United States Patent [19]

Richard et al.

[11] **3,820,341**

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[54] **LEACHING CHAMBER**

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[52] **U.S. Cl.** **61/13**

[51] **Int. Cl.** **E02b 13/00**

[58] **Field of Search** 61/11, 13, 10, 12, 4, 3; 210/292, 293

[56] **References Cited**

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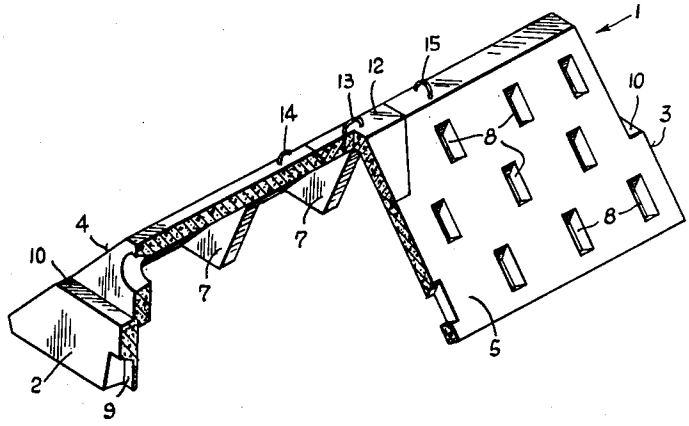
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Attorney, Agent, or Firm—E. Seward Stevens

[57] **ABSTRACT**

An efficient distributing leaching chamber adapted for multiple unit installation comprising slanted side walls joined at their tops to form an inverted V-shaped chamber, said walls being holed at suitable intervals for access to and from said chamber which is enclosed by triangular end walls provided with exterior set backs for stacking units. Access to the chamber is provided through the juncture of the side walls and knock out sections in the end walls.

3 Claims, 4 Drawing Figures



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Fig. 1

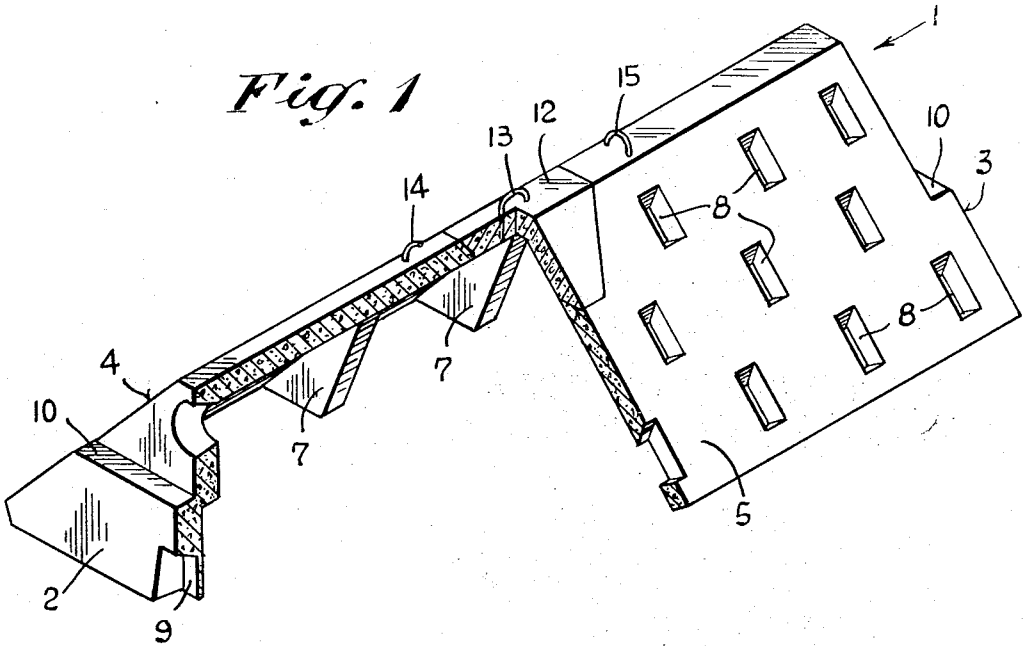


Fig. 3

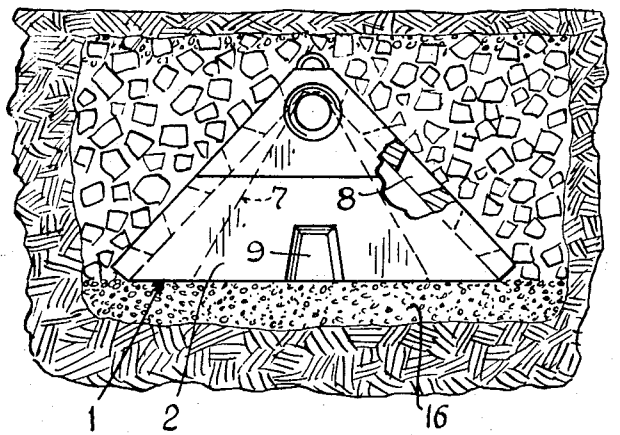


Fig. 4

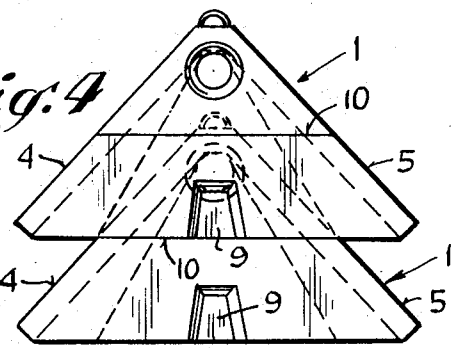
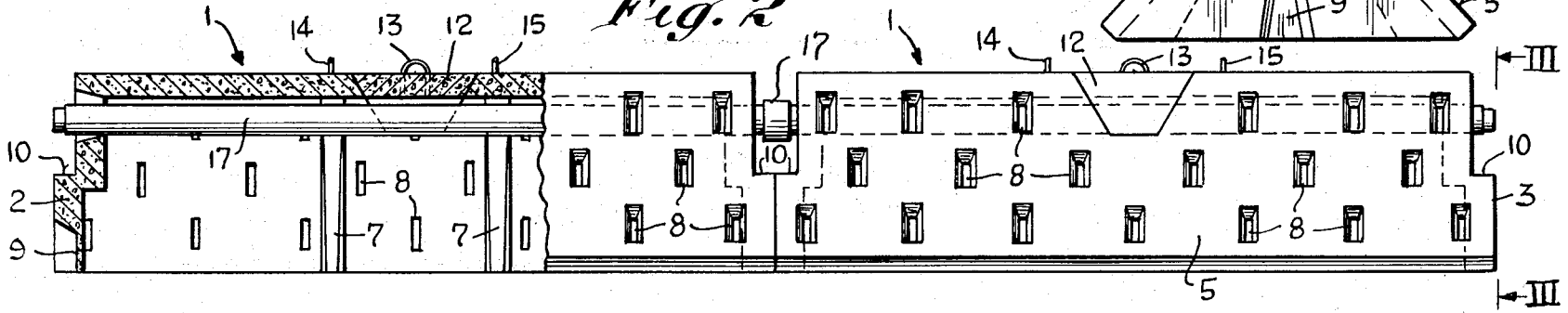


Fig. 2



LEACHING CHAMBER

PRIOR ART

There are many precast leaching chambers adapted for interconnection in trenches to carry and distribute effluent to all chambers, and, in some cases to trenches as reflected in the prior art of which the following have been considered by applicant.

U.S. Pat. Nos. 3,401,526; 2,378,239; 2,366,522; 2,802,339; 2,803,948; 3,339,366; 1,220,891; 2,866,319; 2,782,604; 3,645,100.

The present invention has for its object the combination of elements in a novel structure to overcome the inefficiencies of the prior art structures by provision of the precast open bottom structure of inverted V-shape which is easy to transport and install and which, due to its slant side wall construction and open bottom provides a maximum of transevaporation when in use in an absorbtion trench constructed as is well known in the art.

The present invention comprises a precast concrete unit which is open bottomed and in the shape of an inverted V when viewed from the ends. The end walls of the unit, cast with the side walls, enclose a chamber having an interior shape which is triangular. Said side walls are provided with horizontal exterior set backs or shoulders to facilitate the stacking and transportation of the units.

Any desired number of units may be placed end to end along the usual trench which is filled with gravel or stone to the desired level. Communication between units by knocking out so called "trench knockouts" in the lower section of each end wall (prior to installation of the unit) and/or by means of short pipes installed in the upper section of the end walls.

The forms used for casting units made according to the invention are not claimed as a part of the invention although it should be noted that all elements claimed are either formed in or added to the unit during the casting process so that complete units are ready for transportation and installation when the casts are removed.

A practical embodiment of the invention is shown in the accompanying drawing in which the parts are similarly numbered in each view.

Referring to said drawings:

FIG. 1 represents a unit made according to the invention, same being in perspective and partly broken away.

FIG. 2 shows two units interconnected and in operative relationship, part of one unit being broken away to show how access is had to the interior of the chamber.

FIG. 3 is a transverse vertical section taken on the line III — III of FIG. 2 and looking in the direction of the arrows, and

FIG. 4 shows two units in stacked relation as they might be stored or transported.

The unit as a whole is denoted by 1 and its end walls by 2 and 3. Slanted side walls 4 and 5 are reinforced by interior ribs, denoted collectively by 7. Both side walls are furnished with slightly flared holes at predetermined intervals. The inner openings of said holes are normally of less area than the outer openings of same, the holes being marked by the numeral 8. The lower edge of each hole defining the opening on the inside of the wall is normally lower than the lower edge defining the opening on the outside.

End walls 2 and 3 are provided with "knock out" sections 9 in their lower edges and both said end walls are formed with an exterior set back or shoulder 10. Said end walls are further provided, in their upper sections with "pipe knockouts," so-called so that units may be joined by pipes 17 if so desired, in addition to the communication afforded by adjacent lower knocked out sections 9.

At the top of each unit there is provided a removable cover 12, allowing access to the interior of each unit and said cover has means for removing same such as lifting ring or rings 13.

For handling each unit there are two lifting rings 14, 15 cast in the upper section so that units may be lifted thereby and stacked, the end wall set backs 10 of the bottom units supporting the lower end wall edges of the unit superimposed thereon.

In operation, a trench is prepared as is well known in the art by digging and supplying same with the usual gravel or pea stone 16, the desired number of units set in end to end position and after being connected to the source of effluent, and to one another by trench knockout and/or pipes, they are covered with salt hay or other permeable material.

When effluent is introduced into the first unit adjacent the source, it will seek its way or flow into this first and successive units by way of the knockouts and/or pipes and will find its way out into the surrounding matter through the holed slanted walls of the unit as well as vertically downward through the open bottom into the trench.

While the angle of the side walls with respect to the vertical is not critical it has been found by experiment that a side wall angled at approximately 45° and having the holes formed therein of the shape described provides the greatest amount of transevaporation.

It will be noted from the foregoing that the invention results in a structure of greater efficiency and of simpler design than those of the prior art thereby lending itself to economy in production and facilitating both transportation and installation.

What is claimed as new is

1. An effluent distributing leaching chamber unit comprising
   - slanted side walls joined at their tops substantially at right angles to each other,
   - vertical end walls formed integral with said side walls to encompass a triangular space,
   - holes in said side walls permitting fluid flow from the triangular compartment formed by said side and end walls,
   - at least one "knock out" section in each end wall lower section,
   - an exterior set back section on each end wall above said "knock out" section,
   - a "knock out" section in the upper area of each end wall adapted to receive a connector pipe,
   - said unit having a removable cover section in said side walls which permits inspection of said triangular space.

2. A unit according to claim 1 in which the holes in said side walls are formed at an angle to the walls from inside to out, the lower edge defining the opening on the inside being lower than the lower edge defining the opening on the outside.

3. A unit according to claim 1 in which the interior of each slanted side wall is furnished with at least one imperforate reinforcing rib in a plane parallel with the end walls and of a depth to partially support the unit with the end wall and side wall bottoms.

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