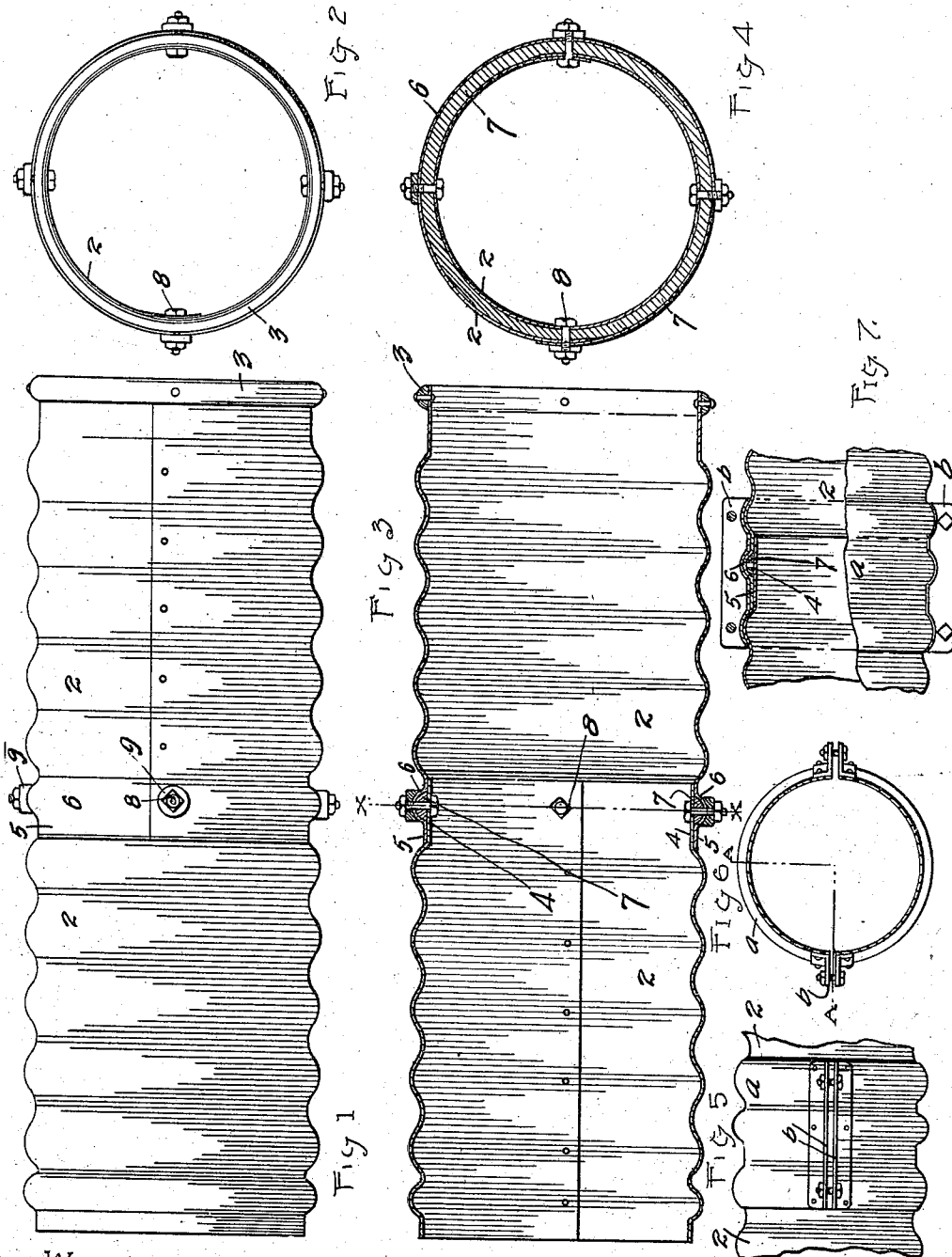


F. J. FELDT.
CORRUGATED CULVERT.
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977,945.

Patented Dec. 6, 1910.



WITNESSES
Miss Fuller
Helen Hudson.

INVENTOR
Ferdinand J. Feldt
BY V. T. Leff
ATTY.

UNITED STATES PATENT OFFICE.

FERDINAND J. FELDT, OF PEORIA, ILLINOIS.

CORRUGATED CULVERT.

977,945.

Specification of Letters Patent.

Patented Dec. 6, 1910.

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To all whom it may concern:

Be it known that I, FERDINAND J. FELDT, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Corrugated Culverts, of which the following is a specification.

My invention relates to sheet metal culvert uniting means.

The object of my invention is to provide a stable joint effective against lateral pressure to prevent rupture of the joints which results in sagging and the forming of pockets or depressions, in which water will stand and incidentally to stiffen the combined sections, so that they will not have to be propped and lined up when laid in the trench.

My invention consists in forming the culvert sections in a manner that their meeting ends unite in a stiff joint and applying a reinforcing ring against lateral pressure and locking means.

Referring to the drawings—Figure 1 is a plan view of culvert sections. Fig. 2 is an end view of the same. Fig. 3 is a sectional view. Fig. 4 is a cross sectional view on the line *x x* of Fig. 3. Fig. 5 is a side elevation of culvert sections, showing a clamp applied. Fig. 6, is a sectional view of a clamp. Fig. 7 is a sectional view of the same as at Fig. 5.

In the drawings, 2 are culvert sections; 3 is a guard ring adapted to be applied to exposed terminal ends of the complete culvert; 4 is a straight terminal end of one of the sections adapted to enter the adjacent sections; 5 is the terminal end of one section adapted to embrace end portion 4, and is formed straight with the exception that it is provided with the circumferential corrugation 6, adapted to reinforce the joint, and to form a seat for the $\frac{1}{2}$ round ring 7, which provides as a reinforcement as a stiffener and to provide a substantial support for the bolts 8, which are applied to unite the parts. The ring 7 is placed in position in seat 6, when the section is formed and hence is a permanent part thereof. The lower face of ring 7 is flat and lies in

the same plane with the lower surface of extension 5, and hence offers no obstruction to the entrance of extension 4.

In applying my invention, the ring 7, having been properly secured in place by being placed in seat 6, when the sections are being formed into cylindrical shape or before the end portion of the longitudinal cylinder seam is closed, the extension 4 is caused to enter extension 5, as best shown in Fig. 3; then the bolts 8 are inserted, the concaved washer 9 applied and the nuts screwed down to draw the parts together, the joint will be formed complete, stiff and susceptible for maintaining the assembled culvert sections in a horizontal alined relation that will not permit sagging when thrown in the trench and will withstand great lateral pressure, making the joint as strong as the main body of the sections.

a, are clamp sections adapted to be applied to unite long culvert sections made up of and joined in the manner previously described and are shaped to embrace at least one of the terminal corrugations of meeting sections as well as the intermediate ring seat corrugation; *b* are flanged plates adapted to be engaged by bolts to be drawn together to secure the clamp in place.

What I claim is—

1. In combination, culvert sections provided with intertelescoping meeting ends, the entering portion of one section formed straight and the receiving portion straight with a circumferential corrugation at a point intermediate its length, a perforated ring seated in the corrugation in the receiving end, and bolts and nuts for securing the parts together, substantially as shown.

2. In combination, culvert sections provided with intertelescoping meeting ends, the entering portion of one section formed straight and the receiving portion straight with a circumferential corrugation at a point intermediate its length, a perforated ring seated in the corrugation in the receiving end, concaved washers and bolts and nuts for securing the parts together, substantially as shown.

3. In combination with circumferentially

corrugated metal culvert sections, provided with intertelescoping straight ends, the receiving portion having a ring seat, of a perforated ring secured in the seat, concaved
5 washers, and bolts and nuts or the like for securing the parts together in the relation shown, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

FERDINAND J. FELDT.

Witnesses:

A. B. FINK,
W. V. TEFFT.