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1,529,019

G. E. EVANS

SEPTIC TANK

Filed Sept. 17, 1921

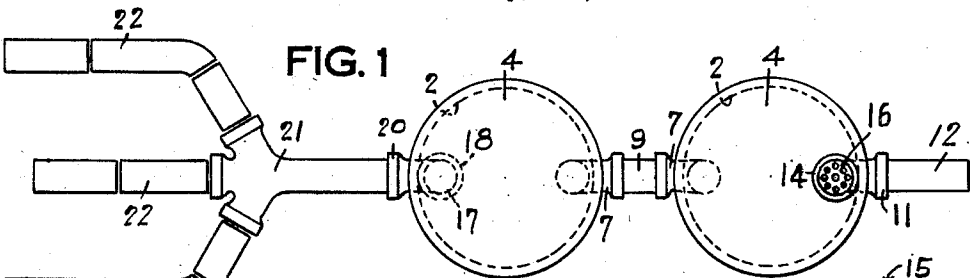


FIG. 2

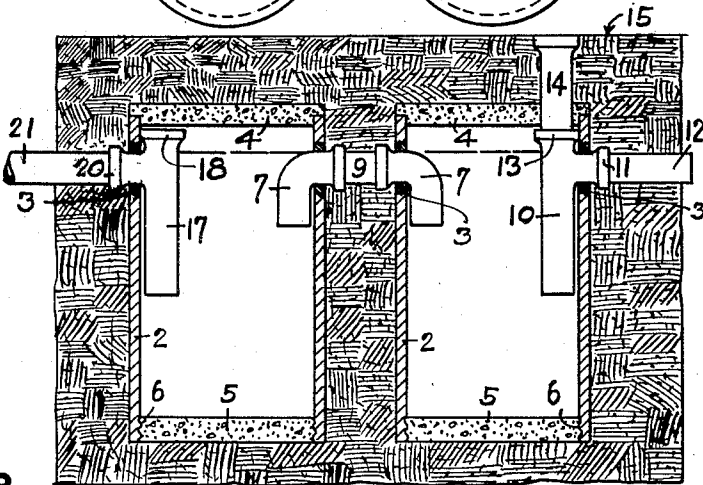


FIG. 3

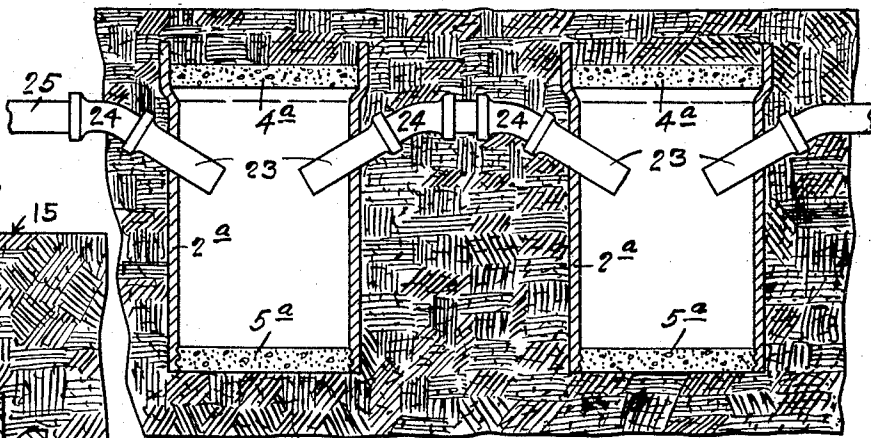
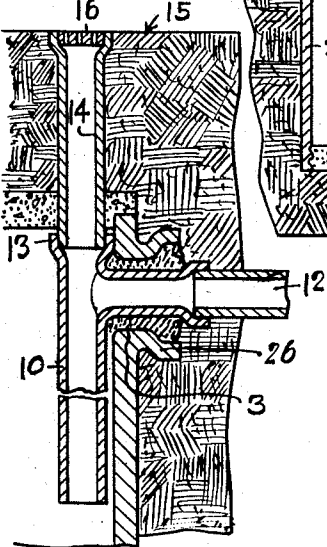


FIG. 4



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GEORGE E. EVANS, OF PITTSBURGH, PENNSYLVANIA.

SEPTIC TANK.

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To all whom it may concern:

Be it known that I, GEORGE E. EVANS, a citizen of the United States, and resident of Pittsburgh, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Septic Tanks; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to septic tanks for sewage disposal, and its object is to provide a cheap and effective septic tank system which shall consist of units composed of terra-cotta.

Septic tanks for the disposal of domestic sewage and the like are ordinarily constructed of concrete, suitable partitions being provided to divide the tank into compartments which are connected by means of openings beneath the surface line of the sewage in order to permit liquid to flow from one compartment to the next.

According to my present invention, the several compartments of the tank are composed of individual circular tiles which are similar in a general way to the tiles which are now used in sewerage and irrigation systems. The several tiles composing the tank are provided with openings to admit connectors which are also composed of terra-cotta tiles of the nature which may be in elbows or T-branches. These connectors are preferably assembled with the tank sections while the clay is green and burned together to form an integral structure, or the tank sections and the connectors may be burned separately and assembled when the tank is placed in position.

In the accompanying drawing, Fig. 1 is a plan view of a tank constructed in accordance with my invention and composed of two sections, together with its inlet and outlet connections; Fig. 2 is a vertical sectional view taken centrally through the two tank sections of Fig. 1; Fig. 3 is a side elevational view showing two tank sections constructed and connected in a modified manner; and Fig. 4 is a fragmentary vertical sectional view showing a modified form of connection which may be employed.

Referring to Figs. 1 and 2 of the drawing, the numeral 2 designates a series of connected tank sections, each composed of a circular terra-cotta tile having openings 3 formed on opposite sides near its upper end and extending to the upper edge of the

tile or not, as may be desired. Each section 2 is provided with a cover 4 of concrete or metal, which is flanged to rest upon the upper edge of the tile 2. The bottom of each tile is closed with concrete as shown at 5, and the inside of the tile may be grooved, as shown at 6, in order to insure proper connection between the tile and the concrete. The grooves 6, however, may be omitted. The bottom 5 may be made integral with the tile 2 during its manufacture, or may be added at the place where the tank is to be set up.

In order to connect the several tank sections 2 with each other, I employ elbows 7 which may be ordinary sewer-pipe elbows, and the flaring hubs between the two adjacent receptacles are connected by means of a straight section of tile 9.

Through the inlet opening 3 at the right of Figs. 1 and 2 extends a tile 10 which is similar to an ordinary single T-branch having its lateral hub 11 outside of the tile 2, and connected by means of a straight tile 12 with the drain pipe, not shown, through which sewage is conveyed to the tank. In the hub 13 at the top of the vertical section of the tile 10 is set a straight vertical tile 14 which extends through the cover 4 to the ground level 15 and is provided with a suitable strainer 16 of wire netting, perforated metal, or the like. The openings 3 are made large enough to admit the hubs of the T-branch connectors, and after the connectors are inserted, the space at the opening 3 is filled by grouting with clay or cement.

The outlet connection from the tank consists of another single T-branch tile 17 in the upper hub 18 of which may be set a tile similar to the tile 14 which extends to the ground level and is closed by means of a suitable strainer. However, no outlet to the ground level from the outlet T-branch 17 will ordinarily be required. The lateral hub 20 of the tile 17 is connected by means of a double Y-branch 21, shown in Fig. 1, with lines of ordinary drainage tiles 22 which distribute the purified liquid in the earth. The inlet and outlet tiles 10 and 17 are long enough to extend well below the water line, which is indicated in dotted lines on Fig. 2, and the intermediate elbows 7 also extend below the water line. By this means I prevent disturbance of the surface scum produced by the septic action in the tank.

Fig. 3 shows a modified form of construction in which the several tank sections 2^a are composed of standard double Y-branch sewer tiles having concrete covers 4^a and concrete bottoms 5^a. The lateral tiles 23 are connected by means of half-elbows 24 and straight tile sections 25.

Fig. 4 shows a modified form of construction in which the openings 3 contain hubs 26 such as are ordinarily provided with double T-branch sewer tiles. The lateral arm of the inlet T-branch 10 extends through the hub 26 and is connected to the inlet pipe 12. Similarly, the hubs 26 may be employed with the elbows 7 in making the intermediate connections between the tank sections. The construction shown in Fig. 4 where the hubs 26 are employed makes it possible to employ T-branches and elbows of small diameter in making the connections between the tank sections, and is particularly useful when the tank sections are made from standard sewer tile.

The inlet construction, whereby the T-branch 10 communicates with the surface of the ground has the double advantage of providing a trap or drain and permitting the inlet to be easily cleared in case of stoppage, it being only necessary to remove the strainer 16 and run a stick down through the tiles 14 and 10 in order to clear the inlet connections. This communication with the ground level also makes it possible to insert the intake of a pump when it is desired to empty the sludge from the first section 2.

I prefer at present to construct each tank section as a separate integral unit, the

necessary elbows and T's being assembled before burning and being united into an integral structure by the burning operation. The connectors may be pressed closely against the inner walls of the main tiles 2 while the clay is green, or green clay may evidently be placed between the connectors and inner walls of the main tiles, so that the whole structure of each unit is closely united when burned.

As many sections as necessary may be provided in any given installation, two sections being shown on the drawing for the purpose of illustration. Various changes in the form and construction of parts may be made without departing from my invention, the scope of which is indicated in the appended claims.

I claim as my invention:

1. A septic tank section comprising a terra-cotta receptacle and inlet and outlet connectors of terra-cotta tile extending through the sides of said receptacle and burned with the said receptacle to form an integral structure.

2. A septic tank section comprising a terra-cotta receptacle having inlet and outlet openings, and channel members within said receptacle adjacent to said openings, said channel members being burned with said receptacle to form an integral structure.

In testimony whereof, I the said GEORGE E. EVANS, have hereunto set my hand.

GEORGE E. EVANS.

Witnesses:

JOHN F. WILL,
EDITH K. FREESE.