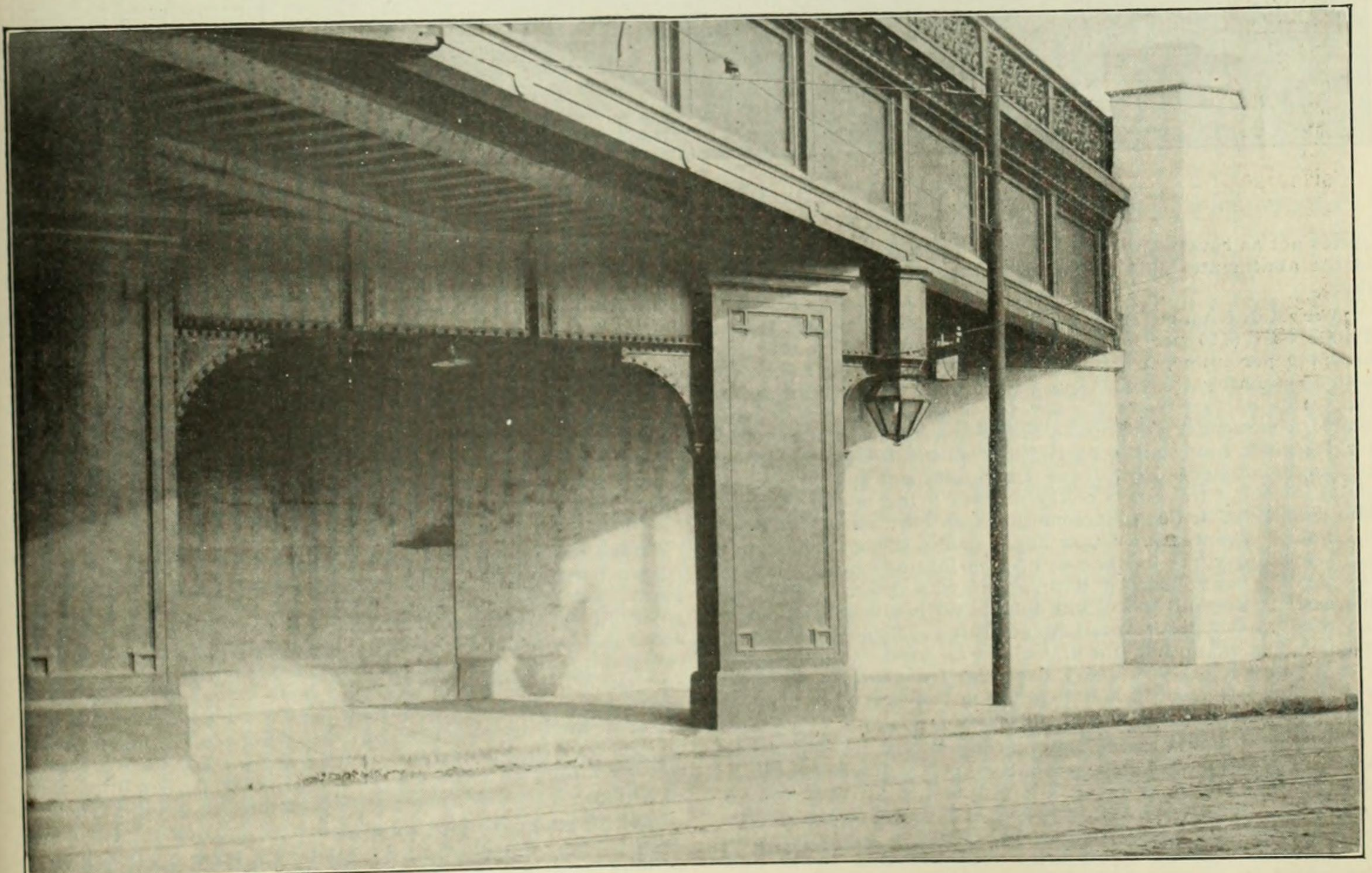


FIG. 2. LAKE AVE. BRIDGE OF L. S. & M. S. RY., CLEVELAND; FULL CAST-IRON INCASEMENT