Nov. 30, 1926. **1,608,889**

T. P. LAMPE

DRAIN CONDUIT

Filed June 16, 1925

*Fig. 1*

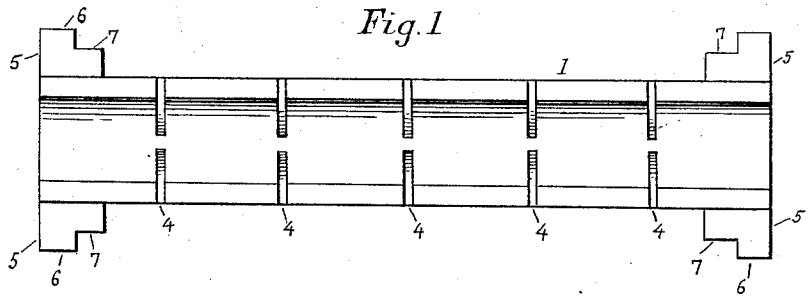



*Fig. 3*

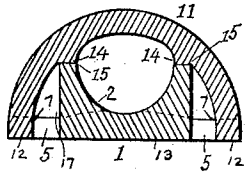



*Fig. 2*

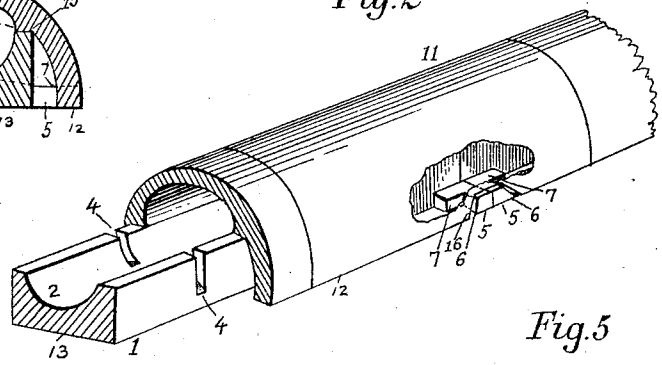



*Fig. 5*

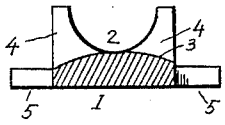



*Fig. 4*

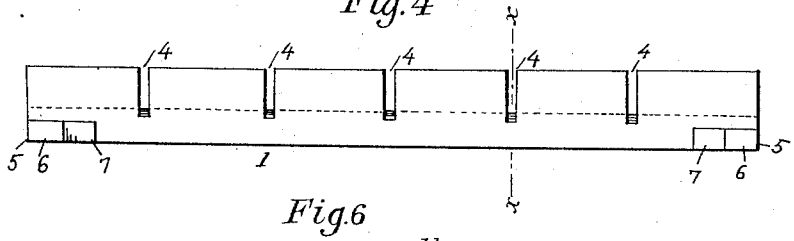
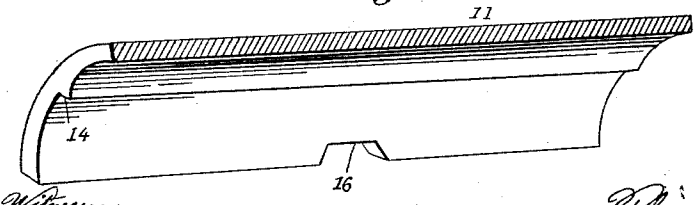



*Fig. 6*




Witnesses:
W. H. Buell
J. S. Borreu.

INVENTOR.
Thorwald P. Lampe

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# UNITED STATES PATENT OFFICE.

THORWALD PETER LAMPE, OF BALTIMORE, MARYLAND.

## DRAIN CONDUIT.

Application filed June 16, 1925. Serial No. 37,590.

My invention relates to a conduit to be used in sub-surface irrigation or in sub-surface drainage and has for its object to provide tiles for this conduit of such design that the flow of water into or out of the conduit along its length is a maximum.

With these and other objects in view, the present invention consists in the combination and arrangement of parts, as will be hereinafter fully described, shown in the accompanying drawings, and distinctly pointed out in the claims, it being understood that changes in the form, proportion and minor details may be made within the scope of the claims.

In the accompanying drawings, Fig. 1 is a plan view of the bottom or trough tile, Fig. 2 is a perspective of the assembled conduit with parts broken away, Fig. 3 is a cross section of the assembled conduit, Fig. 4 is a side view of the bottom or trough tile, Fig. 5 is a cross section of Fig. 4 along the line $x$—$x$, and Fig. 6 is a perspective showing the inside of the cover tile.

Like characters of reference designate corresponding parts in each and every figure of the drawing.

As shown in the drawing, the invention consists of a bottom or trough tile 1 and a cover tile 11.

The bottom or trough tile 1 is substantially a rectangular block. A trough or gutter 2, of semi-circular or other suitable cross-section, is formed longitudinally of and in the upper surface of the tile 1. Cross-channels 4 are cut through the side walls of the gutter 2 and transversely to the longitudinal axis thereof. The cross-channels 4 are cut to the bottom of the trough at its center and below the bottom of the trough in the outer side walls, as is clearly shown in Figs. 1 and 5. As shown in Fig. 5, the cross channels 4 are formed with a curved bottom 3, the curve 3 being reverse to and substantially tangent to the curve of the trough 2 at its lowest point. The curves of the bottom 3 and the gutter 2 are symmetrical with relation to each other and to the longitudinal edges of the tile 1.

The upper surfaces 15 of the side walls of the trough 2 are plane surfaces of sufficient width to constitute good bearing surfaces.

Formed on the sides of the tile 1 are lugs 5 having portions 6 and 7. The under side of the tile 1 and lugs 5 are continuous. The end surfaces of the tile 1 are also continued into one edge of each of the lugs 5. The portions 7 of the lugs 5 form spacing or abutting blocks for the cover tile 11 when in assembled position as shown in Figs. 2 and 3 of the drawing.

The portions 6 of the lugs 5 extend beyond the portions 7 by an amount equal to the thickness of the cover tile 11. For each size of conduit, each part of the lug 5 will be of standard dimensions.

When the parts of the conduit are assembled, the lug portions 6 of two contacting trough tiles are engaged by or included in the notch 16 of the cover tile described below, and by this arrangement, the tiles of the conduit are held against endwise slipping and separation.

The cover tile 11 is of a semi-circular or other suitable cross-section and of such dimensions that it fits down over and includes the bottom tile, while the lower edges 12 of the cover tile and the under surface 13 of the bottom tile are substantially in the same horizontal plane when the conduit is assembled. Formed longitudinally of and on the inner side of the cover tile 11 and suitably arranged and dimensioned to engage the surfaces 15 of the trough tile 1 in the manner illustrated clearly in Fig. 3 of the drawing are two shoulders 14 which are in a plane parallel to the plane defined by the lower edges 12 of the cover tile.

The shoulders 14 are for the purpose of supporting the cover tile on the top portions 15 of the trough tile. Formed in each bottom edge of the cover tile and substantially in the middle of its length are notches 16 of a length equal to twice the width of the lug portions 6 of the trough tile 1 and of sufficient depth to clear the lugs vertically when the cover tile is in place.

When laying the conduit, the bottom tiles are first laid end to end on the bottom of the trench so that the trough or gutter formed is of continuous and even slope; then the cover tile is put in place, the shoulders 14 resting on the portions 15 of the gutter 10, the inner bottom sides of the cover tile in loose contact with the portions 7 of the bottom tile and the notch 16 of the cover tile engaging and including two lugs 6 of the bottom tile and on each side thereof.

As a result of this arrangement, a passageway 17 is insured between the bottom tile and cover tile into which the cross-channels

4 open, the tiles are locked together into a continuous conduit, the different tiles being mutually supported, the drainage water or waste water is insured a passage into or out of the conduit at practically any point along its length, and the trough 2 is kept clear of any débris that might be inclined to enter the said trough.

I intend to make these tiles of concrete, glazed or unglazed terra cotta, or any other suitable material.

This conduit is particularly adapted for the dispersion of the overflow water from septic tanks or any other waste water to the subsoil. The water entering this conduit from the waste pipe flows down the conduit and out through the slots 4 into the soil. When the soil at the upper end of the conduit becomes saturated, the water will run further along the conduit and, during times of minimum or no flow, the water in sections of the subsoil already saturated will return to the conduit and continue down the conduit to dryer portions of the subsoil.

Having described the invention, what I claim is:

1. In a drain conduit, a cover tile, a trough tile, sail trough tile having side walls and cross-channels through said side walls, the said trough tile having a trough in its upper surface of substantially semi-circular cross-section, the bottom of said cross-channels being a curve exteriorly tangent to the curve of said trough.

2. In a drain conduit, a cover tile, a trough tile, said trough tile having side walls and cross-channels through said side walls, the said trough tile having a trough in its upper surface of substantially semi-circular cross-section, the bottom of said cross-channels being a curve exteriorly tangent to the curve of said trough at the lowest point of the curve of the trough, said curve being reverse to the curve of the said trough.

3. In a drain conduit, a cover tile and a trough tile, said trough tile having side walls and cross-channels cut through said side walls and having spacing lugs and locking lugs, said cover tile being of substantially semi-circular cross-section and having shoulders formed on its inner surface and longitudinally thereof and having notches cut in its lower edge, said cover tile including the said trough tile, the said notches including the said locking lugs.

4. In a drain conduit, a cover tile and a trough tile, said trough tile having a gutter longitudinally thereof and cross-channels transversely to the said gutter, the said conduit having a passageway between the cover tile and the trough tile and on either side thereof substantially the full length thereof, the said cross-channels being deeper at the ends than at the center and opening into the said passageway, the said cover tile having bearing shoulders, the said trough tile having locking lugs and bearing lugs.

5. In a drain conduit, a trough tile and a cover tile, the trough tile having side walls, spacing lugs and locking lugs, the cover tile having bearing shoulders on the inner side thereof and bottom edges, the bottom edges having notches therein, the bearing shoulders of the cover tile resting on the top of the walls of the trough tile, the spacing lugs of the trough tile engaging the inner sides of the cover tile and the locking lugs of the trough tile being included by the notches in the bottom edge of the cover tile.

In testimony whereof I affix my signature.

THORWALD P. LAMPE.