Feb. 6, 1968 D. S. MacLAREN 3,367,071

COMPOSITE MOUNTING COLLAR AND COVER FOR SEPTIC TANK AERATOR MECHANISM

Filed Oct. 31, 1966 2 Sheets-Sheet 1

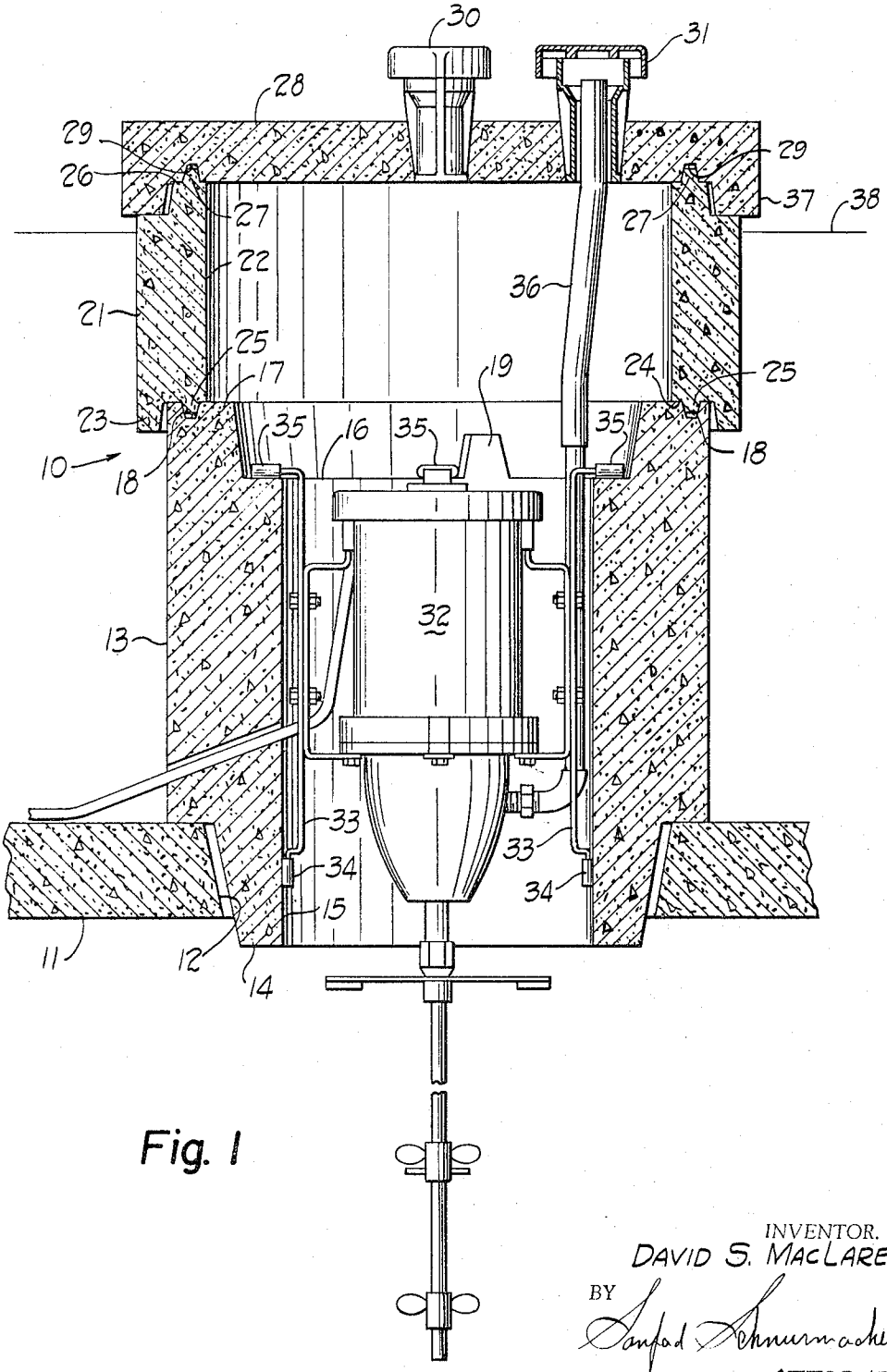


Fig. 1

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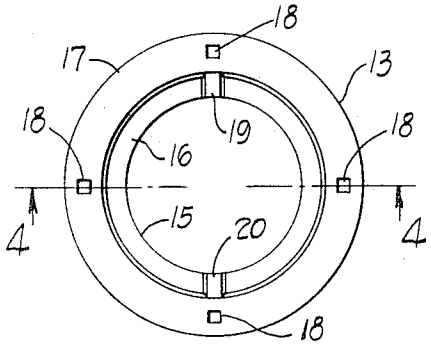


Fig. 3

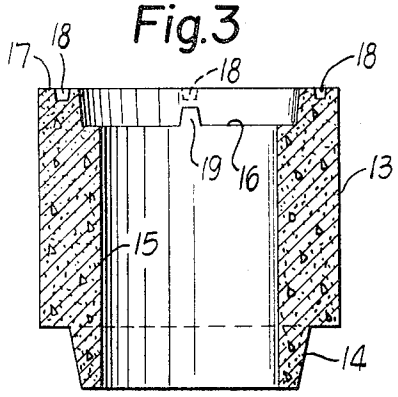


Fig. 4

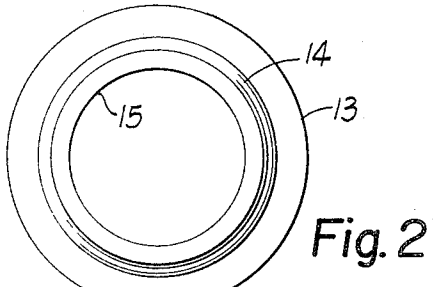


Fig. 2

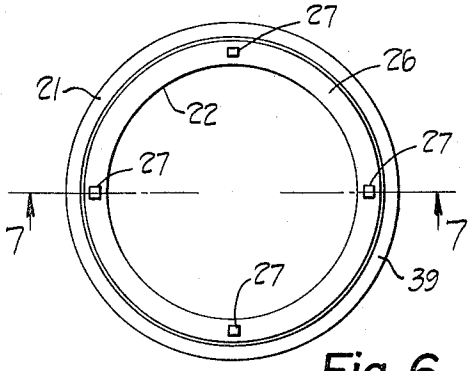


Fig. 6

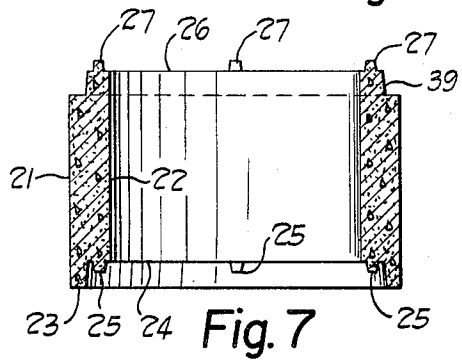


Fig. 7

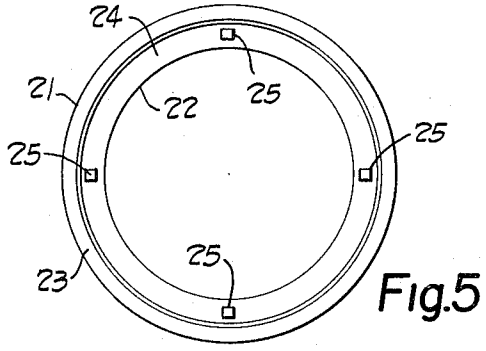


Fig. 5

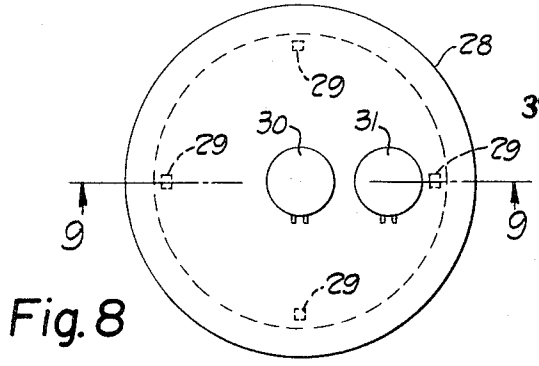


Fig. 8

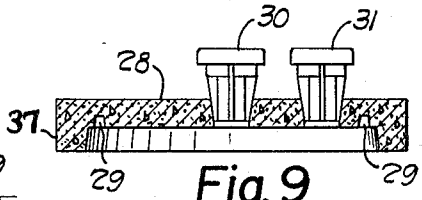


Fig. 9

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3,367,071

COMPOSITE MOUNTING COLLAR AND COVER FOR SEPTIC TANK AERATOR MECHANISM

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Filed Oct. 31, 1966, Ser. No. 590,796
2 Claims. (Cl. 52—21)

This invention relates to septic tank construction, and particularly to mounting means for the aerating mechanism thereof.

The primary object of the invention is to provide a composite mounting collar and cover for septic tank unitary aerator mechanisms.

Another object is to provide a pre-cast composite collar made up of interlocking sections.

A further object is to provide a composite collar, of the type stated, having integrally cast lugs engageable by the aerator mechanism supporting means to prevent rotation thereof in the collar, due to the reactive forces created by the operation of the aerator mechanism.

These, and other objects of the invention, will become apparent from a reading of the following specification and claims, together with the accompanying drawing, wherein like parts are indicated by like reference numerals, and wherein:

FIGURE 1 is a vertical sectional view of the composite mounting collar and cover for septic tank aerator mechanism, showing the aerator mechanism suspended thereon in the aerobic digestion chamber of a septic tank;

FIGURE 2 is a bottom plan view of the primary collar section, in its unmounted condition;

FIGURE 3 is a top plan view of the same;

FIGURE 4 is a vertical sectional view, taken along the line and in the direction of the arrows 4—4 of FIGURE 3;

FIGURE 5 is a bottom plan view of the secondary collar section, in its unmounted condition;

FIGURE 6 is a to plan view of the same;

FIGURE 7 is a vertical sectional view, taken along the line and in the direction of the arrows 7—7 of FIGURE 6;

FIGURE 8 is a top plan view of the cover, in its unmounted condition; and,

FIGURE 9 is a horizontal sectional view, taken along the line and in the direction of the arrows 9—9 of FIGURE 8.

Referring more particularly to the drawing, there is seen in FIGURE 1 the composite mounting collar and cover for septic tanks, that is the subject of this invention, broadly indicated by reference numeral 10. The composite unit 10 is shown mounted in the vent opening 12 of the roof 11 of the aerobic digestion chamber of a three compartment, re-inforced concrete, sewage treatment tank, such as described in U.S. Patent No. 2,852,140, issued Sept. 16, 1958, to Albert S. MacLaren.

The composite unit 10 is pre-cast of concrete, and comprises separate primary and secondary collar sections 13 and 21, respectively, and the cover 28.

The primary, or base, collar section 13 is cylindrical in form with a central bore 15 therethrough, open to both ends, and of a diameter to accommodate the unitary aerator mechanism 32 to be supported therein, as described hereinafter.

The primary collar 13 has a dependent sleeve 14, at its lower end, which interfits and seats in the vent hole 12 of the roof 11, as seen in FIGURE 1.

The upper end of collar section 13 terminates in a flat circular seat 17, having one or more sockets therein. In the preferred form illustrated, the seat 17 has 4 sockets 18, as seen in FIGURE 3.

Reference numeral 16 indicates a circular ledge in the bore wall 15, spaced downwardly of the primary collar section seat, as seen in FIGURES 1 and 4. Two upstanding lugs 19 and 20, as is seen most clearly in FIGURE 3, are positioned on opposite sides of the ledge 16.

The secondary collar section 21 is also cylindrical in shape, with an open ended bore 22 centered therethrough. Collar section 21 has circular, flat seats 24 and 26, at the lower and upper ends thereof, respectively.

Reference numeral 23 indicates a skirt at the lower end of collar section 21, adapted to fit over the upper end of primary collar section 13, as seen in FIGURE 1.

Seat 24 has a plurality of dependent lugs 25, spaced therearound, in this case 4, as seen in FIGURE 5. Seat 26 has a plurality of upstanding lugs 27, spaced therearound, in this case 4, as seen in FIGURE 6. Collar section 21 also has an external peripheral shoulder 39.

A circular pre-cast concrete cover 28 is adapted to rest on the seat 26 of secondary collar section 21, with its peripheral skirt 37 nested against the shoulder 39. The cover 28 has a plurality of sockets 29 in its under-face, as seen in FIGURE 9, spaced inwardly of its peripheral edge, adapted to receive the upstanding lugs 27 therein. The cover 28 also has two vent caps 30 and 31 mounted therethrough.

The composite unit 10 is assembled, as seen in FIGURE 1, by inserting the base collar sleeve 14 in the septic tank roof opening 12. The secondary collar section 21 is then mounted on the primary collar seat 17 with its dependent lugs 25 nested in the sockets 18 of the primary collar seat 17.

The unitary aerator mechanism 32 is suspended in the primary collar section by placing its upper, laterally extending, feet 35 on the ledge 16 with its lower parallel feet 34 bearing against the inner collar wall 15. At least one of the feet 35 is positioned against one of the ledge lugs 19 or 20 to hold the aerator unit 32 against rotation on the ledge 16.

The air hose 36 of the aerator unit 32 is connected to the cover vent 31 and the cover 28 is then positioned on top of the seat 26 of the secondary collar section with its sockets 29 fitted over the upstanding seat lugs 27.

It will be seen that the secondary collar section 21 is of a length to maintain the cover 28, positioned on its upper seat 26, above grade level 38, as illustrated in FIGURE 1. The secondary collar section is made in modules of varied length, so that one of suitable length may be used to seat on primary collar section 13, to effect this result.

The several sections 13, 21 and the cover 28, of the so assembled composite unit 10, are prevented from rotating, relative to one-another, due to the re-active forces created by the rotating elements of the aerator mechanism, by their inter-locking lugs and sockets, 25, 27 and 18, 29, respectively.

Creeping rotation of the aerator mechanism unit 32 is prevented by the suspension ledge lugs 19 and 20, so that there is not danger of the air hose 36, of the unit 32, connected to the cover vent 31, from becoming twisted or disengaged, either by rotation of the unit 32 or relative rotation of the primary and secondary collars 13 and 21, and the cover 28.

The assembled components become, in effect, a unitary, pre-cast, mounting collar for the aerator mechanism 32; requiring no alteration or modification on the job to effect proper grade clearance for the cover section 28.

It will now be clear that there is provided a device which accomplishes the objectives heretofore set forth.

While the invention has been disclosed in its preferred form, it is to be understood that the specific embodiment

thereof, as described and illustrated herein, is not to be considered in a limited sense as there may be other forms or modifications of the invention which should also be construed to come within the scope of the appended claims.

I claim:

1. A composite mounting collar and cover for septic tank aerator mechanisms, of the unitary type having laterally extending support feet, comprising in combination:

(a) a hollow cylindrical primary collar section, open at both ends, having a dependent sleeve at its lower end adapted to fit in the vent opening of a septic tank roof, and a circular flat seat at its upper end, having a socket in the face thereof;

(b) the primary collar section also having an inner, circular ledge, spaced downwardly of said seat, adapted to be engaged by the laterally extending feet of the unitary aerator mechanism and support same therefrom;

(c) an upstanding lug positioned on said ledge, engageable by one of said unitary aerator mechanism supporting feet, to prevent rotation of said unit relative to the ledge and primary collar section;

(d) a hollow cylindrical secondary collar section, open at both ends, with circular flat seats at the upper and lower ends thereof, the lower seat having a dependent lug and the upper seat having an upstanding lug;

(e) a flat cover having a socket in its lower surface, spaced inwardly of and proximate its peripheral edge;

(f) the secondary collar section being seated on the primary collar section, with its dependent lug fitted in the primary collar section socket; the cover being seated on the secondary collar section with the upstanding lug thereof fitted in the cover socket, whereby relative rotation of the several collar sections and cover is prevented.

2. A composite mounting collar and cover for septic tank aerator mechanisms, of the unitary type having laterally extending support feet, as in claim 1, wherein each seat of the secondary collar has a plurality of lugs, and the primary collar section seat and cover have a plurality of sockets to be engaged by said lugs.

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