

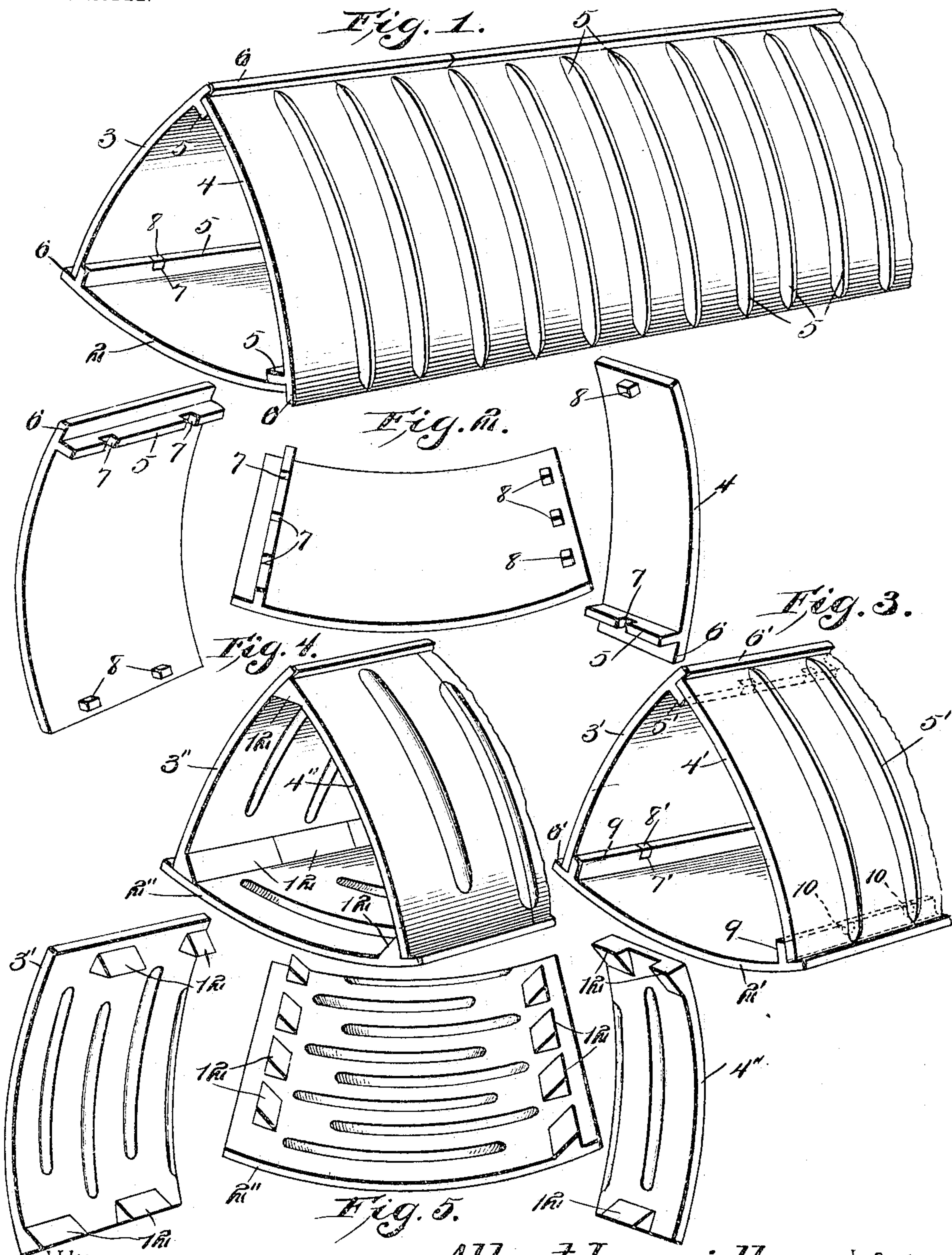
No. 769,703.

PATENTED SEPT. 13, 1904.

A. LAURIDTZEN.
CULVERT.

APPLICATION FILED OCT. 31, 1903.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

ALBERT LAURIDTZEN, OF LYONS, MICHIGAN.

CULVERT.

SPECIFICATION forming part of Letters Patent No. 769,703, dated September 13, 1904.

Application filed October 31, 1903. Serial No. 179,360. (No model.)

To all whom it may concern:

Be it known that I, ALBERT LAURIDTZEN, a citizen of the United States, residing at Lyons, in the county of Ionia and State of Michigan, have invented a new and useful Culvert, of which the following is a specification.

This invention relates to an improved culvert of that general type illustrated in an application for Letters Patent of the United States filed by me on the 18th day of April, 1903, under Serial No. 153,285.

The object of the invention is to improve, simplify, and cheapen the construction of the culvert and to provide novel means for locking the several sections together.

The invention consists in the construction and novel combination and arrangements of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended, it being understood that various changes in form, proportion, and minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

In the accompanying drawings, Figure 1 is a perspective view of a culvert constructed in accordance with my invention. Fig. 2 is a detail perspective view of the sections or plates comprising the culvert detached. Fig. 3 is a perspective view illustrating a modified form of the invention. Fig. 4 is a similar view of a still further modification, and Fig. 5 is a detail perspective view of the plates shown in Fig. 4 detached.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

The culvert, which is preferably triangular in cross-section, comprises a base 2 and sectional side plates 3 and 4. The plates are made in suitable lengths, abutting at opposite ends and arranged to break joint at their longitudinal junctions, as clearly shown in Fig. 1 of the drawings. The base-plate 2 and side plates are preferably formed of metal, being slightly curved in cross-section and formed with a series of transversely-disposed ribs 5, varying in number and distance apart,

according to the size of the plates and strength required for the culvert.

The base-plates 2 and side plates 3 and 4 are each provided on their inner faces with a longitudinally-disposed projecting rib 5, spaced a short distance from one edge thereof to form a seating-flange 6, adapted to receive the edge of the adjacent plate when said plates are assembled, as clearly shown in Fig. 1 of the drawings. The longitudinal ribs 5 are provided at suitable intervals with notches or recesses 7, adapted to receive similarly-spaced locking-lugs 8, which project from the inner face of each plate at a point adjacent the opposite edge thereof, so that when the culvert is set up the lugs on one plate will engage the notches or recesses on the other, and thereby prevent independent longitudinal movement of said plates. The longitudinal ribs form shoulders against which the edges of the adjacent plates abut, preventing said plates from being pressed inwardly, while the flanges 6 form guides, permitting the plates to expand and contract laterally when outside pressure is exerted on the interior walls thereof—as, for instance, when the water freezes in the culvert. The base and side pieces, being formed of metal, will also have a tendency to yield to some extent when subjected to any great external strain or pressure incident to the expansion of the earth surrounding the culvert, thereby preventing the plates from being broken or otherwise injured.

In laying the culvert a ditch is first dug where the culvert is to be formed and a number of base-plates laid end to end at the bottom of the ditch. The culvert is then formed from one end by placing a one-fourth plate on one side and a one-half plate on the other, the lugs 8 engaging the notches or recesses 7 and interlocking said plates with the base and with each other. Long plates are then placed in position on each side to any length desired and the culvert finished with a one-fourth plate on one side and a one-half plate on the bottom, after which the ditch is filled in, covering and protecting the culvert.

The sectional plates comprising the culvert

are so constructed as to be readily interchanged, thereby permitting either side plate to be used for the base or foundation plate when desired.

5 In Fig. 3 I have shown a modified form of culvert in which the base-plate 2' is provided with oppositely-disposed longitudinal locking-ribs 9, adapted to engage the adjacent edges of the side plates, the ribs on the side plate 4
10 in this case being dispensed with and locking-lugs 10 substituted, as shown.

In Figs. 4 and 5 I have illustrated a further modification in which the base-plate 2'' and and side plates 3' and 4' are formed with in-
15 tegral interlocking lugs or blocks 12, the lugs on one side being arranged out of alinement with the lugs on the opposite side—or, in other words, staggered—so as to permit said lugs to intermesh when the several sections
20 are assembled.

From the foregoing description it will be seen that I have provided a sectional culvert capable of being quickly set up without the use of bolts, rivets, and similar auxiliary fast-
25 ening devices and in which the several sections are securely locked from independent longitudinal movement.

Having thus described the invention, what is claimed is—

30 1. A sectional culvert comprising a plurality of sections each provided at one edge with a recessed longitudinal locking-rib defining a seating-flange adapted to engage the edge of the adjacent section.

35 2. A sectional culvert comprising a plurality of interchangeable plates each provided at one edge with a longitudinal locking-rib defining a seating-flange, the opposite edge of each plate being adapted to rest on the flange of an
40 adjacent plate and provided with means for engaging the rib thereon and preventing independent longitudinal movement of said plates.

3. A sectional culvert comprising a plurality of interchangeable plates each provided with

a longitudinal rib spaced inwardly from one 45 edge thereof and having locking-recesses formed therein, the opposite edge of each plate being provided with lugs adapted to engage the recesses in the ribs of an adjacent
50 plate.

4. A sectional culvert comprising a plurality of interchangeable plates arranged in triangular form and provided with strengthening-ribs on their backs, said plates being arranged to break joint and each provided near one edge 55 with a longitudinal locking-rib adapted to engage the edge of an adjacent plate.

5. A culvert comprising a plurality of plates each provided at one edge with a seating-flange and an upwardly-extending longitudinal rib 60 provided with locking-recesses, and having near its opposite edge a plurality of inwardly-projecting spaced lugs, said plates being arranged in triangular form with the flange on one plate engaging the edge of the adjacent 65 plate and the projecting lugs engaging the locking-recesses.

6. A culvert comprising a plurality of interchangeable sections, each provided at one edge with a longitudinal locking-rib adapted to 70 form a seat for a portion of the inner face of an adjacent section, all of said sections being free to separate laterally.

7. A sectional culvert comprising a plurality of interchangeable plates arranged in substan- 75 tially triangular form, said plates being curved in cross-section and each provided with a longitudinal locking-rib adapted to engage the inner face of an adjacent plate, all of said plates being free to separate laterally. 80

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ALBERT LAURIDTZEN.

Witnesses:

FITCH H. BEACH,
W. L. KELLEY.