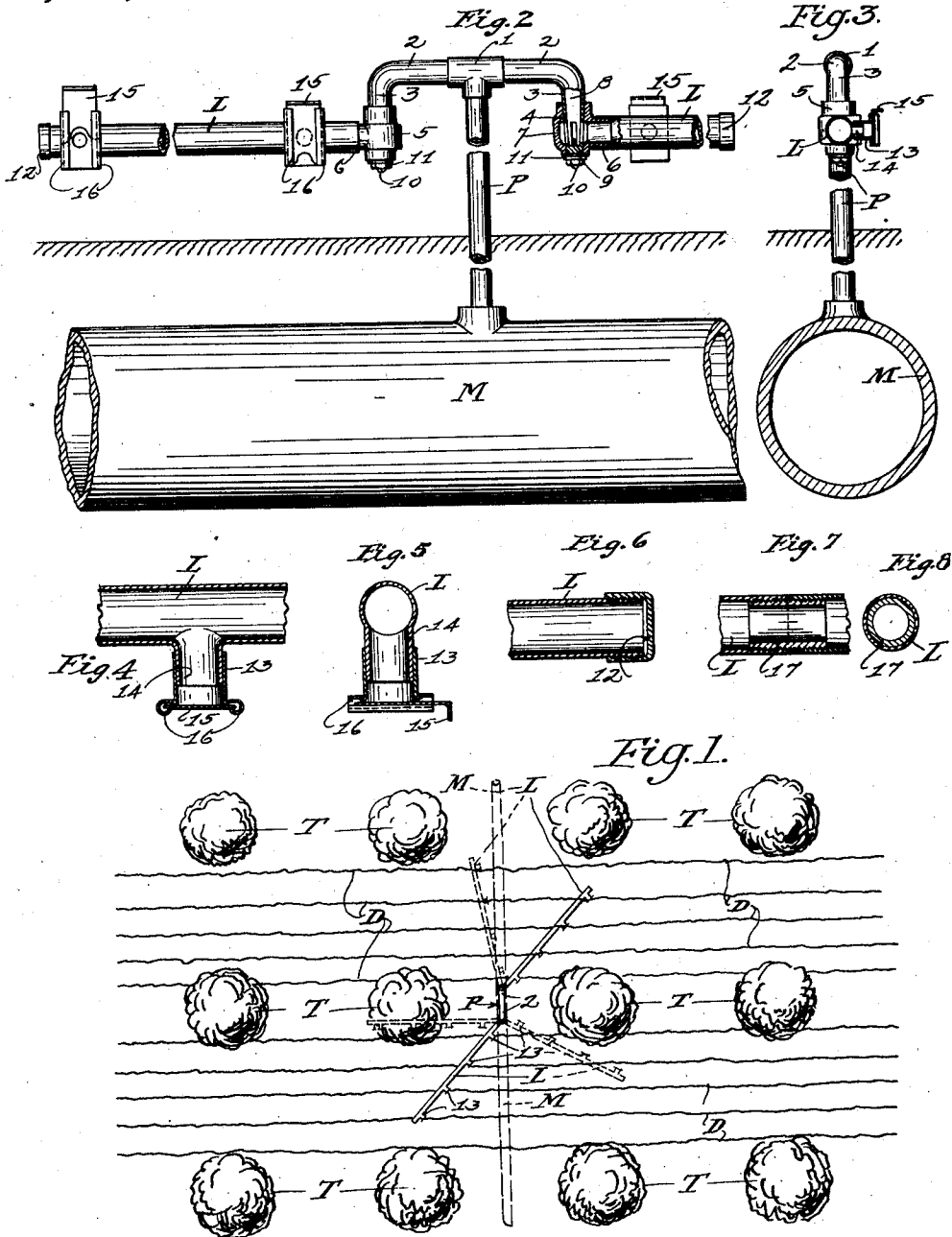


G. E. QUIGLEY.
IRRIGATING DEVICE.
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1,389,319.

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GEORGE E. QUIGLEY, OF YORBA LINDA, CALIFORNIA.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, GEORGE E. QUIGLEY, a citizen of the United States, and a resident of Yorba Linda, in the county of Orange, State of California, have invented new and useful Improvements in Irrigating Devices for Orchards and the like, of which the following is a specification.

My invention has particular relation to means for irrigating orchards, whereby instead of providing a series of irremovable stand pipes of usual character at every row of trees, or at certain distances apart, I provide a series of removable stand pipes of improved design and special character with connections extending therefrom and either rigidly held thereon or capable of being swung around in arcs concentric with the axis of said pipes for decreasing the number of such stand pipes in an orchard and at the same time providing more satisfactory and efficient irrigating means.

I prefer to accomplish the above objects by means of stand pipes having one or more—a pair preferably—of stationary or horizontally swinging pipes, having connections with the stand pipes, and each of said pipes having a plurality of gate valves in the walls thereof arranged at regular intervals, for discharging the water therefrom into the shallow ditches usually provided in orange and lemon orchards and the like. Such a system makes it possible to irrigate on both sides of a water main simultaneously and with equal effect and greatly facilitates the irrigating operation. Also my system permits of the uninterrupted cultivation of the ground. Other objects may appear as the description of my system progresses.

In the drawings annexed hereto I have shown one practical embodiment of my improved system, with minor modifications, subject to change in certain particulars, without enlarging the scope of my invention or departing from the spirit thereof. In said drawings:

Figure 1 is a partial plan of an orchard showing my improved device arranged for operation therein.

Fig. 2 is an enlarged elevation of my device shown in connection with a water main,

Fig. 3 is a view of the same at right angles to Fig. 2.

Fig. 4 is a fragmentary horizontal section of one of the swinging lateral pipes, showing one of the discharge valves therein.

Fig. 5 is a transverse section of the same.

Fig. 6 is a fragmentary section of the closed end of one of said lateral pipes.

Fig. 7 is a fragmentary section of one of said lateral pipes showing an extension connected therewith.

Fig. 8 is a transverse section of the same.

In the consideration of my improvements it will be understood that the water mains in orchards of the character my system is designed for use in have water mains running around and through the orchards, depending upon the topography of the ground, so as to afford a proper fall for the water in the shallow ditches, or furrows, to which the water is supplied through the laterals, or outlets.

Usually, the water mains will have outlets at or between the rows of trees and the ditches will be so arranged as to direct the flow of water from the outlets to the series of parallel ditches disposed between the rows of trees. I may provide stand pipes of the character shown in Figs. 2 and 3 and including vertical pipes P screw connected at their lower ends with the water main M and having T's 1 on their upper ends with oppositely projecting stationary laterals 2, 2, connected with said T's, at a suitable distance above the ground. The main W is, of course, substantially below the surface of the ground so as to permit the cultivation of the orchard.

The stationary stand pipe laterals 2, 2 may have downwardly turned portions 3, 3, with tapering ends 4, 4 which seat in and are held in swivel elbows 5, 5, and sheet metal lateral pipes L, L, are suitably attached to the necks 6, 6, of said elbows, as shown. Members 5 have chambers 7 therein which communicate with the passages 8 in the stationary laterals 2 by means of a plurality of peripheral orifices 9, 9, etc. and the extremities of laterals 2 have stems 10, 10, which carry nuts 11, 11 on the ends thereof on the exterior of members 5, for holding the said parts together for use. Thus, the

tapering portions of the laterals 2 provide means not only for connecting the members 5 and laterals L therewith but additionally serve to provide means for preventing the leakage of water from members 5, as the nuts 11 may be tightened at will and as occasion demands, for this purpose. Any suitable means, however, may be employed for permitting the turning of the laterals L on the portions 4 of laterals 2, and the means described for this purpose is not material to the successful operation of my device.

The laterals L have end closures 12 and a plurality of gate valves of suitable character are provided thereon, preferably at the sides, for discharging the water from the interior of said laterals to the ditches D, D, etc. A well known and suitable form of gate valve adapted for this purpose is indicated in the drawings and consists of a sleeve 13 adapted to slidably fit a neck 14 on the laterals L and having a vertically movable flat plate 15 held at the end of said sleeve between curls, or bends, 16. Said valves may be provided on one or both sides of the laterals L, as may be desired or necessary.

I prefer to arrange the disposition of the stand pipes and laterals as follows: A stand pipe may be provided at alternate tree rows and the laterals are preferably of such a length as to reach, when fully extended, almost, if not quite to the adjacent rows on opposite sides of the stand pipe, as shown in Fig. 1. The laterals may, however, be extended by connecting additional sections, as shown in Fig. 7, at the ends thereof by means of unions 17 so as to increase their range of operation and correspondingly decrease the number of stand pipes.

The valves V are spaced at suitable distances apart so as to afford the best results and cause their registration with the ditches D between the rows of trees T, the laterals L are positioned just above the level of the ground and are adapted to be manually moved about their axes into desirable positions relative to the irrigating ditches, and may be additionally supported at their outer ends, if necessary, or intermediate their ends, or they may at all times rest upon the ground, as may be found expedient.

It will be apparent that the laterals may be disposed at any desired angle on either side of the main M, and are thus adjustable to the peculiarities of topography and surface conditions, and the use thereof for irrigating orchards will effect a substantial economy of time and labor and substantially expedite the irrigating of the land.

The stand pipes, being removably connected with the water mains, may be bodily removed from one location and connected at other places in an orchard, thus obviating the necessity for as many of the units as

might be otherwise required. Also, when not in use all of the stand pipes and laterals may be entirely removed from the orchard and thus permit the free and uninterrupted cultivation of the ground.

In some cases the laterals L may not necessarily be movably connected with the stand pipes, but rigidly so, for carrying out the purpose of my device in accordance with requirements of particular cases, while in other cases the character and size—both length and diameter—may be changed to meet the varying requirements of use. I do not desire to limit myself to the exact forms of the elements of my system which I have described, for it is quite possible to modify the said elements and their interconnections and relation, within the scope of the appended claims without changing the objects, purpose and spirit of my invention.

What I claim is:

1. An irrigating system including a water main, a vertical pipe communicating therewith and extended above the surface of the ground, oppositely directed pipes stationarily held on the upper end of said pipe, swivel members held on the ends of said stationary pipes, and horizontal pipes connected with said swivel members and adapted for movement in a substantial arc about the axis of said stationary pipes, said horizontal pipes having apertures therein for discharging the water therefrom.

2. An irrigating system comprising a water main, a plurality of stand pipes at selected positions relative to the rows of trees in an orchard and connected with said main, a pair of oppositely directed horizontal stationary laterals connected with the upper ends of each of said stand pipes, swivel fittings on the ends of said laterals; and relatively long discharge pipes connected with said fittings and adapted to be moved in substantial arcs about the said stand pipes, said discharge pipes having outlets therein for discharging the water therefrom.

3. In an irrigating device, a vertical pipe, a pair of oppositely directed stationary and horizontal laterals connected therewith and having downwardly extended ends, substantially elongated discharge pipes pivotally connected with said laterals and disposed above the surface of the ground, and a plurality of outlets in said discharge pipes.

4. In an irrigating system, a vertical pipe extended above the ground, a pair of oppositely directed stationary laterals on the upper end thereof and having depending extremities, swivel elbows held on the extremities of said laterals, and substantially elongated discharge pipes connected with said elbows and adapted for movement about the axis of said lateral extremities, said discharge pipe having outlets therein

for irrigating both sides of said vertical pipe.

5 In an irrigating system, a stand pipe, branch pipes thereon having depending tapering extremities provided with outlets therein, fittings rotatably held on said extremities and having water passages communicating with said outlets, and substan-

tially elongated discharge pipes attached to said fittings and movable therewith relative to said stand pipe, for irrigating the ground at a plurality of points.

GEORGE E. QUIGLEY.

Witnesses:

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