

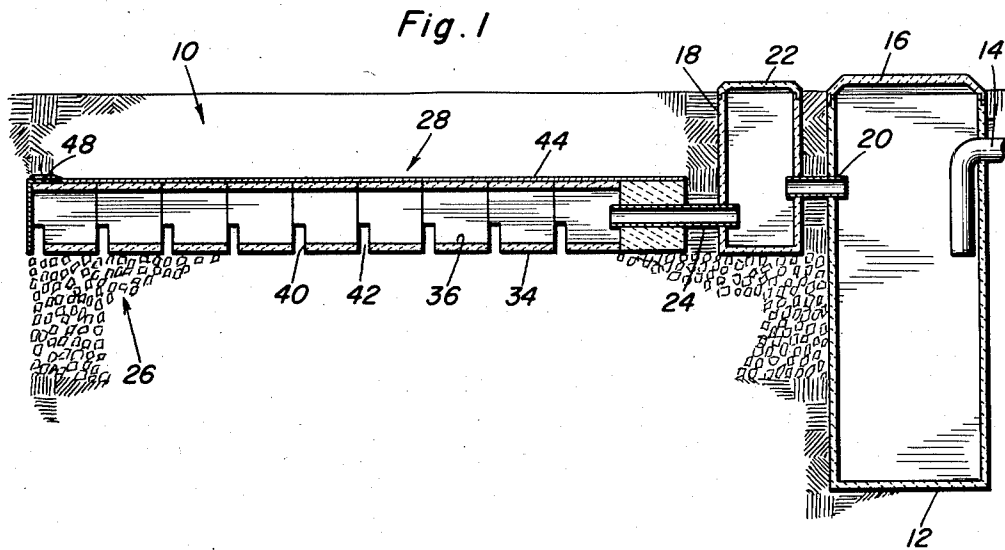
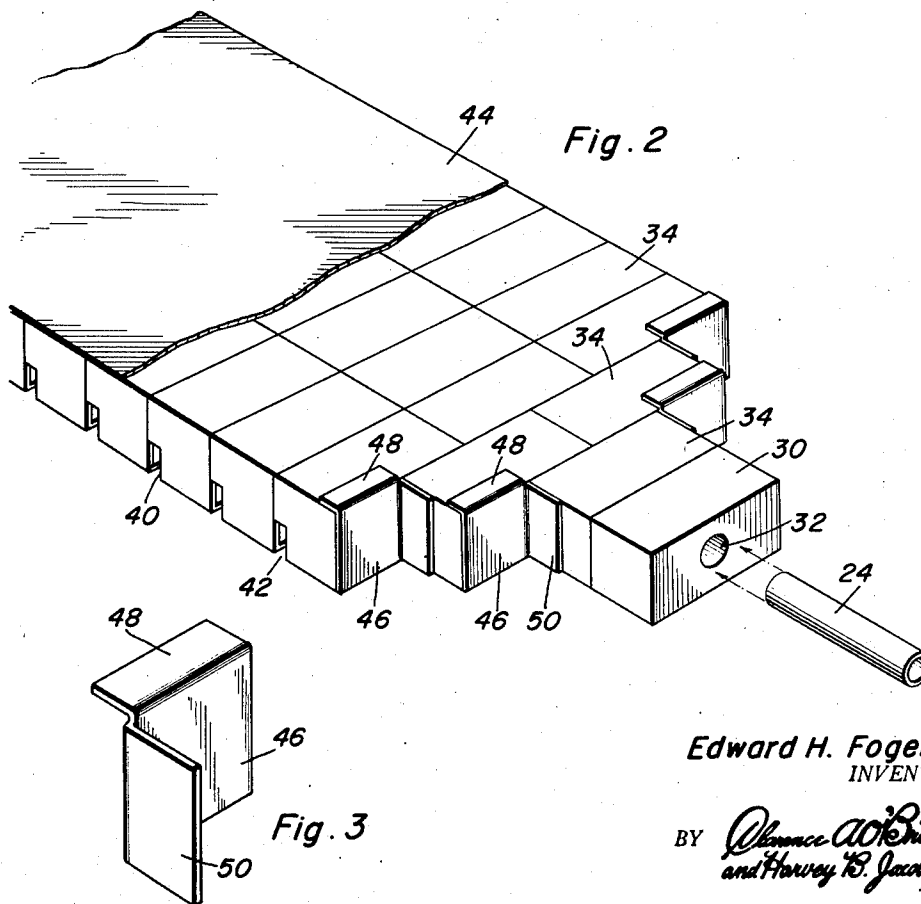
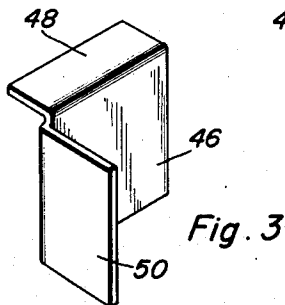
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SEPTIC TANK DRAIN LINE

2,802,339

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2 Sheets-Sheet 1



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2 Sheets-Sheet 2

Fig. 7

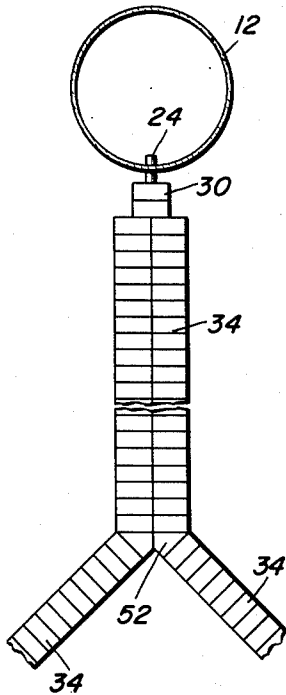


Fig. 8

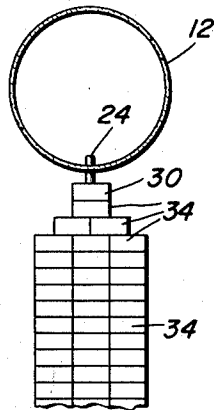


Fig. 9

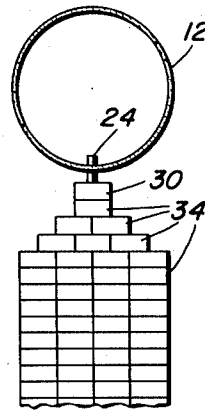


Fig. 4

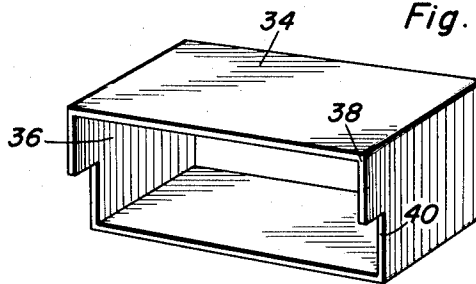


Fig. 6

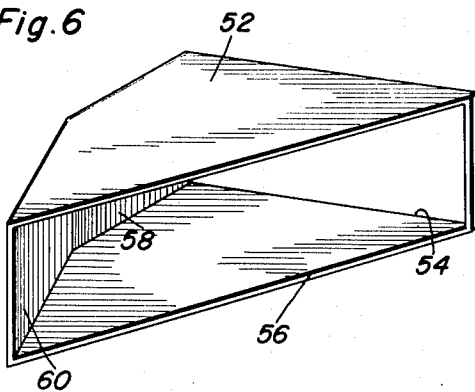
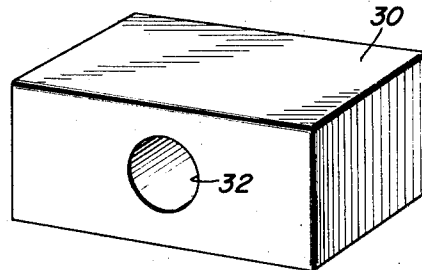


Fig. 5



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SEPTIC TANK DRAIN LINE

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1 Claim. (Cl. 61—11)

This invention generally relates to improvements in septic tank drain fields, and more specifically provides novel construction and arrangement of the drain lines forming an integral part of the drain field for forming a more effective and efficient drain field for use in conjunction with septic tanks.

An object of this invention is to provide an improved drain line having improved and novel drain blocks therein for assuring more efficient discharge of fluid material to the drain field from a septic tank.

A further object of the present invention is to provide an improved drain block for use in conjunction with other similar drain blocks for forming a drain line for a septic tank which may be adapted for use in a relatively confined or limited space and which may be of various irregular or regular sizes and shapes as desired or as may be necessary from the limitations of the space.

Still another important object of the present invention is to provide a drain system constructed of polygonal blocks which will prevent misalignment of such blocks as sometimes occurs in rolling of cylindrical tile that are normally employed.

Yet another important feature of the present invention is to provide a drain block having a recessed lower edge for providing a plurality of spaced slots in a drain field wherein fluid material will be drained therefrom.

Other important objects of the present invention will reside in its simplicity of construction, ease of assembly, adaptability for various arrangements, adaptation for its particular purpose and its relatively inexpensive manufacturing costs.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

Figure 1 is an elevational sectional view illustrating the construction of a septic tank system with the drain field and especially the drain lines constructed in accordance with the present invention;

Figure 2 is a perspective view with portions thereof broken away illustrating the construction of the drain line used in conjunction with the septic tank;

Figure 3 is a perspective view illustrating the construction of one of the closure members for forming an effective seal for drain blocks utilized in the drain line of Figure 2;

Figure 4 is a perspective view illustrating a drain block of the present invention;

Figure 5 is a perspective view illustrating the block for insertion of a cylindrical member for communication with the overflow tank or trap;

Figure 6 is a perspective view illustrating the hollow angular block for changing the direction of the drain line for adapting it to confined spaces;

Figure 7 is a plan view of a typical drain field arrangement using the drain blocks of the present invention;

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Figure 8 is a top view of another form of drain line of drain field; and

Figure 9 is a top plan view of still another possible arrangement of the drain field.

Referring now specifically to the drawings, the numeral 10 generally designates the septic tank drainage system of the present invention including a septic tank 12 for receiving sewage from a drain conduit 14. The septic tank 12 may be of any suitable construction and provided with a removable top 16 for cleaning thereof at periodic intervals. A trap tank 18 may be optionally provided and connected to the septic tank 12 with a suitable cylindrical tile conduit 20. The trap tank 18 may also be provided with a removable cover 22 for cleaning of the same. Extending from the trap tank 18 is a cylindrical tile 24 of a construction normally employed in septic tank drainage fields.

The drainage field is generally designated by the numeral 26 and is provided with suitable rocks, gravel or other aggregate conforming to the various building codes and permitting discharge of fluid material so that it will be absorbed in the usual manner. Positioned over the drain field 26 is a drain line system generally designated by the numeral 28 for receiving the fluid from the tile 24 and discharging the same to the drain field 26.

In the formation of the drain line 28, an adapter block 30 is utilized having a cylindrical bore 32 therethrough for receiving the cylindrical tile 24. Positioned adjacent the adapter block 30 in edge-to-edge abutting relation is a hollow drain block 34 having an enlarged passage 36 therethrough which defines substantially a shell-like member. The block 34 is provided with vertical edges 38 which are adapted to abut against similar blocks 34 and also adapted to abut against the adapter block 30, as illustrated in Figure 2. One of the vertical edges 38 of the block 34 is provided with a recessed portion 40 which extends across the bottom of the block 34 and substantially to the midpoint of the side walls thereof. It will be noted that only one edge 38 is provided with the recess 40, and when the recessed edge 38 of the block 34 is abutted with the unrecessed edge, drainage slots 42 are formed in the drain line 28, substantially as illustrated in Figures 1 and 2.

As illustrated in Figures 1 and 2, a covering member 44 is positioned in overlying relation to the aligned and assembled drainage blocks 34 for preventing surface water from entering the drain line 28 and also preventing clogging of the drain line 28 by roots, soil or other foreign material.

In the drain line 28 as illustrated in Figure 2, it will be seen that a single drain block 34 is positioned in abutting relation to the adapter block 30 for receiving the fluid material from the tile 24. In engagement with the first drain block 34 is a pair of drain blocks 34 with the end abutting edges being positioned centrally of the drain block 34 wherein the fluid material is divided equally between the secondary drain blocks 34. Inasmuch as one-half of each of the secondary drain blocks 34 projects beyond the adapter block 30, a closure plate 46 is provided which includes a projecting flange 48 for engaging the upper surface of the portion of the drain blocks 34 projecting beyond the initial drain block 34 and also a projecting flange 50 for overlying engagement with the ends of the initial or first drain block 34 for closing the slot 42 formed by the recess 40 therein.

In abutting relation with the two secondary drain blocks 34 are three drain blocks 34 with the outer ends of the outer of the three drain blocks 34 being provided with closure plates 46 similar to the closure plates for closing the projecting ends of the two secondary drain blocks 34.

With this arrangement, the material to be discharged from the septic tank 12 is spread over a relatively large

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area, thereby eliminating the necessity for relatively long drain tile arrangements which are currently in use.

Figure 7 illustrates an arrangement of drain blocks 34 wherein only two rows of end-to-end drain blocks 34 are utilized, and at the terminal end of the two rows, there is provided a hollow angle block 52 which is specifically illustrated in Figure 6. The angle block 52 is provided with a hollow portion 54 in alignment with the passage 36 of the drain blocks 34 together with an opening 56 arranged in angular relation. A wall 58 is provided in perpendicular relation to the opening 54 for engagement with the perpendicular wall of a similar angle block 52 arranged therewith for engaging the two rows of drain blocks 34. A second closure wall 60 is provided in angular relation to the first closure wall 58 thereby forming a periphery for the opening 56 which is in angular relation to the opening 54, thereby forming an angular passage through the drain blocks 52. After the drain blocks 52 have been positioned, additional drain blocks 34 may be provided therein for running the drain blocks in the desired manner. This will permit greater adaptation and arrangement for the drain field for permitting the drain field to be positioned in rather limited areas.

Figures 8 and 9 illustrate other arrangements of the drain blocks wherein either three or four rows of drain blocks 34 may be utilized. The closure plates 46 may be utilized wherever desired in the arrangements illustrated in Figures 7-9, wherein the passages 36 in the drain blocks 34 will not be open from excessive drainage, and all drainage of the fluid will proceed through the slots 42 formed by the recessed edges 40. It is to be noted that the closure plate 46 may also be utilized for closing the ends of the drain line 28 remote from the septic tank 12 or, suitable solid blocks may be utilized, if desired.

The drain blocks 34 as well as the adapter block 30 and the angle blocks 52 may be constructed of any suitable material normally employed in forming tile or the like which renders the device relatively inexpensive in manufacture, initial cost and installation cost.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly, all suitable modifications and

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equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

A drain line assembly comprising a plurality of rows of aligned hollow blocks with the blocks in each row being disposed in abutting engagement and the rows being disposed against each other for at least a portion of the length thereof, each of said blocks being a hollow parallelepiped having an unobstructed passage substantially equal in area to the area of the block thereby forming continuous parallel lines of flow, an adapter assembly for connecting a supply conduit to the rows of blocks, said adapter assembly including a substantially solid block having a passage therethrough for snugly receiving the conduit, a single hollow block abutting the substantially solid block, said single hollow block bridging the end blocks of the rows of hollow blocks for a portion of the width thereof for distributing fluid to the lines of flow formed by the rows of blocks, a closure plate overlying that portion of each of the end blocks of the rows of blocks not covered by the bridging hollow block, said plate having an outwardly projecting ledge on the upper edge thereof for supporting the plate from the upper edge of the end block, each of said hollow blocks having a recess extending across the bottom end edge and upwardly in the side end edges thus forming a discharge slot at the juncture between each adjacent hollow block when the recessed edge of one block is disposed against the smooth edge of an adjacent block, a closure member for the outermost block of each row of blocks whereby the fluid will be discharged solely through said discharge slots for distributing the fluid into a drain field.

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