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(54) Subsoil watering system

(57) The Subsoil Watering Unit is provided consisting of perforated delivery canal (10) cylindrical trough (1) and hard permeable sponge fitting trough (2). The trough is essential for preventing water flowing out into the ground to form water reservoir and to hold the hard permeable plastic sponge.

The permeable sponge regulates water flow, prevents water outlet from blocking and helps to distribute water to a wider area.

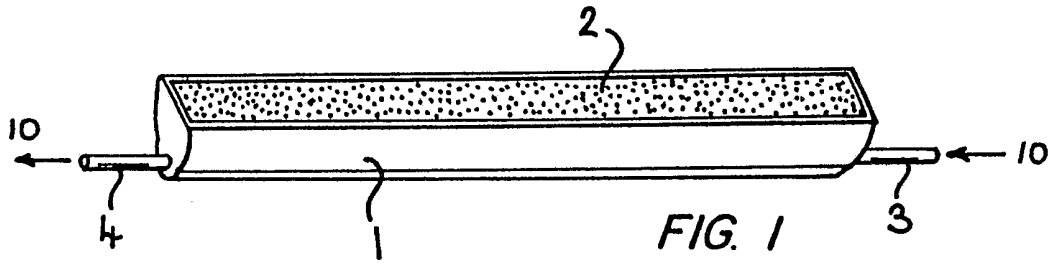

FIG. 1

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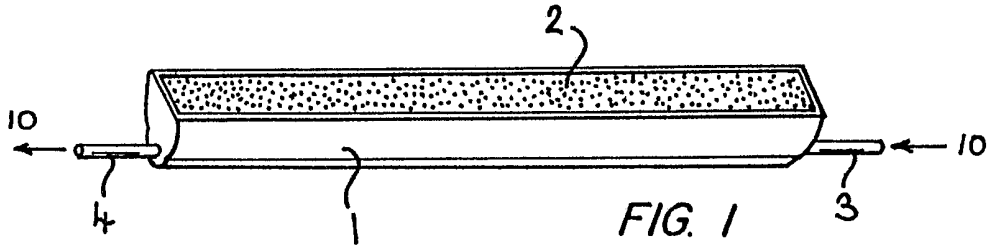

FIG. 1

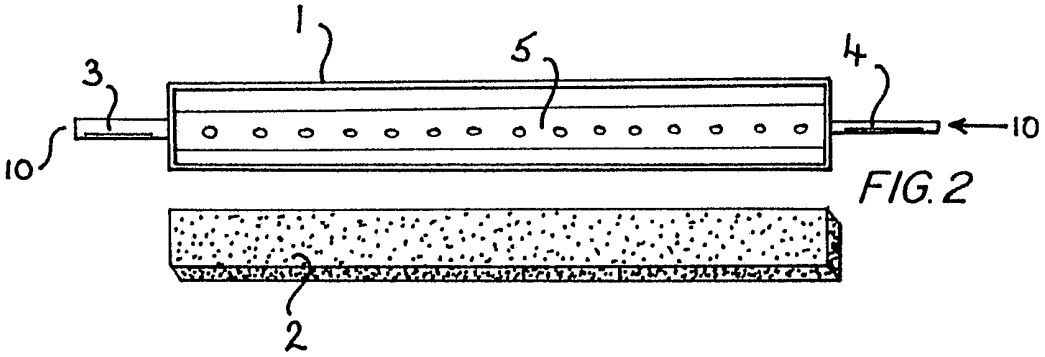

FIG. 2

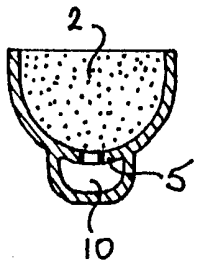

FIG. 3

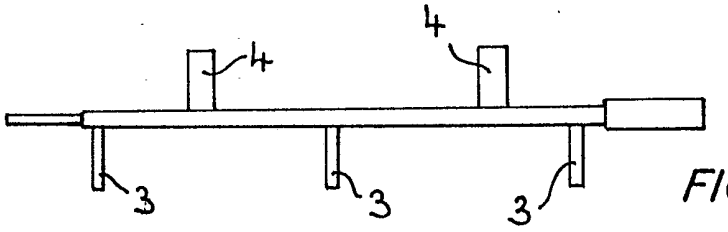

FIG. 4

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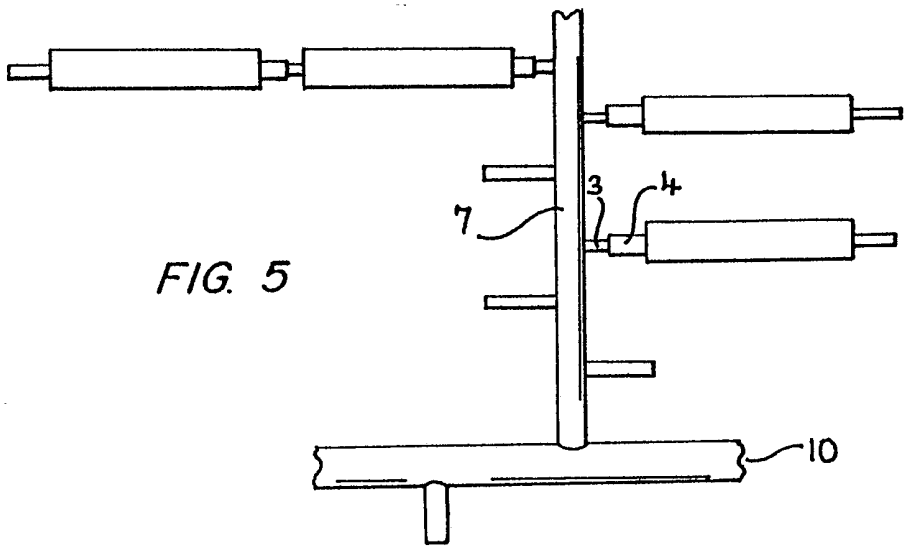

FIG. 5

FIG. 7

FIG. 6

SPECIFICATION

Subsoil watering system

This invention relates to subsoil watering Watering of gardens; lawns; fields, etc. is done by various methods such as using manually operated hosepipes or by fixed or moveable sprinklers.

These present watering methods have many disadvantages—water is lost due to evaporation and often it is either not adequate or in excess of what is needed. Falling splashes of water often damage new growth, hardens soil, and washes out the nutrients. Elaborate watering systems are costly to instal and tend to waste water.

According to the present invention a Subsoil Watering Systen is provided—the method consisting simply of a hosepipe with holes at certain intervals along its length. The hose is positioned in a trough (half cylindrical container) with the open side upwards. Trough and hose together are placed under the soil at a depth of 12 inches, or more if necessary.

For practical purposes, trough, hose and base unit are made for easy handling; in about 6 feet lengths and 6 inches in cross section. The unit is pear shaped in cross section forming a channel with holed partition running along.The ends of the basic unit are shaped into small pipes which in turn to be fitted into each other—male and female—to be joined together with the supply pipe. The upper part of the trough is filled with a strip made of plastic sponge in order to make the distribution of water flow evenly along the basic unit.

The basic unit and the connecting pipes can be joined together Meccano fashion to any combination; paralell, serial or both; in lines or in branches. The basic units can be placed under flowerbeds, lawns or growing vegetables. They can be placed anywhere where watering is necessary. Water is delivered to the roots of the plants without being wasted and without causing damage, as previously mentioned.

The specific embodiment of the invention will now be described by way of example with reference to the accompanying drawing in whcih:

Figure 1 Shows bisic unit

Figure 2 Shows basic unit viewed from above with sponge strip removed

Figure 3 Shows the basic unit in cross section

Figure 4 shows connecting pipes

Figure 5 Shows the way the basic units and the pipes are connected

Figure 6 Shows possible layout for the subsoil watering assembly

Figure 7 Shows cups to be put on the unconnected ends.

Referring to the drawing, the basic unit comprises pear shaped in cross section oblong with opening upward (1) container with oblong partition (5) with holes forming a channel for water (6)

The sponge strip to prevent the blockage of the holes along the partition (5) and in order to distribute water evenly into soil (2). Pipes joining the basic units with each other and with main pipes (3 & 4). Hosepipes connecting basic units (7). Paralell assembly of basic units (8) Serial assembly of basic units (9) Serial assembly of basic units (10).

This system can serve a dual purpose—it can be used as a subsoil watering system and also as a subsoil draining system especially in areas where prolonged rain and drought follow each other. With the pipes sloping gently in the right direction excessive moisture from waterlogged soil would return back along the pipes. Hence water collected in the rainy season could be returned back into the soil during the dry season.

Large scale developments of the Subsoil Watering System could be cpntrolled by valves positioned at the branches of the system with sensors in the soil. It could automatically be adjusted for the required degree of watering. Intermittant watering of the soil could be controlled by computers where required. The Subsoil Watering System could be used to water playgrounds, tennis courts, flower beds in parks, golf courses, etc.

Using warm water, sports grounds could be prevented from freezing, and the temperature of soil can be raised to start plant growth much earlier than usual.

Liquid fertiliser can be added to the water when using the Subsoil Watering System, and nutrients can be brought closer to the plant root with less chance to be washed down, and with hardly any effort.

CLAIMS

1. A unit for subsoil watering consisting of a cylindrical trough, perforated delivering canal and hard permeable plastic sponge.

2. A unit for subsoil watering as Claim 1 where trough is provided for preventing water loss downwards into soil, to be as a reservoir for water excess and for housing permeable plastic sponge.

3. A unit for subsoil watering as Claim 1 where water permeable plastic sponge filling trough, as Claim 1 and 2, is provided.

The plastic sponge is essential for preventing blockage of the holes in delivery channel; i.e. in heavy soil due to clay clogging or in sandy soil due to calcification when hard water is used for subsoil watering. It also delays water flowing out too fast, and distributes water widely.

4. A subsoil watering unit can be adapted for irrigation or drainage for areas normally regarded as unsuitable for agriculture.

5. As Claim 4 a subsoil watering unit can be adapted to provide water to hillsides in the

dry season, to collect water from it in the rainy season and to prevent soil erosion and local floods in the area.

5. A subsoil watering system as in Claim 4 can be used to get rid of liquids from sewerage plants. Liquids can be transferrerd with ease at any time without undue hardship. There is no necessity to empty sewers into the seas or rivers. Triplicate reservoirs in wastelands or hillsides can ferment refuse into useful and safe products—gas as fuel and liquids and solids into fertilisers.

6. Subsoil watering system as Claim 1 and Claim 2, a semi-spherical dish about 1 foot in diameter is used for irrigation or drainage of widely spaced trees in orchards, parks or woods. A semi-spherical hard permeable plastic sponge is preferred but not essential; soil full of organic matter can do just as well, possibly better.

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