

J. H. SCHLAPFLY.
 CULVERT.
 APPLICATION FILED NOV. 8, 1911.

1,016,581.

Patented Feb. 6, 1912.

Fig. 1.

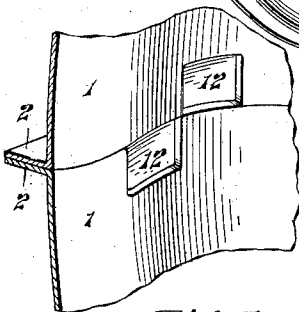
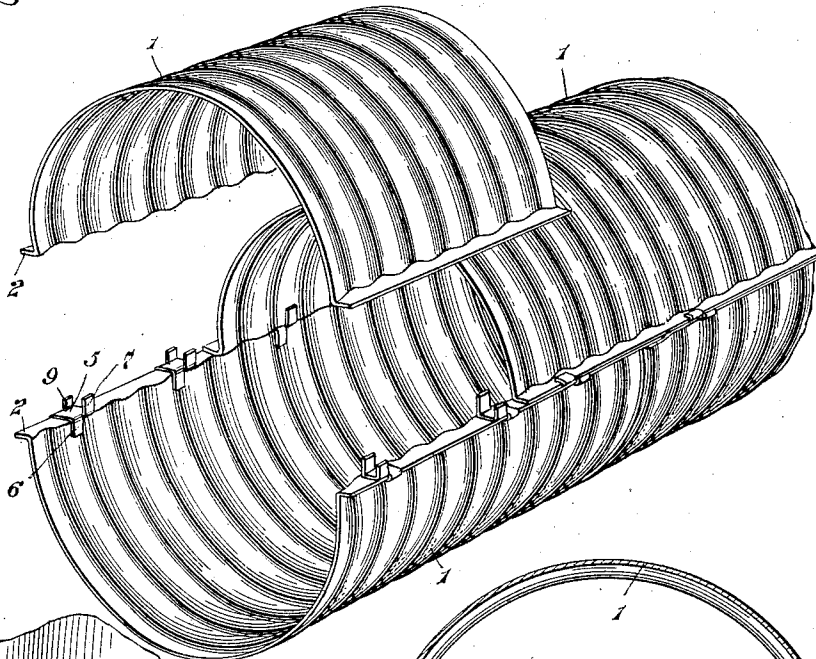


Fig. 3.

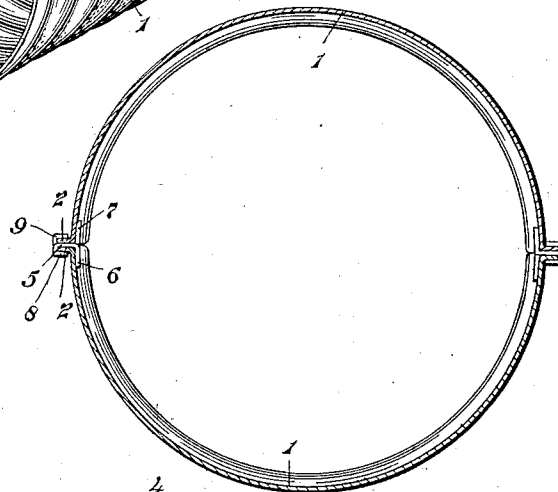


Fig. 2.

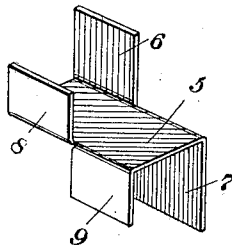


Fig. 4.

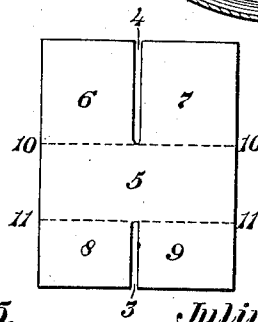


Fig. 5.

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UNITED STATES PATENT OFFICE.

JULIUS H. SCHLAFLY, OF CANTON, OHIO, ASSIGNOR TO THE CANTON CULVERT COMPANY, OF CANTON, OHIO, A CORPORATION OF OHIO.

CULVERT.

1,016,581.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JULIUS H. SCHLAFLY, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented a new and useful Culvert, of which the following is a specification.

This invention relates to improvements in sectional, sheet metal culverts and especially to the means for connecting the sections of such culverts together.

The objects of the invention, are to generally improve the construction of such culverts and to provide a culvert wherein material is economized, the structure at the same time being simple, cheaply made, strong and durable and particularly adapted for the purpose for which it is intended. These objects, together with other objects apparent to those skilled in the art, may be attained by the construction illustrated in the accompanying drawing, although the invention may be embodied in other forms, the construction illustrated being chosen by way of example.

In the drawings, Figure 1 is a perspective view of a culvert embodying my invention, one of the sections being removed to further disclose the construction. Fig. 2 is a transverse sectional view through such a culvert, showing the clips for holding the sections together. Fig. 3 is a fragmentary perspective view of the inner side of the seam showing the clip recesses in the sections. Fig. 4 is a perspective view of one of the clips. Fig. 5 is a plan view of one of the blanks from which the clips are formed.

Throughout the several views, similar reference numerals indicate similar parts.

The complementary sections 1 may be plain or corrugated or partly plain and partly corrugated as desired. I prefer the corrugated sections and have so illustrated them. At their seam edges, said sections are provided with integral flanges 2, preferably projecting laterally from the sections and either corrugated or plain, as shown.

In arranging the sections to form a culvert any number thereof may be employed to produce the desired circumference, but usually two sections only are necessary, preferably arranged as lower and upper complementary sections. The complementary sections are arranged with their seam flanges

abutting, the upper section resting on the lower.

For the purpose of holding the abutting flanges together, clips such as shown in Fig. 4 are provided. Such clips are preferably formed from sheet metal in the following manner. A blank such as shown in Fig. 5, is provided with the aligned slits 3 and 4, the inner ends of which are spaced from each other a distance equal to the width of the flanges 2, thus forming the body portion 5 of the clip with the inner tangs 6 and 7 and the outer tangs 8 and 9 formed integrally therewith. The inner tangs are bent in opposite directions along the line 10—10 extending transversely to the slit 4, and the outer tangs are bent in opposite directions along the line 11—11, extending transversely to the slit 3. The tangs 6 and 8 are both bent to the same side of the body portion 5, producing a channel section, while the tangs 7 and 9 are both bent to the other side of the body portion, thereby producing a clip, which may be properly described as formed of integral, reversely disposed channel portions.

The body portion 5 of the clip is adapted to lie flat on the flange 2 of one section and receive on top of it the flange of the complementary section. The width of the body portion 5 being the same as that of the flanges 2, the outer tangs 8 and 9 may be folded over or bent down on the outer sides of the flanges of the two sections, while the inner tangs 6 and 7, engaging the inner sides of the sections, hold both sections and clips in proper relative position. If desired, the sections may be provided with the outpressed recesses 12, to receive the inner tangs 6 and 7 and further assist in holding them in place.

It will be noted that the sections of culvert embodying this invention may be all alike, thus making it unnecessary to keep two different kinds of sections in stock to form a complete pipe or culvert. If desired, however, the clips may be connected to some of the sections before shipment from the factory as shown in Fig. 1, and, in any case, in fastening the sections together by means of the clips, they are preferably fastened to the lower section first, whereupon it will be found very convenient to arrange the complementary sections in proper position and

bend down the remaining outer tangs. Joints between longitudinally adjacent upper and lower sections should be staggered so as to produce the well known break joint construction and in the corrugated form of sections longitudinally adjacent sections should be overlapped at least one corrugation in order to produce a strong joint. Attention is also called to the fact that flanges 2, in culverts of my invented construction need not be as wide as is usual in laterally flanged sheet metal culvert sections, for the reason that said flanges are not weakened by apertures or other cutting, and a flange of less width is thus required. In this way much stock is economized where culvert sections are made in large quantities.

In connecting the sections together it will be noted that the only tool needed is a hammer to drive over and bend down the tangs, or this may be done, if preferred, by a tool somewhat similar to a large pair of pliers. The sections can be connected by unskilled workmen in a very satisfactory manner and the structure when completed will be firm and strong as well as very durable.

I claim—

1. A culvert comprising complementary sections having outstanding, abutting, seam flanges and a sheet metal clip fastening said flanges together.

2. A culvert comprising complementary sections having lateral, outstanding, abutting, seam flanges, and a sheet metal clip arranged between said flanges and having integral tangs bent over said flanges to fasten the sections together.

3. A culvert comprising complementary sections having outstanding, abutting, seam flanges and a sheet metal clip formed of in-

tegral, reversely disposed channel portions adapted to receive said flanges, parts of said channel portions being adapted to be bent over said flanges for holding said sections together.

4. A culvert comprising complementary sections having seam flanges and a sheet metal clip comprising a body portion and integral inner and outer tangs, said sections arranged with the body portion of said clip interposed between said seam flanges, and said outer tangs bent over said flanges to hold said sections together.

5. A culvert comprising complementary sheet metal sections having lateral, outstanding seam flanges, a clip formed of sheet metal constituting integral inner and outer tangs and a body portion, said body portion arranged intermediate said flanges, said inner tangs engaging the inner surfaces of said sections adjacent said flanges and said outer tangs bent over the edges of said flanges.

6. A culvert comprising complementary sheet metal sections having lateral, outstanding seam flanges, said sections adjacent said flanges provided with out-pressed recesses, a clip formed of sheet metal constituting integral inner and outer tangs and a body portion, said body portion arranged intermediate said flanges, said inner tangs arranged in said recesses and said outer tangs bent over the edges of said flanges.

In testimony that I claim the above, I have hereunto subscribed my name in the presence of two witnesses.

JULIUS H. SCHLAFLY.

Witnesses:

PERRY VAN HORNE,
W. J. WACHTER.