C. E. GLASSPOOLE.

CULVERT.

APPLICATION FILED JAN. 13, 1908.

901,702. Patented Oct. 20, 1908.

Fig. 1.

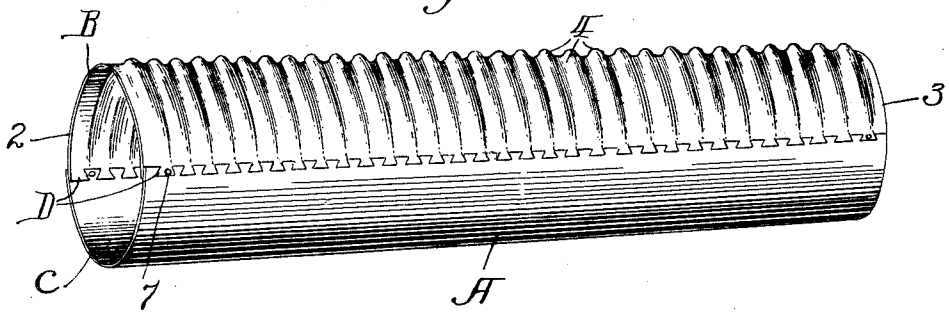


Fig. 2.

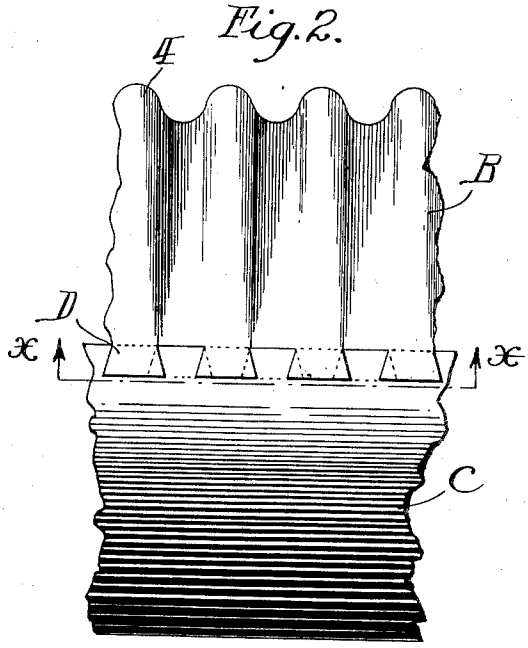
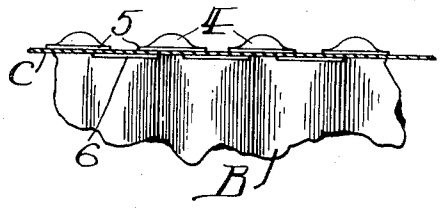


Fig. 3.



Witnesses:
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UNITED STATES PATENT OFFICE.

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CULVERT.

No. 901,702. Specification of Letters Patent. Patented Oct. 20, 1908.

Application filed January 13, 1908. Serial No. 410,560.

To all whom it may concern:

Be it known that I, CHARLES E. GLASSPOOLE, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented a new and useful Improvement in Culverts, of which the following is a specification.

My invention relates to an improved culvert and has for its primary object simple and inexpensive construction, together with greater effectiveness in use.

More particularly this invention relates to that class of culverts made out of thin sheet metal which is reinforced in strength by its particular construction and which is adapted to completely drain water therefrom. Heretofore it has been customary to use a circumferentially corrugated pipe for this purpose, the corrugations passing completely around its surface, the interstices between said corrugations retaining a certain amount of the water which tends to attack and rust the metal by standing when the culvert is used. My invention completely overcomes this objection in a simple and effective manner and at the same time increases the strength, minimizes the cost of construction, and reduces wear and friction against water drained by the culvert. By reducing the friction, the capacity of the culvert is very much increased. In culverts employing circumferential corrugations a whirling effect is imparted to the water passing through it, while with my invention the water is free to pass without whirling.

In the accompanying drawings, forming part of this specification, Figure 1 is a perspective view of a section of culvert showing my improvement; Fig. 2 is an enlarged detail side view of a portion of one section of the culvert, and Fig. 3 is a detail sectional view taken on the line X—X of Fig. 2, showing more particularly the manner in which the parts of a section of the culvert are secured together.

In the drawings A represents a section of culvert employing my invention which is in the form of a pipe, the ends 2 and 3 of which are provided with smooth sleeves which are adapted to tightly fit corresponding sleeves on the adjacent ends of sections forming a complete line of the culvert. The section of culvert as shown is provided with upper and lower longitudinal parts which are joined together by an intermeshing joint D at each side. The upper part is corrugated at 4, the corrugations running transversely and in cross section appearing in the form of a reverse curve, or of any other suitable shape desired, for the purpose of reinforcing the strength of the thin sheet metal out of which the culvert is preferably made. The lower part of the culvert has a smooth inner surface and is not provided with corrugations, so that when the culvert is in use, all of the water in it passes out without being held in the interstices between corrugations, as when the latter encircle the culvert.

The method and joints D as shown, for attaching the corrugated and smooth parts of the culvert together consists in cutting longitudinally across the ends of the corrugations at each side of the upper part of the culvert a sufficient depth to permit the edges of the smooth part of the culvert being inserted between outer and inner flaps 5 and 6 which are formed by pressing the ends of the corrugations flat over the longitudinal straight edges of the lower part.

The weight of a load on the upper or corrugated part of the culvert holds said part down firmly upon the lower or smooth part, this, under ordinary circumstances, forming sufficient means for securing the parts firmly together. When desired, however, rivets 7 may be employed for securing the edges of these parts together. When the adjacent ends of the sections of the culvert are attached the sleeve connections between the ends also form an interlocking joint which serves to assist in holding the upper and lower parts of the culvert together.

While I have disclosed the upper or corrugated part and the lower or smooth part of the culvert respectively of hollow, semi-cylindrical shape in cross section, yet it is obvious that when desired the upper part may be made to extend a greater or less distance up or down at the sides of the culvert. It is further obvious that while I have disclosed a conduit made of metal, that it may be made successfully out of other material, the principle involved being an upper corrugated part and a lower smooth part joined together for the purpose of draining all of the water out of the culvert without holding any in the interstices between the corrugations.

In accordance with the patent statutes, I have described the principle of operation of my invention, together with the apparatus which I now consider to represent the best

embodiment thereof, but I desire to have it understood that the apparatus shown is only illustrative and that the invention can be carried out by other means and applied to uses other than those above set forth, within the scope of the following claims.

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

1. A device of the class set forth, comprising, a pipe having longitudinal upper and lower parts, said upper part having transverse corrugations and said lower part having an inner smooth surface, said parts being joined together along their sides, for the purposes specified.

2. A culvert of the class set forth, comprising, a thin metal pipe having upper and lower parts which are joined together, said upper part having a corrugated surface and said lower part a smooth surface, for the purposes specified.

3. A culvert of the class set forth, comprising, a pipe made out of thin metal and having upper and lower sections, said upper section having a series of transverse corrugations and said lower section a smooth inner surface, said sections being joined together by overlapping edges along their sides, for the purposes specified.

4. A device of the class set forth, comprising, a culvert in the form of a pipe made out of thin metal and having upper and lower sections B and C, said upper section having series of transverse corrugations 4 and said lower section an inner smooth surface, said sections being joined together by flaps 5 and 6 which overlap the side edges of the lower section, on its outer and inner surfaces, for the purposes specified.

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

CHARLES E. GLASSPOOLE.

Witnesses:
R. A. FISCHER,
L. H. BRADBURY.