J. H. DEAN.

SHEET METAL CULVERT.

APPLICATION FILED JUNE 25, 1912.

1,187,509. Patented June 20, 1916.

Fig. 1.

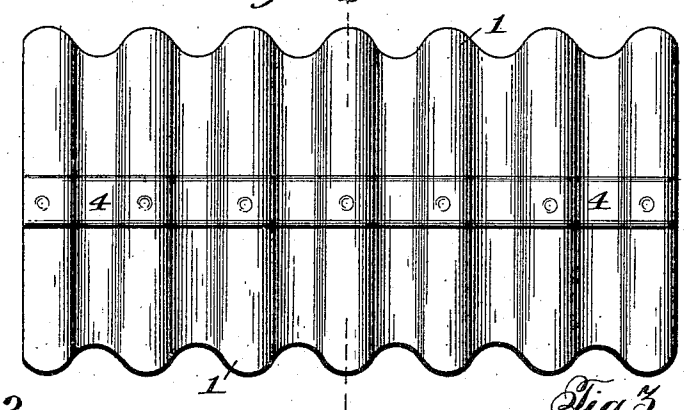


Fig. 2.

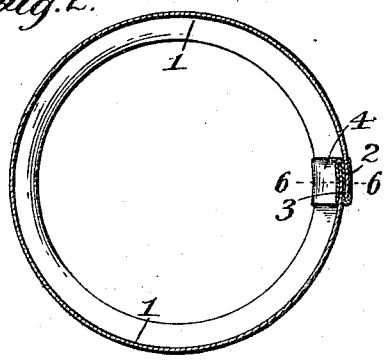


Fig. 3.

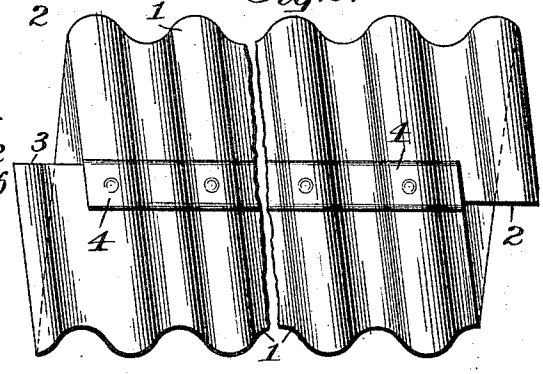


Fig. 4.

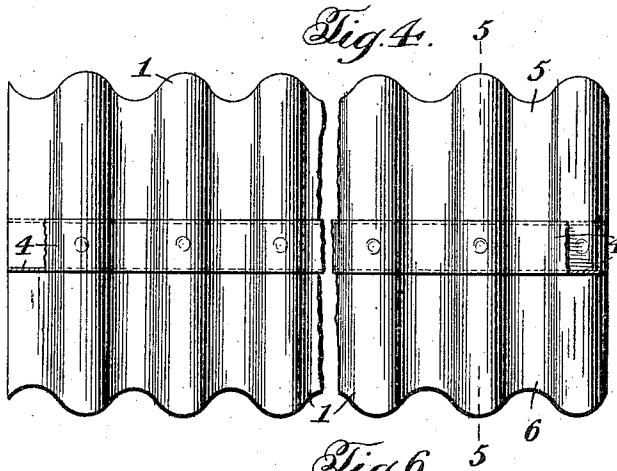


Fig. 5.

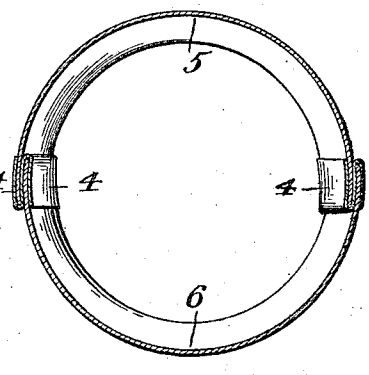


Fig. 6.



Witnesses:

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SHEET-METAL CULVERT.

1,187,509. Specification of Letters Patent. Patented June 20, 1916.

Application filed June 25, 1912. Serial No. 705,886.

To all whom it may concern:

Be it known that I, JOHN H. DEAN, a citizen of the United States, residing at Birmingham, in the county of Jefferson and State of Alabama, have invented certain new and useful Improvements in Sheet-Metal Culverts, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to sheet metal culverts or pipes to be used as drains, aqueducts, or the like, and more particularly to an improved means for connecting together the adjacent longitudinal edges of culvert sections.

The principal object of the invention is to provide a metal connecting strip of such shape and construction that in its engagement with adjacent longitudinal edges of a culvert section, it completely covers and protects said edges and thereby serves in a great degree to prevent the metal of the culvert section itself from deteriorating due to rust and corrosion, which necessarily prolongs the life of the culvert.

A further object of the invention is to construct the connecting strip in such a manner that it is adapted to receive and hold the adjacent longitudinal edges of the culvert section in overlapped relation one with the other, in which position said overlapped edges and the connecting strip are welded together.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

I have illustrated my invention in the accompanying drawings in which:—

Figure 1 is a side elevation of a culvert section showing my improved connecting strip applied to adjacent longitudinal edges of the culvert section; Fig. 2 is a transverse sectional view taken on the line 2—2 of Fig. 1; Fig. 3 is a side elevation of a portion of a culvert section, showing the corrugations of the same arranged in spiral formation, and also showing the connecting strip applied to the overlapped portion of the longitudinal edges of said section; Fig. 4 is a side elevation of a portion of a culvert section made up of complementary half sections, and illustrating a connecting strip on each side of said culvert for fastening adjacent longitudinal edges together; Fig. 5 is a transverse sectional view of the same taken on line 5—5 of Fig. 4, and Fig. 6 is a detail sectional view taken on the line 6—6 of Fig. 2.

In the construction of culvert sections heretofore known, the metal sections which go to make up the completed culvert have been provided with a number of exposed edges, and furthermore the sections themselves have been punched with holes or cut in other ways for receiving bolts or some sort of fastening device, all of which cutting away or punching of the metal and the exposed edges referred to, invites rust and corrosion, which in time materially disturbs the vitals of the metal sections. In the present invention, however, no portion of the metal is cut away or punched and the exposed longitudinal edges of the metal sections are covered and protected by a metal strip which is so shaped to receive said edges and which also serves as a means for connecting adjacent longitudinal edges of the culvert sections together, said edges and metal strip being welded together as heretofore referred to.

Referring to Figs. 1, 2 and 3 of the drawing, 1 indicates a corrugated sheet metal culvert section made from a single sheet of corrugated metal, said sheet or blank being rolled into tubular form and having the longitudinal edges 2 and 3 thereof overlapped as clearly shown. These overlapped edges which are to be connected together to form a completed culvert section, have heretofore been left exposed and connected together by bolts or other similar fastening devices. It is the purpose of this invention, however, to provide a sheet metal strip 4, S-shaped in cross section, and transversely corrugated to conform to the corrugations of the culvert section, which metal strip receives the adjacent longitudinal edges of the culvert section and serves to retain them in overlapped relation. It will thus be seen that the overlapped longitudinal edges are covered and protected against rust and corrosion, and the life of the culvert sections themselves is necessarily prolonged.

The metal strip is preferably made of a thinner gage metal than the metal of the culvert section itself, and when such strip has been arranged in proper position for con-

necting adjacent longitudinal edges of a culvert section together, the strip and said longitudinal edges are welded one to the other for holding them in fixed relation, and thereby forming a neat and strong connection between adjacent longitudinal edges of the culvert section.

The metal strip as shown in the drawing is welded to the overlapped edges at points arranged at intervals throughout its length, and preferably the strip is welded to the convex corrugations of the culvert section. It is to be understood, however, that the metal strip may be welded to the longitudinal edges of the culvert section along its entire length if desired.

In Fig. 3 of the drawing the metal welding strip is shown applied to the longitudinal edges of a culvert section having corrugations of spiral formation, and in this form of the invention the strip is shown covering only the overlapped portion of said longitudinal edges, although said strip may be extended to cover the portion of the longitudinal edges which is not overlapped.

Referring to Figs. 4 and 5 of the drawing, the culvert section is shown of the nestable type, wherein it is made up of complementary sections 5 and 6, and in this form of the invention, two strips 4 are used, one arranged on each side of the culvert section for connecting and protecting the adjacent longitudinal edges of said complementary sections.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:—

1. A sheet metal culvert comprising a metal blank having its longitudinal edges overlapping, and a protecting strip covering both longitudinal edges for practically their entire length, said strip being welded to the overlapped portions of the culvert.

2. A culvert section having its longitudinal edges overlapped, and a protecting strip covering practically the entire length of both longitudinal edges.

3. A culvert section having its longitudinal edges overlapped, and a metal strip covering both longitudinal edges for practically their entire length.

4. A transversely corrugated culvert section having its longitudinal edges overlapped, and a protecting strip S-shaped in cross section for covering the longitudinal edges of said culvert for practically their entire length.

5. A culvert section having its longitudinal edges overlapped, and a protecting strip S-shaped in cross section for covering the longitudinal edges of said culvert for practically their entire length, said strip and longitudinal edges welded together.

6. A culvert section including a transversely corrugated body portion having longitudinal edges thereof overlapping, and a protecting strip covering adjacent longitudinal edges of the culvert section for practically their entire length and corrugated to conform to the corrugations in the body portion, said longitudinal edges and the protecting strip being welded together.

7. A culvert section including a transversely corrugated body portion having longitudinal edges thereof overlapping, and a protecting strip covering adjacent longitudinal edges of the culvert section for practically their entire length and corrugated to conform to the corrugations in the body portion, said longitudinal edges and the protecting strip being welded together at points intermediate their length.

8. A transversely corrugated culvert section having its longitudinal edges overlapped, and a protecting strip covering the longitudinal edges of the culvert section for practically their entire length and corrugated to conform to the corrugations in the section, said protecting strip being welded to the convex corrugations of said culvert section.

9. A sheet metal culvert comprising a metal blank rolled into tubular form and having its longitudinal edges overlapped, and a protecting strip covering practically the entire length of both longitudinal edges and welded thereto.

10. A transversely corrugated culvert section having its longitudinal edges overlapped, and a transversely corrugated protecting strip for covering practically the entire length of both longitudinal edges of said culvert.

11. A transversely corrugated culvert section having its longitudinal edges overlapped, and a protecting strip S-shaped in cross section and also transversely corrugated for covering the longitudinal edges of said culvert section for practically their entire length.

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

JOHN H. DEAN.

Witnesses:
J. M. W. COCHRAN,
S. G. REYNOLDS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."