Jan. 7, 1930. I. GUTMAN ET AL 1,742,911

SEPTIC TANK STRUCTURE

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Fig. 1.

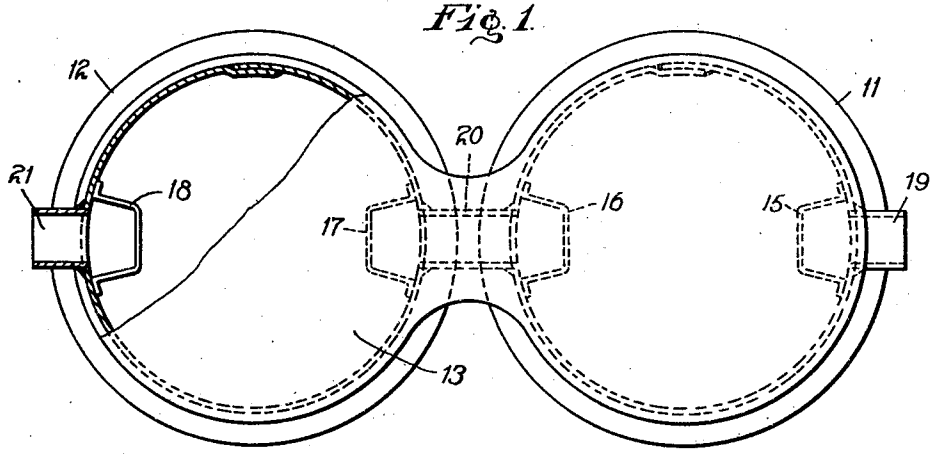
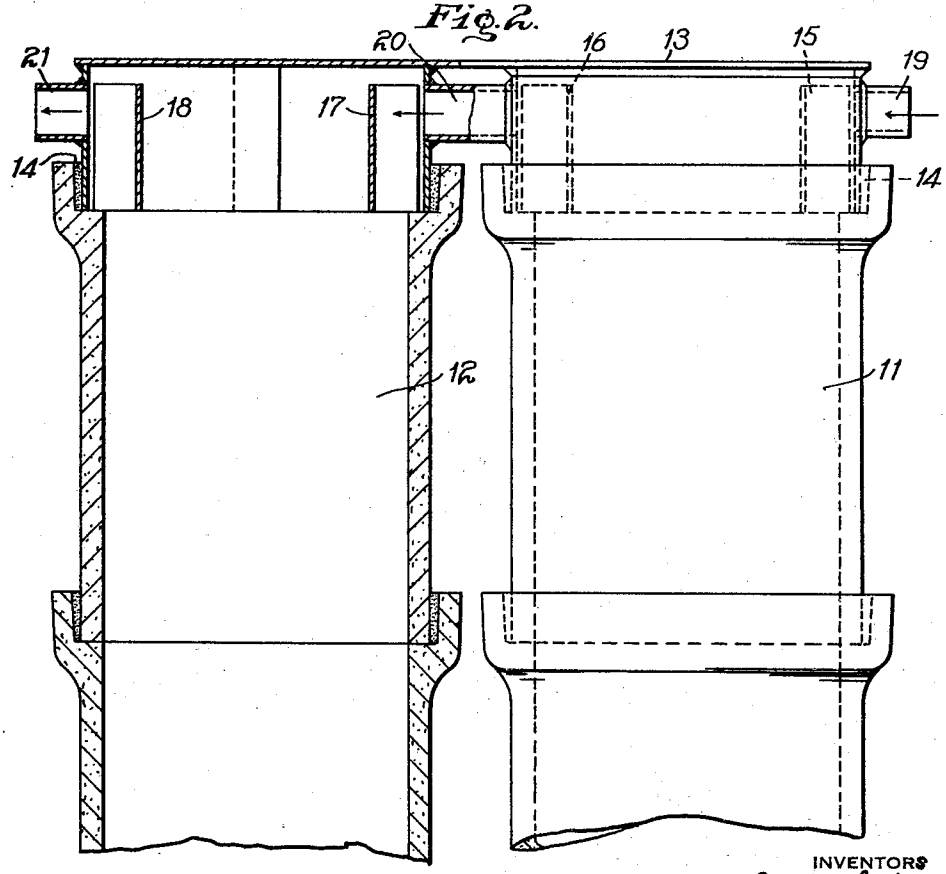


Fig. 2.



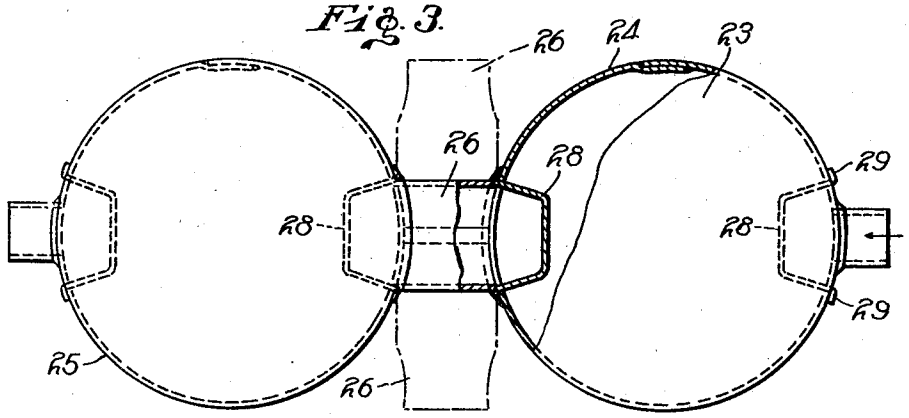
INVENTORS
Irwin Gutman
George E. Evans
By Archibald Martin,
Attorney.

Jan. 7, 1930. I. GUTMAN ET AL 1,742,911

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Fig. 3.



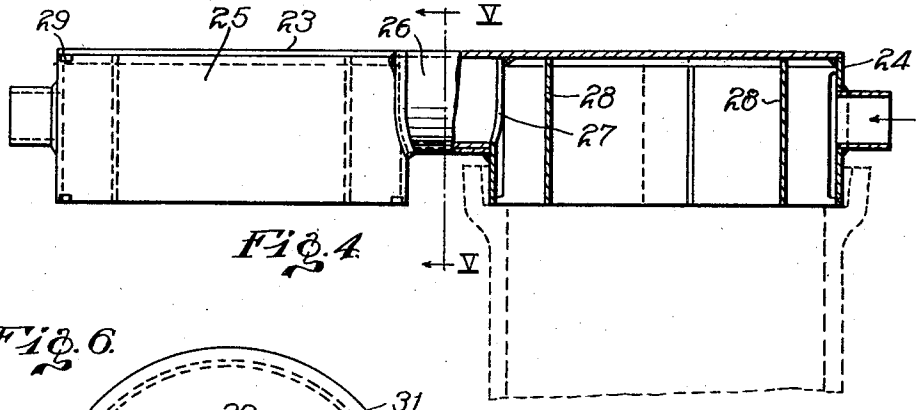


Fig. 4.

Fig. 6.

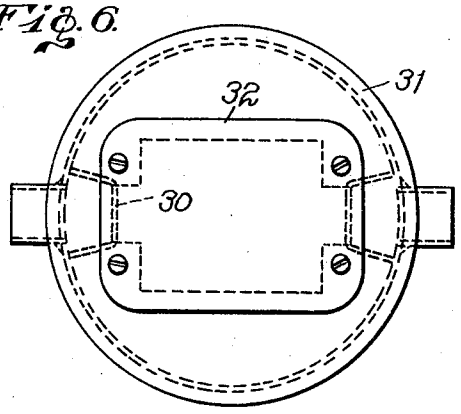
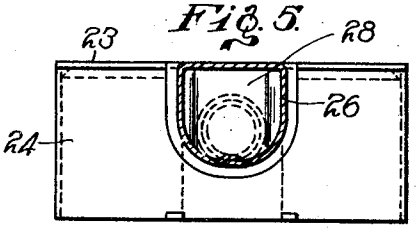


Fig. 5.



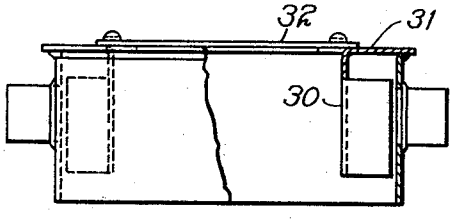


Fig. 7.

INVENTORS
Irwin Gutman
& George E. Evans
By Archworth Martin,
Attorney.

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Fig. 8.

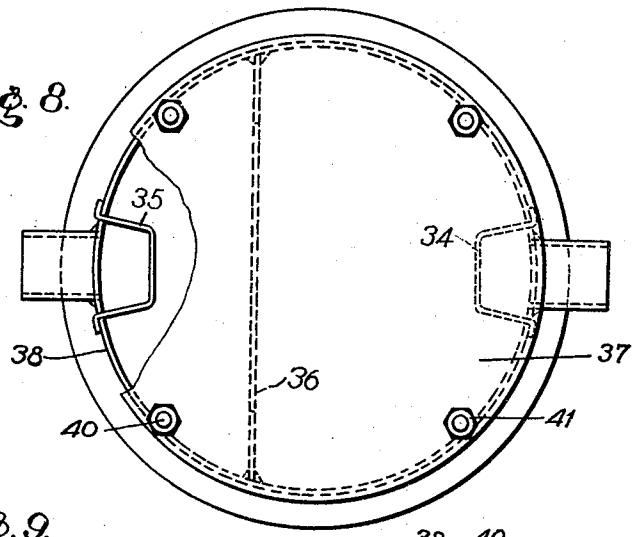


Fig. 9.

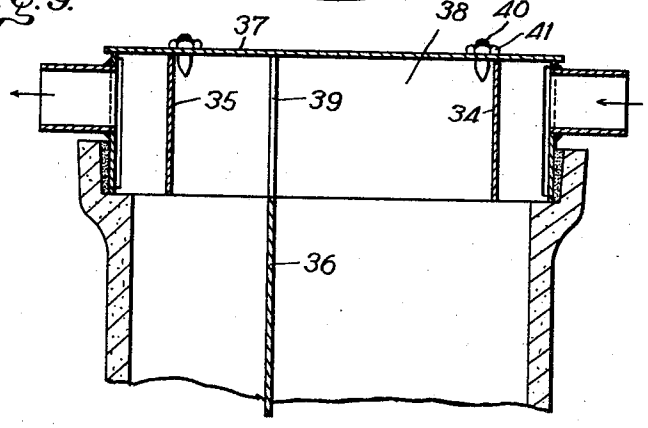
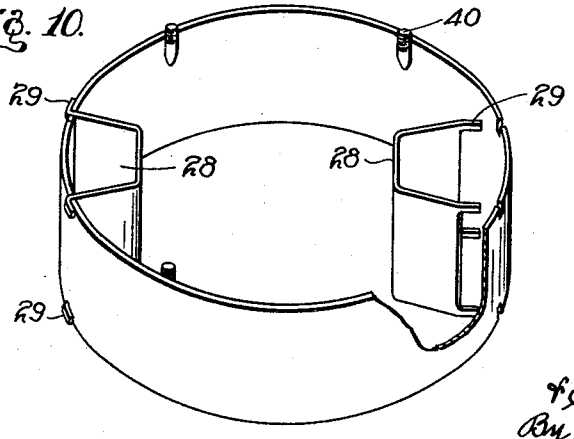


Fig. 10.



INVENTORS
Irwin Gutman
& George E. Evans
By Ardsworth Martin
Attorney.

Patented Jan. 7, 1930 1,742,911

UNITED STATES PATENT OFFICE

IRWIN GUTMAN AND GEORGE E. EVANS, OF PITTSBURGH, PENNSYLVANIA

SEPTIC-TANK STRUCTURE

Application filed December 21, 1928. Serial No. 327,675.

Our invention relates to cover and baffle structures or hoods for septic tanks, grease traps, etc.

One object of our invention is to provide in septic tank structures for sewage disposal a cover or drum of such form that it will serve, in combination with sewer tile or the like, as a complete septic tank unit.

Another object of our invention is to provide a sanitary tank attachment which may be conveniently applied to standard sewer tile or concrete pipe, without alteration of the tile or pipe and wherein the baffles are formed unitarily with the cover.

Another object of our invention is to provide a unitary cover or drum for two septic tank receptacles.

Still another object of our invention is to simplify and improve generally upon septic tank structures.

Some of the forms which our invention may take are shown in the accompanying drawing, wherein Figure 1 is a plan view, partially in section of a double type tank structure; Fig. 2 is a view, partially in side elevation and partially in section, of the apparatus of Fig. 1; Fig. 3 is a view similar to Fig. 1, but showing a modified form of device; Fig. 4 is a view, partially in elevation and partially in section, of the structure of Fig. 3; Fig. 5 is a view taken on the line V—V of Fig. 4; Fig. 6 is a plan view of another form of drum or cover; Fig. 7 is a view of the device of Fig. 6, partially in elevation and partially in section; Fig. 8 is a plan view partially in section of a tank structure wherein one receptacle will serve both as a sludge chamber and as an effluent chamber; Fig. 9 is an elevational sectional view of the structure of Fig. 8, and Fig. 10 is a fragmentary view showing the manner in which the baffles of Figs. 8 and 9 and certain of the other figures may be attached to the drum.

Referring to Figs. 1 and 2, we show a unitary cover structure which serves for both a sludge chamber 11 and an effluent chamber 12, the sewage entering the sludge chamber, thereafter flowing to the effluent chamber and finally being discharged in a manner well-known in the septic tank art. The chambers 11 and 12 may be standard tile or concrete sections of any suitable dimensions.

In order to avoid the necessity of forming baffles in the chambers 11 and 12 and of providing flow passages through the walls thereof, we provide a cover structure 13 therefor which may consist of sheet metal plates welded or otherwise suitably secured together, and is composed of two drum-like portions which are open at their lower ends and fit within the belled or hub ends of the chambers 11 and 12. Waterproof plastic material or cement may be introduced to effect fluid tight joints as indicated at 14. A pair of baffles 15 and 16 are welded or otherwise secured to the vertical wall of one of the drum portions, and baffles 17 and 18 are mounted in the other drum. Liquid passages 19, 20 and 21 are provided for conducting the sewage through the system. These passages are shown as welded to the drums.

It will be seen that liquid will enter the sludge chamber 11 through the conduit 19, will flow beneath the baffle 15, and beneath the lower edge of the baffle 16, thence through the conduit 20 and past the baffles 17 and 18 to the outlet conduit 21. The baffles are positioned in a well-known manner so that sludge will form and bacteria will be permitted to act upon the solid particles of the sewage to liquefy the same during the time it remains in the receptacles or tanks, the upper ends of the baffles being at such height with respect to the conduits 20 and 21 that no free flow of liquid will occur through the system.

The making of the cover or drums in the form of a metallic unitary structure possesses a number of advantages such as permitting shipping and handling of the cover without danger of breakage, permitting convenient installation thereof without especially forming the tank bodies and without cutting or chipping such bodies, insuring proper installation of the system by even unskilled workmen, etc. Furthermore, the cover and its baffles can be readily removed from the receptacles, for the purpose of cleaning out the system.

In Figs. 3 to 5, we show a structure having somewhat the characteristics of the device of

Figs. 1 and 2, but wherein the top wall 23 of the drums 24 and 25 is stamped from sheet metal with wing portions 26 as indicated by dotted lines in Fig. 3. These wing portions are bent downwardly to the form shown in Figs. 4 and 5 with their edges welded to the adjacent sides of the drums 24 and 25 to form a connecting conduit for such drums. The adjacent portions of the drum walls are cut away as indicated at 27 to permit flow through the conduit 26.

Another feature of distinction, as compared to the structure of Figs. 1 and 2, resides in the manner in which the baffles 28 which correspond to the baffles 15, 16, 17 and 18 are fastened to the drums. These baffles are provided with tongues 29 as shown more clearly in Fig. 10, and the tongues extend through slots in the wall of the drum and are then bent back so that they will be securely held in position. The attachment of the baffles as shown in Figs. 3, 4 and 10 is similar and cheaper than the operation of welding them in place as shown in Fig. 1.

Figs. 6 and 7 show a structure wherein baffles 30 are formed by striking them down from the top 31 of the drum and bending them to the form shown, so that their vertical edges will abut against the inner vertical wall of the drum. The generally rectangular space left within the top plate 31 through the striking down of the baffle members is closed by a lid 32 which may be held in place by screws or bolts and which will also afford convenient access to the interior of the tank for the purpose of cleaning the same.

Figs. 8 and 9 show a structure wherein a single receptacle may be employed to serve the purpose of the double receptacle arrangement of Figs. 1 to 4. In this structure, baffles 34 and 35 are mounted in position substantially as shown in Fig. 10, or in any other suitable manner. In this structure, the baffle 34 prevents excessive churning and stirring up of the body of liquid by the sewage as it enters the receptacle, as does the baffle 15 of Fig. 2, while the baffle 35 functions to prevent a straight away flow through the receptacle.

The necessity of two receptacles is avoided by reason of a partition plate 36 which may be welded to the lid 37 or to the inner wall of the drum 38. The partition 36 has a cut-out portion 39 so that a bacteria mat or scum may be formed above the spaces at the sides of the partition. The lid 37 is shown as detachably held in place by means of threaded studs 40, which are welded to the drum, and by means of nuts 41.

While the structure is hereinafter claimed as a septic tank device, it will be understood that such designation is given merely as a matter of convenience and that the structure is capable of use in various other relations as heretofore indicated, and may also be used to convert ordinary sewer pipe into a grease trap without cutting holes in the pipe.

We claim as our invention:—

1. A septic tank device comprising a hood-like member having an inlet serving to admit sewage to a sludge chamber and an outlet serving as a discharge conduit, dividing means serving to define a sludge chamber covering in the hood and a covering portion for an effluent chamber, and means permitting flow of liquid past said dividing means.

2. A septic tank device comprising two unitarily formed hood-like portions and each portion adapted to seat upon a receptacle, a conduit connecting said hood portions, and baffle members disposed within the hood portions.

In testimony whereof we, the said IRWIN GUTMAN and GEORGE E. EVANS have hereunset our hands.

IRWIN GUTMAN.
GEORGE E. EVANS.