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DISPOSAL APPARATUS
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3,375,666

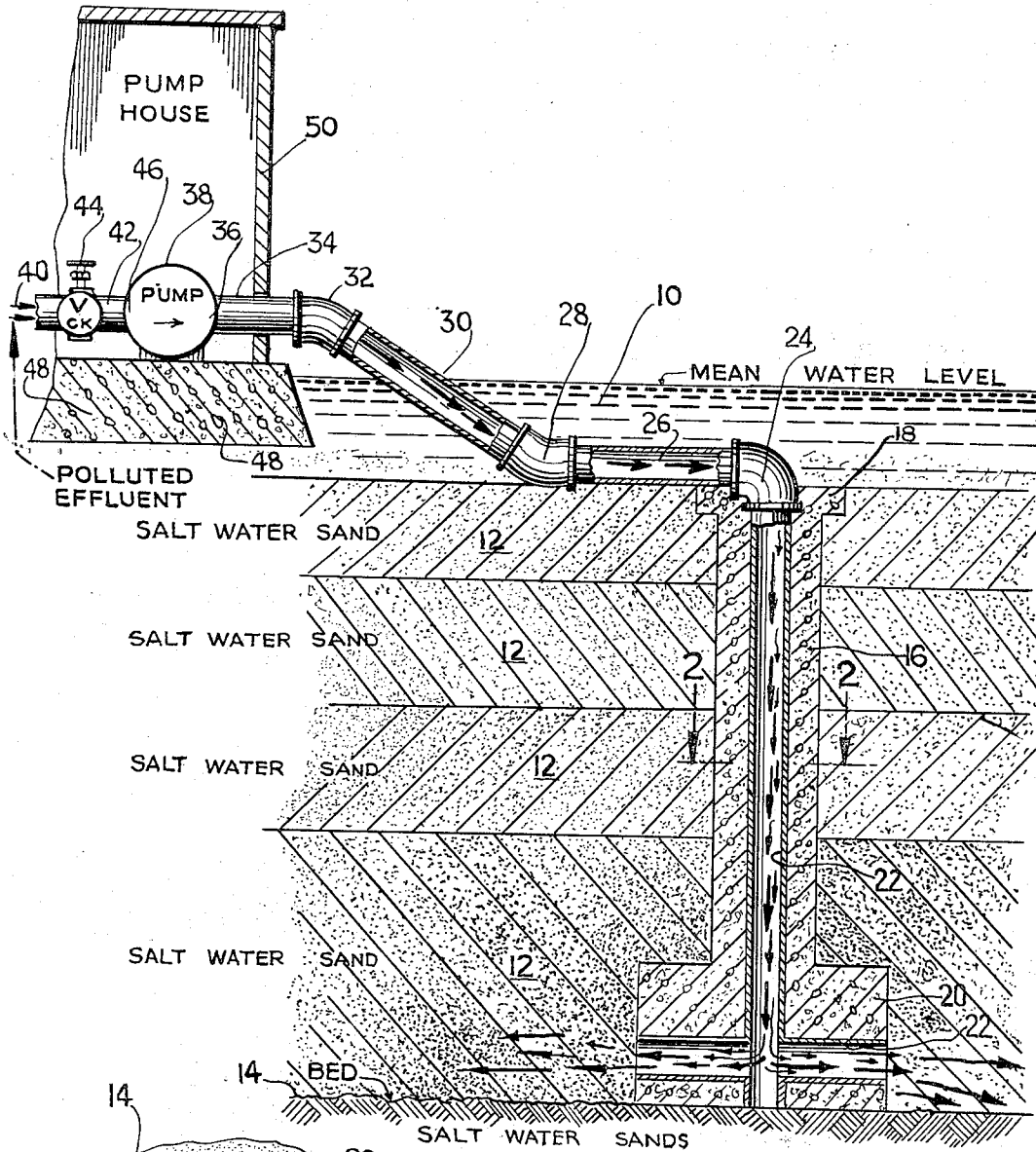


Fig. 1.

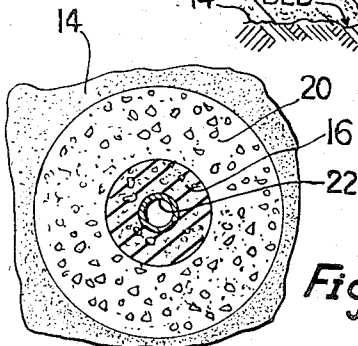


Fig. 2.

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DISPOSAL APPARATUS

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My invention is directed toward apparatus for disposing of contaminated or waste water in a safe and harmless manner.

Accordingly it is an object of my invention to provide new and improved apparatus of the character indicated for disposing of waste water.

Another object is to provide new and improved apparatus of the character indicated which can be manufactured easily and inexpensively.

Still another object is to provide new and improved apparatus of the character indicated which can be used for disposing of waste water which would otherwise contaminate rivers and streams.

All of the foregoing and still further objects and advantages of my invention will now be described with reference both to this specification and to the accompanying drawings wherein:

FIG. 1 is a cross sectional view of my invention in operative use; and

FIG. 2 is a view through 2—2 in FIG. 1.

Referring now to FIGS. 1 and 2, there is shown a body of water 10 having a bottom consisting of a plurality of layers 12 of salt water sand stacked vertically one below the other, the bottom layer resting on a solid bed 14. A vertical concrete cylinder 16 having a central or axial bore extends between the top surface of the uppermost layer 12 and the upper surface of bed 14. The top of cylinder 16 has an enlarged horizontal annular section 18 which is relatively shallow. The bottom of cylinder 16 has an even more enlarged annular section 20 which is relatively thick. The center of section 20 is provided with a horizontal bore which extends all the way through and communicates with the vertical bore. Both bores are lined with hollow joined pipe sections 22 forming a continuous conduit. The top of the vertical section is connected by a right angle elbow 24 to one end of a hollow pipe section 26 horizontally lying on top of the uppermost layer 12. The other end of section 26 is connected by a less than 90° elbow 28 to the bottom end of a hollow pipe section 30 which extends inclinedly upward out of the body of water and is connected at its upper end by a less than 90° elbow 32 to one end of a horizontal pipe section 34. The other end of section 34 is connected to the outlet port 36 of a high pressure pump 38. Polluted or contaminated or waste water or effluent 40 is fed via horizontal pipe section 42 (containing a check valve 44) into the inlet port 46 of the pump. The pump rests on a concrete slab 48 resting on the top layer 14 and extending above the water line and in a pump house 50 having slab 48 as a floor.

In use, the effluent is forced under pressure from the pump downward through the vertical pipe section 22 and outward through the horizontal pipe section 22 into the bottom salt water layer where the effluent mixes with the salt water and sand is dispersed in a safe and harmless manner without contaminating water 10.

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The pipe sections can be cemented above top water sands, using Lane Bryant or similar guns to shoot holes in the pipe 1 forcing the disposal into each water sand as necessary.

If desired, a plurality of cylinders 16 can be used with a suitable interconnecting pipe system whereby the effluent is first discharged through one cylinder until the surrounding sands are fully charged with effluent; the system is then connected to an adjacent cylinder and so on in sequence. After the last cylinder has been so used, the sand surrounding the first cylinder will have been purified by natural circulation and can be reused as required.

While I have described my invention with particular reference to the drawings, my protection is to be limited only by the terms of the claims which follow.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. Apparatus for disposing of contaminated liquid effluent in the region of a body of water flowing over the surface of a salt water sand layer resting over a plurality of other such layers stacked vertically one below the other, the bottom layer resting on a solid bed, said apparatus comprising a pump having an inlet port to which said effluent is supplied and an outlet port out of which the effluent is forced at high pressure, conduit means coupled to said outlet port at one end and extending vertically downward, the other end of the conduit means extending into the bottom layer above the bed, and horizontal discharge means coupled to said other end to discharge the high pressure effluent horizontally into said bottom layer to dispense said effluent in a safe and harmless manner.

2. Apparatus as set forth in claim 1 wherein said conduit includes interconnected horizontal, downwardly inclined and vertically downwardly extending interconnected pipe sections, one end of the horizontal section being connected to the outlet port, the bottom end of said vertical section being connected to said horizontal discharge means.

3. Apparatus as set forth in claim 2 wherein said horizontal discharge means includes a horizontal pipe open at both ends and connected at a point intermediate its ends to the bottom end of the vertical pipe section.

4. Apparatus as set forth in claim 3 wherein said conduit and discharge means are encased in concrete.

5. Apparatus as set forth in claim 4 wherein the concrete encasing takes the form of a hollow cylinder.

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