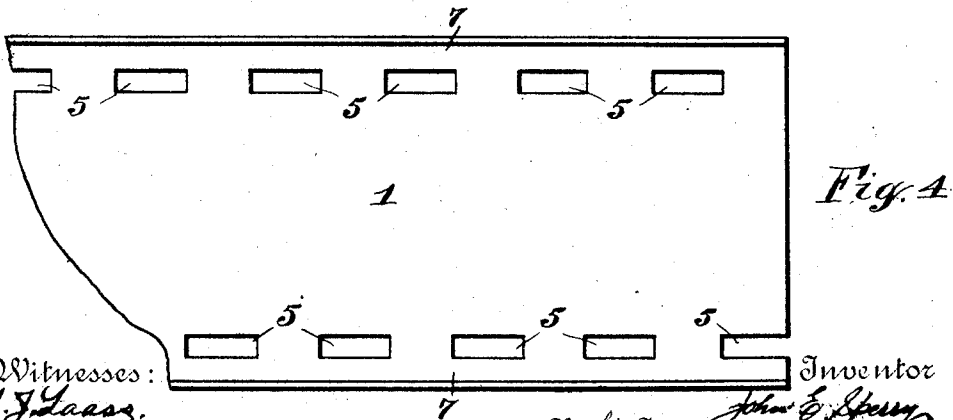
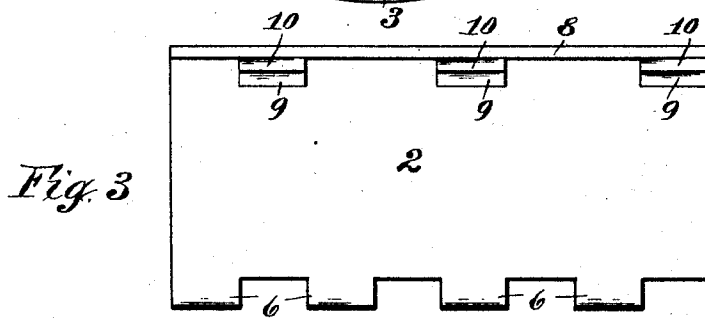
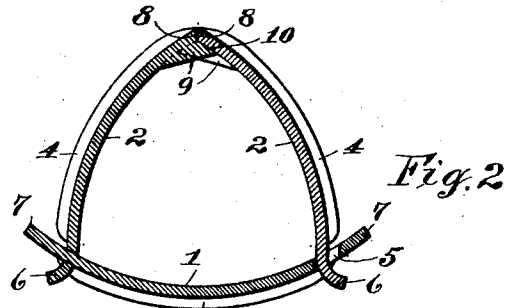
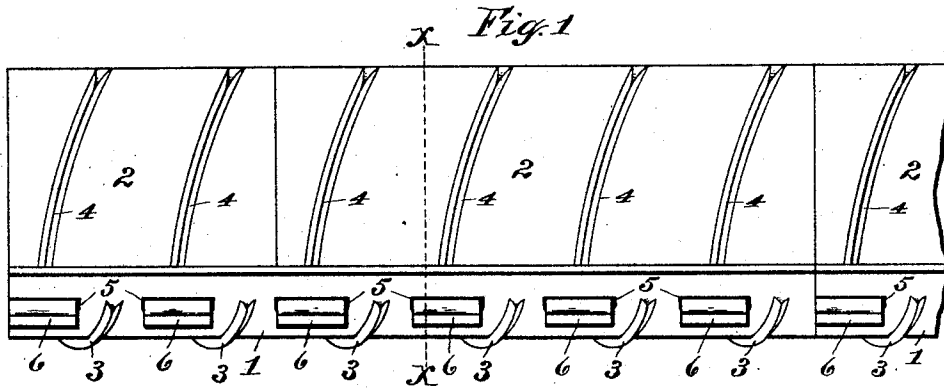


J. E. SPERRY.
METALLIC CULVERT.
APPLICATION FILED SEPT. 5, 1908.

906,953.

Patented Dec. 15, 1908.



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UNITED STATES PATENT OFFICE.

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METALLIC CULVERT.

No. 906,953.

Specification of Letters Patent.

Patented Dec. 15, 1908.

Application filed September 5, 1908. Serial No. 451,779.

To all whom it may concern:

Be it known that I, JOHN E. SPERRY, a citizen of the United States, and resident of Munnsville, in the county of Madison, in the State of New York, have invented new and useful Improvements in Metallic Culverts, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to metallic culverts of that style comprising essentially three separable plates arranged in triangular relation to form its side-walls and base and having interlocking engagement.

The present invention resides in the novel manner of joining the side-plates and base-plate, the object being to provide a more positive interlocking connection for the said side-plates and base-plate and at the same time produce a structure which shall be capable of expanding and contracting to a proper degree to compensate for the action of frost in the ground or other conditions tending to impart lateral movement in the side-plates, it being contemplated under this improvement, the absolute prevention of disengagement of the plates when the side-plates are moved outwardly to a great extent.

A further object of the invention is to provide the upper portions of each of the opposed side-plates with bearings for effectually retaining the plates in proper relation and at the same time cause their meeting edges to lie flush one against the other.

Another object is to produce a culvert of the aforesaid character which shall be simple, strong and reliable in construction, and will permit the parts to be easily and conveniently assembled, and will be inexpensive to manufacture.

To that end my invention consists of a sectional culvert comprising essentially three plates arranged triangularly to form the usual base and two sides, the base-plate being provided with two series of apertures disposed along its respective longitudinal edge portions, and the said side-plates formed at their lower edges with projections adapted to engage said apertures as will be herein after more fully explained.

The invention also consists in the combination of two opposed side-plates and a base-plate arranged in triangular relation and having interlocking engagement, the said side-plates being provided with vertical

abutting faces and each formed adjacent to its abutting face with a lip having a bearing face for the other plate, said bearing surfaces being inclined directly from abutting faces to cause the latter to lie flush.

In the accompanying drawings Figure 1 is a side-elevation of a culvert embodying my invention; Fig. 2 is a transverse section on the line $x-x$; Fig. 3 is an inner face view of one of the side-plates; and Fig. 4 is a plan view of a base-plate.

Like numerals of reference indicate like parts in the several views.

My improved culvert comprises a base-plate —1— and side-plates —2—2 preferably of cast-metal, and arranged in triangular relation. The base-plate —1— is curved in the usual manner and is preferably formed on its lower or exterior face with a series of strengthening-ribs —3—3— which are common to all culverts of this character. The side-plates —2—2— are also formed with strengthening-ribs —4—4— on the exterior face.

It is obvious that in constructing a culvert of considerable length, the plates are made in sections which are of proper lengths to break joints in the well known manner. The base-plate —1— is provided with a series of apertures —5—5— along each of its longitudinal marginal edges. These apertures are usually of rectangular shape, the elongation being lengthwise of the base, and the two series are disposed preferably in staggered relation as clearly shown in Fig. 4.

At the lower edges of the side-plates are formed tongues or projections —6—6— which engage the respective apertures —5—5— and thereby interlock the said side-plates with the base-plate. Said tongues are preferably deflected outwardly in the shape of hooks, and the apertures are of such width as to require the tops of the plates to be moved apart to a considerable degree in order to permit the tongues to pass through the apertures and thus the side-plates are effectually prevented from becoming disengaged from the base-plate while in normal positions, and at the same time the side-plates are afforded a limited amount of expansion when subjected to outward pressure from any of the well-known causes.

By joining the plates in the manner described, it will be seen by reference to Figs. 2 and 4 of the drawings, that a continuous

flange is provided at each side of the base as indicated at —7— whereby the base will be afforded a secure hold in the ground.

The upper edges of the opposed side-plates are provided with vertical abutting faces —8—8—, and each plate is formed adjacent to the edge with a lip —9— having an inclined upper face —10— extending directly from the abutting face, said inclined face affording a bearing for the other plate and causing the abutting faces of the plates to lie flush with each other.

What I claim is:—

1. An expansible metallic culvert comprising three separable plates arranged in triangular relation to form the base and sides thereof, the side-plates abutting each other with a flush joint and joined with the base-plate by interlocking tongues and apertures affording said side-plates a limited amount of expansion.

2. A metallic culvert comprising separable plates joined expansible by interlocking hook-shaped tongues and apertures.

3. An expansible metallic culvert comprising three separable plates arranged in triangular relation and constituting the base and sides thereof, the base-plate being provided with a series of apertures along each of its longitudinal edges, and the said side-plates formed at their lower edges with outwardly deflected tongues engaging said apertures.

4. An expansible metallic culvert comprising three separable plates constituting the base and sides thereof, the base-plate

provided with rectangular-shaped apertures arranged in series, and the side-plates formed with tongues passing through the said apertures and having their upper edge portions formed with vertical faces abutting with a flush joint.

5. An expansible metallic culvert comprising three separable plates arranged in triangular relation and forming the base and sides thereof, the base-plate being interlocked with the side-plates and provided with continuous longitudinal marginal flanges, and said side-plates having vertical abutting faces and each provided adjacent to and below its abutting face with a bearing for the other.

6. A metallic culvert comprising three separable plates arranged in triangular relation and constituting its base and sides, the base-plate being provided with apertures, and the side-plates formed at their lower edges with outwardly deflected tongues engaging said apertures, the upper portions of said side-plates being provided with vertical abutting faces and each formed thereat with a lip projecting toward the opposed plate, the lip of each plate having a face inclined directly from the abutting face to produce a bearing for the other plate, and thus cause the two abutting faces to lie flush with each other.

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