May 18, 1926.

1,585,265

J. H. SCHLAFLY

CULVERT

Filed Jan. 3, 1924 2 Sheets-Sheet 1

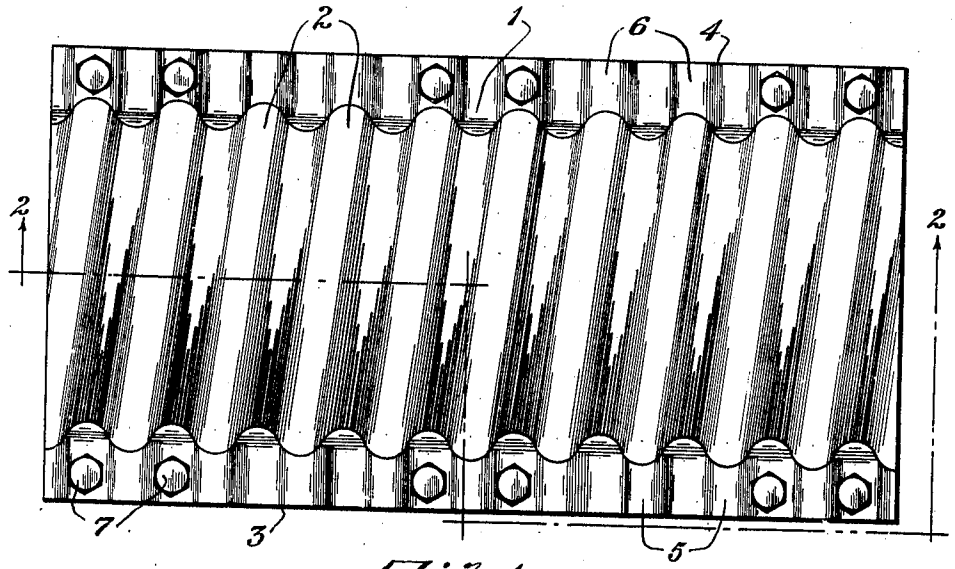


Fig. 1

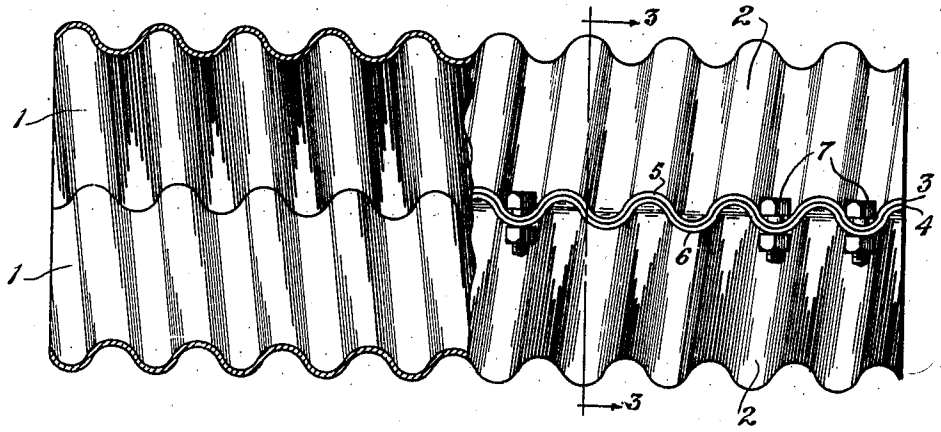


Fig. 2.

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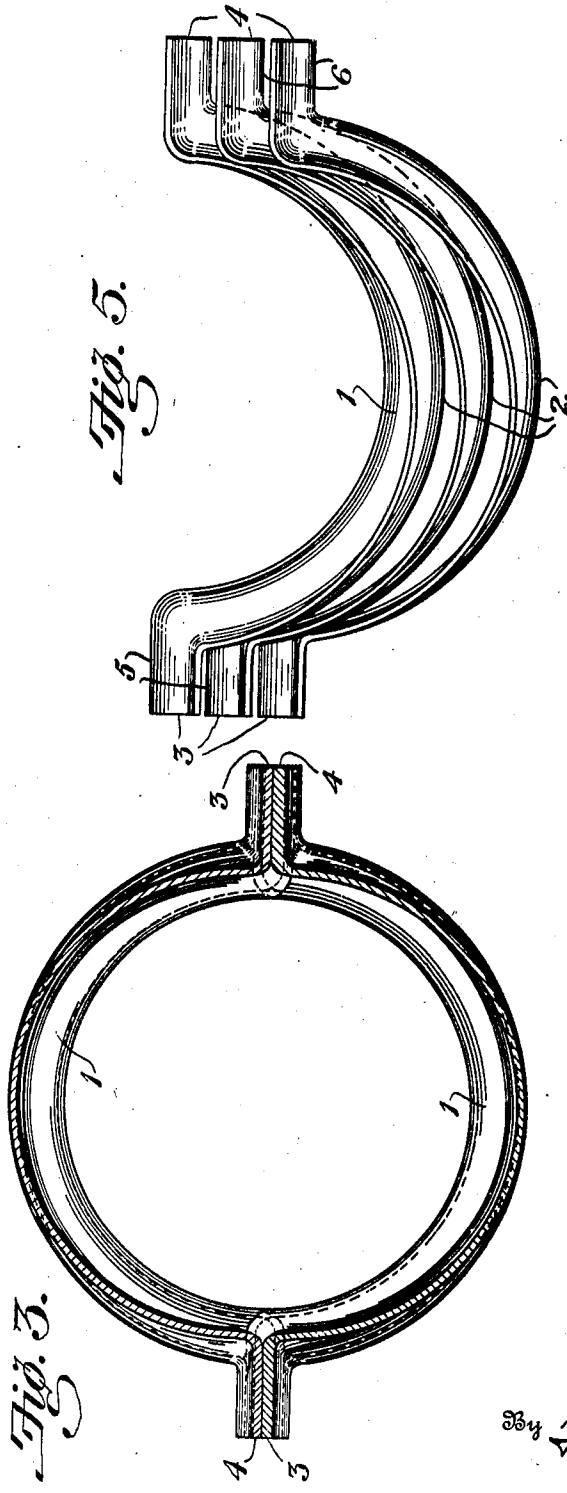


Fig. 3.

Fig. 5.

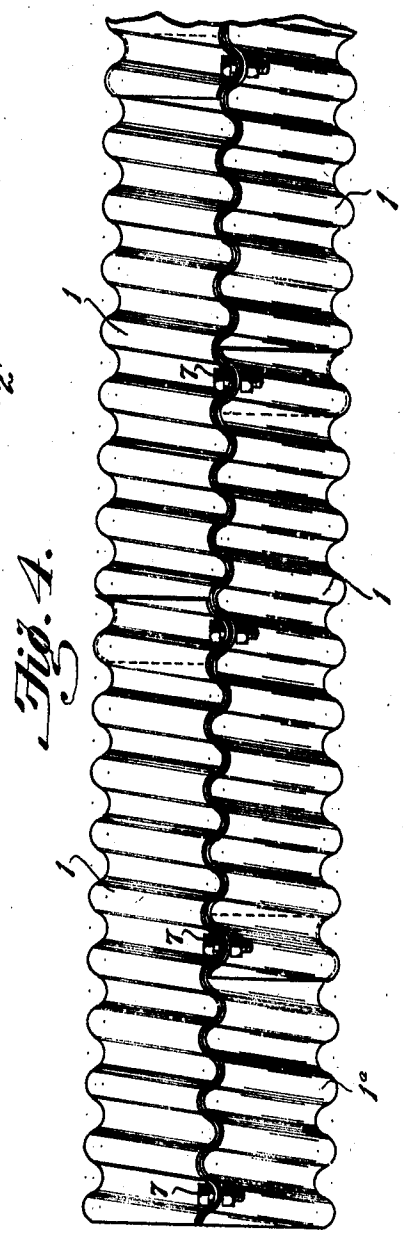


Fig. 4.

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Patented May 18, 1926. 1,585,265

UNITED STATES PATENT OFFICE.

JULIUS H. SCHLAFLY, OF CANTON, OHIO, ASSIGNOR TO UNITED ALLOY STEEL CORPORATION, OF CANTON, OHIO, A CORPORATION OF NEW YORK.

CULVERT.

Application filed January 3, 1924. Serial No. 684,137.

The invention relates to improvements in metal culverts of the sectional, nestable, or knock-down type. Such culverts are commonly formed of half round sections, corrugated transversely at right angles to their axis, and terminating at their sides in connecting flanges provided with corrugations conforming to the arch corrugations of the body portion of the section.

In assembling culverts of this type, when it is desired to form a square end, differential sections must be employed, one end of which terminates in a flared end and the other of which terminates in a contracted end. Such a construction is illustrated in my prior Patent No. 882,081, of March 17, 1908, and requires the manufacturer to make differential sections which makes it necessary for the dealer to keep the same in stock.

This not only increases the cost of manufacturing but requires considerable care in filling orders to insure that the proper kind of sections are included, in order to terminate a culvert with a square end, and without an excessive amount of overlapping sections at the end joints.

The object of the present invention is to provide a corrugated sectional culvert which will overcome these difficulties, and is attained by forming the culvert of interchangeable sections, corrugated angularly through their body portion and having corrugations in their flanges concaved in conformity with the arch corrugations whereby, when one section is laid upon the other, in assembling the culvert, the flange corrugations will register and nest one within the other, while the ends of the sections are alike.

The invention is illustrated in the drawings forming part hereof, in which—

Figure 1, is a plan view of a culvert section embodying the invention,

Fig. 2, a section, elevation on the line 2—2, Fig. 1,

Fig. 3, a section on the line 3—3, Fig. 2,

Fig. 4, a side elevation of a portion of a culvert embodying the invention; and

Fig. 5, an end elevation of several of the culvert sections nested.

Similar numerals of reference refer to corresponding parts throughout the drawings.

The culvert sections, indicated at 1, are each of the same kind or type, and may be of any suitable length. Each section is semi-cylindrical and is provided throughout its body portion with the spiral or angular corrugations 2, located in the position best shown in Fig. 1, each rib of the corrugations upon one side being directly opposite to a depression upon the other side of the section.

Each section is provided, along its side edges, with the angular attaching flanges 3 and 4, provided with corrugations 5 and 6 respectively which are continuations of, or conform with, the angular or arch corrugations 2 in the body of the section.

Thus each rib or raised portion of the corrugations in each flange are directly opposite the recesses or depressed portions of the corrugations in the other flange. With this construction, when two sections are assembled, as shown in Figures 2 and 4, the corrugated attaching flanges will register and nest together and a square end will be provided at each end of the culvert. Bolts 7, or other suitable fastening means, may be provided for connecting the flanges together.

As shown in Fig. 4, when it is desired to stagger the joints throughout the length of the culvert, the same may be built up of full length sections 1 and half length sections 1^a, formed as above described, only a single type of section being required.

Sections of this type may be easily nested together as shown in Fig. 5, as the corrugated flanges upon the sides of the sections will register and nest together in the same manner as the angular arch corrugations 2 through the body portions of the sections.

By the described construction and arrangement of the improved form of culvert sections it is only necessary for the manufacturer to make, and the dealer to keep in stock, one type or kind of sections, thus reducing the manufacturing cost and obviating the possibility of including the wrong type of sections in filling an order; making it possible to terminate a built up culvert with square ends without the necessity of using differential sections and without an excessive amount of overlapping of sections at the end joints of the culvert.

The sections may be assembled if desired, in the manner shown in Fig. 2, where the ends of the upper and lower sections regis-

ter instead of staggering the joints, any number of sections being attached together in this manner to form the finished culvert.

I claim:

1. A culvert section having spiral arch corrugations and provided with corrugated angular flanges at its side edges, the corrugations in its flanges conforming with the arch corrugations.

2. A culvert section having spiral arch corrugations and provided with corrugated flanges at its side edges, the corrugations in the flanges being a continuation of the arch corrugations.

3. A culvert section having spiral arch corrugations and provided with corrugated flanges at its side edges, the corrugations in the flanges being a continuation of the arch corrugations and located at right angles to the longitudinal axis of the section.

4. A culvert composed of semi-cylindrical sections, all of which are alike, each section having spiral corrugations through its body portion and being provided with transversely and reversely corrugated flanges upon opposite side edges.

JULIUS H. SCHLAFLY.