

J. ZELCH.  
 CORRUGATED METALLIC CULVERT.  
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919,997.

Patented Apr. 27, 1909.

Fig. 1.

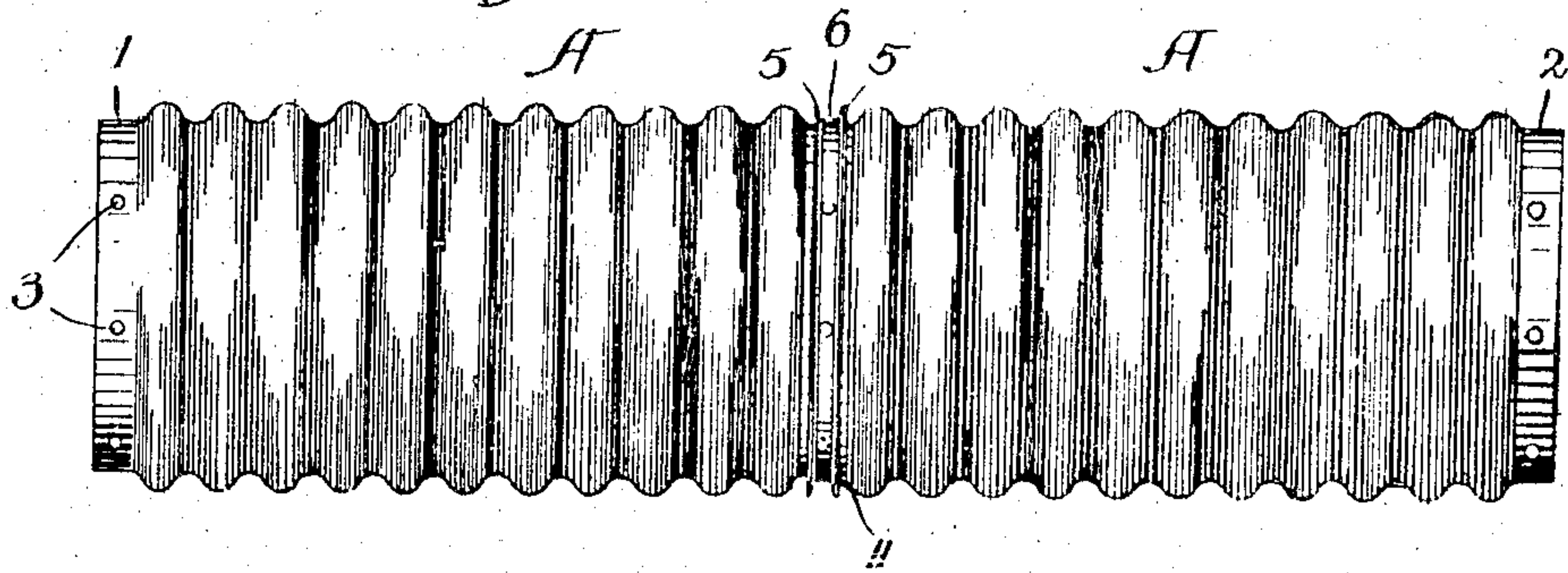


Fig. 2.

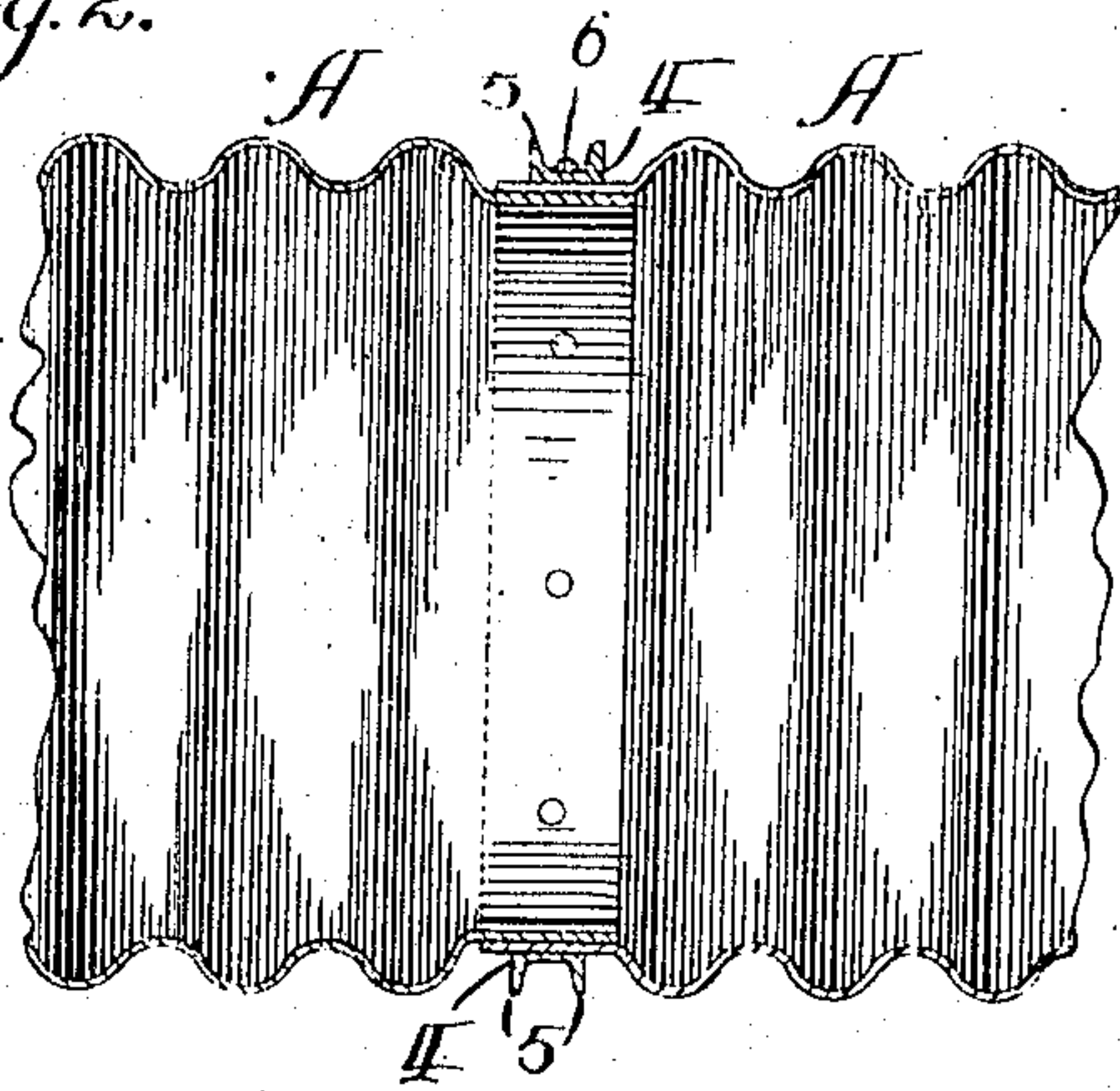
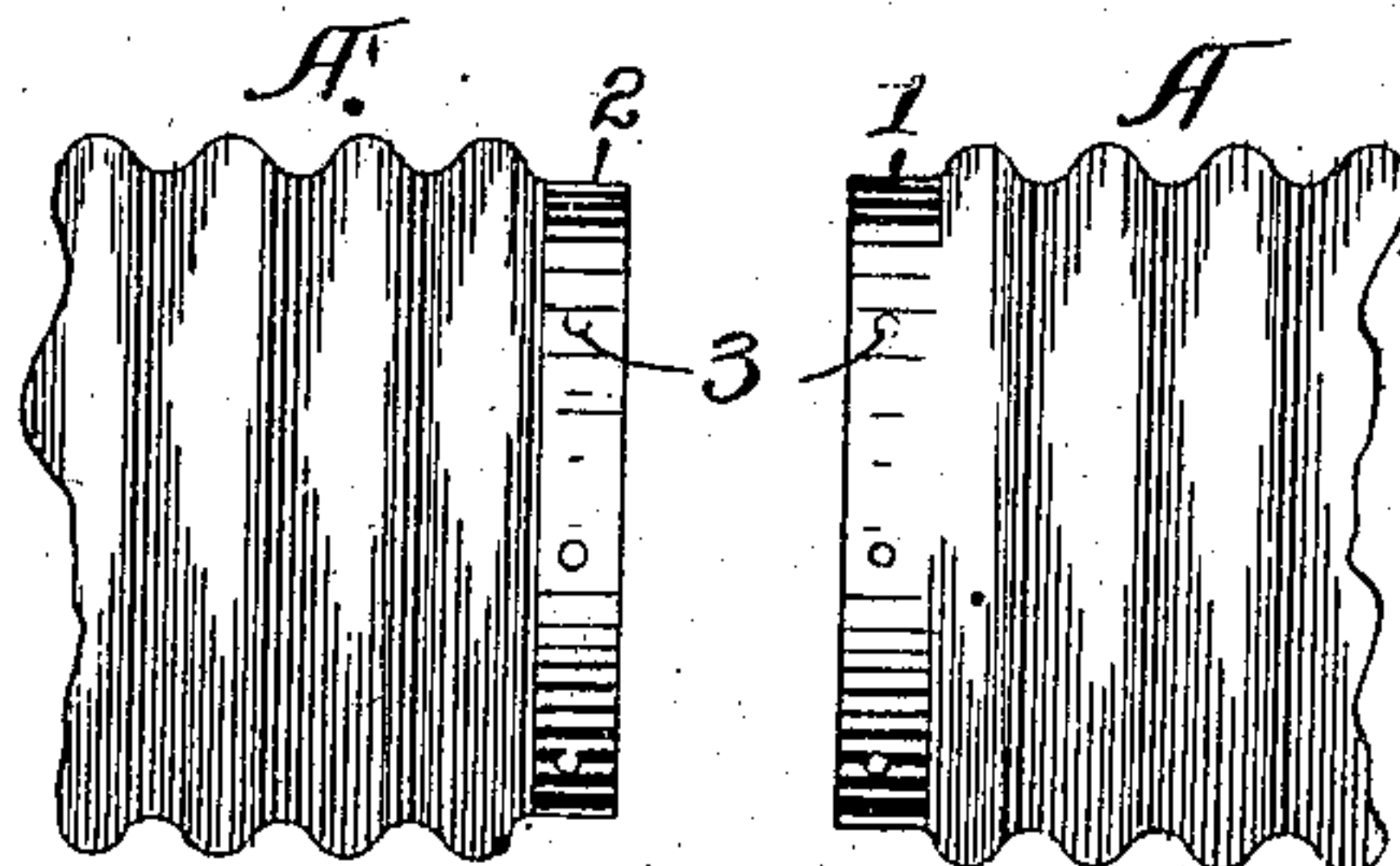


Fig. 3.



Witnesses:

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Inventor:

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 Attorney.



# UNITED STATES PATENT OFFICE.

JOHN ZELCH, OF ST. PAUL PARK, MINNESOTA.

## CORRUGATED METALLIC CULVERT.

No. 919,997.

Specification of Letters Patent.

Patented April 27, 1909.

Application filed February 27, 1908. Serial No. 417,993.

*To all whom it may concern:*

Be it known that J. JOHN ZELCH, a citizen of the United States, residing at St. Paul Park, in the county of Washington and State of Minnesota, have invented a new and useful Improvement in Corrugated Metallic Culverts, of which the following is a specification.

My invention relates to improvements in metal culverts of the class generally constructed of corrugated galvanized sheet iron.

Among the principal difficulties connected with the use of corrugated pipe for this purpose is the formation in the field of a strong, durable joint or coupling between the culvert sections without undue expense. To accomplish this efficiently, economically and simply is the object of my invention.

In the drawings, Figure 1 is a plan of two sections of my culvert coupled together. Fig. 2 is a central longitudinal section of Fig. 1 showing the joint or coupling. Fig. 3 is a detail showing the ends of two sections of my culvert ready to be fitted together.

The culvert sections A, which may be of any suitable length and diameter, are formed of corrugated metal, preferably galvanized sheet iron, the end corrugations of which are flattened to form smooth sleeves, 1 and 2. The sections A are slightly greater in diameter at one end than at the other, the difference being just sufficient to permit the smaller end 2 to slip into the larger sleeve 1 of the next section, and thus form a stove pipe joint. These uncorrugated ends or sleeves 1 and 2 are provided with bolt holes 3, which register with corresponding holes in the connecting section when they are fitted together. For the purpose of reinforcing the joint formed by two connecting sections and thus secure greater strength and durability in the coupling I use a collar 4 adapted to surround the telescoped portions of the sleeves. This collar is preferably formed of channel iron with the flanges 5 projecting outwardly, the intermediate rib being perforated by bolt holes, corresponding in position with those in the telescoped ends of the culvert sections.

The culvert sections A and collars 4 may

be finished at the factory and when taken into the field to be placed in position, it is only necessary to adjust the collar around the sleeve 1 on one of the sections and slip the smaller sleeve 2 of the adjoining section into place, when the bolts 6 will pass into the perforations 3 and through the collar and connecting ends of the culvert. When thus connected and properly adjusted a simple and efficient culvert is secured.

Having described my invention, what I claim as new and desire to protect by Letters Patent, is:

1. A culvert comprising a plurality of sections, each having a corrugated central portion and smooth ends adapted to form a stove pipe joint, an outwardly flanged collar formed in one piece to surround said ends when fitted together, said ends and collar being perforated to receive bolts, and bolts adapted to connect the collar with the adjacent ends of the sections after the latter have been fitted together.

2. A culvert comprising corrugated sections each having smooth ends, one of which is slightly greater in diameter than the other, whereby the adjacent sections may be fitted together, in combination with an outwardly flanged collar made of a single band adapted to surround and reinforce the joint formed by thus fitting the ends together and adjustable only at the time of forming said joint.

3. A culvert comprising a plurality of sections, having a corrugated central portion and smooth ends, one of greater diameter than the other, the smaller end of a section being adapted to fit into the larger end of the adjoining section and a collar formed with a plurality of outwardly projecting flanges to surround said ends when fitted together.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN ZELCH.

Witnesses:

N. H. WILLIAMS,  
ANNA COLLINS.