E. M. HAMILTON.

Pipes for Irrigation.

No. 216,673. Patented June 17, 1879.

Fig. 1.

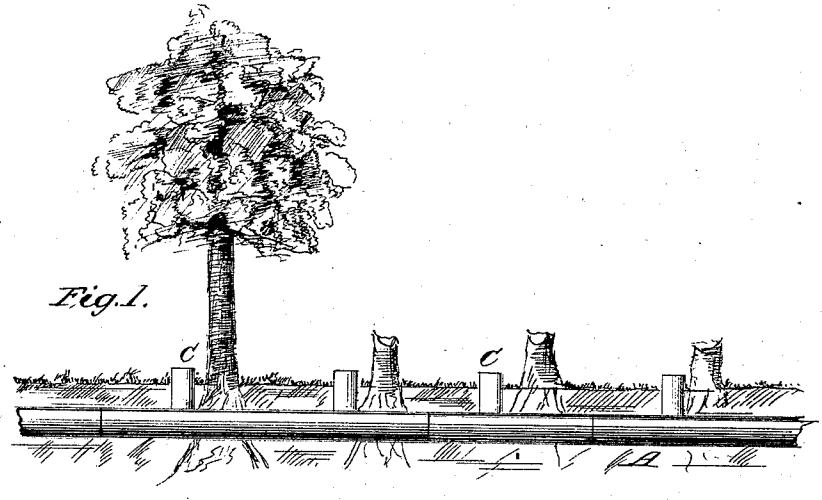
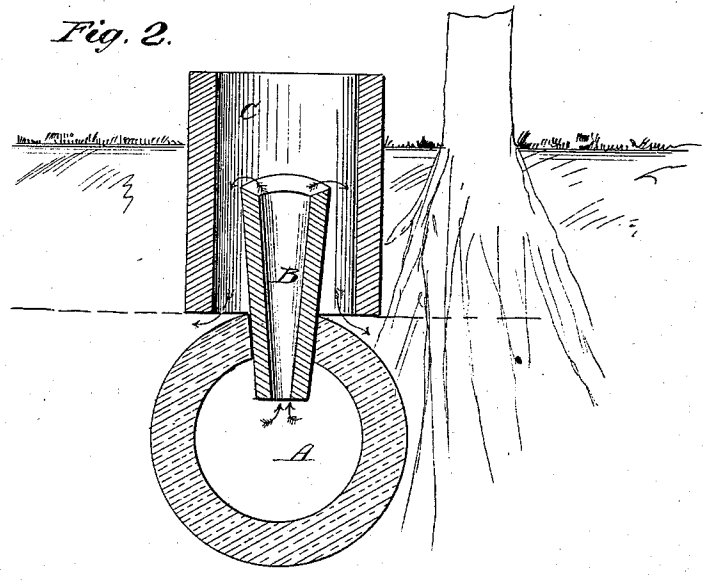


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

EZRA M. HAMILTON, OF LOS ANGELES, CALIFORNIA.

IMPROVEMENT IN PIPES FOR IRRIGATION.

Specification forming part of Letters Patent No. **216,673**, dated June 17, 1879; application filed May 28, 1879.

To all whom it may concern:

Be it known that I, EZRA M. HAMILTON, of Los Angeles, in the county of Los Angeles and State of California, have invented certain new and useful Improvements in Pipes for Irrigation; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of my invention is to irrigate land, and especially orchards, by underground pipes, and to exclude roots therefrom, while the flow of water is easily regulated and the pipes are prevented from sucking mud when the water-supply is shut off.

My invention consists in a continuous pipe or net-work of pipes having perforations at desired distances, said perforations being provided with earth-guards or mud-traps, all of which will be fully understood by the accompanying description.

In the accompanying drawings, Figure 1 is a vertical section, showing the water-pipe under ground, and a series of trees, earth-guards, and perforations or water-discharges. Fig. 2 shows the earth-guard and discharge-tube in section, and the direction of the flow of water indicated by arrows.

In the application of my improvement to irrigating orchard lands, I first lay a continuous pipe, A, in the ground, and running near a row of trees; and, if desired, I employ cross-pipes, so as to form a complete net-work of pipes running through the orchard. These pipes may be made of concrete, pottery, or any other suitable materials, with the joints well closed by mortar or otherwise, so as to have a tight pipe which will not be liable to suck in mud when the water-supply is cut off. Near each tree, or at suitable intervals, this pipe is perforated and plug B inserted, as seen in Fig. 2.

I prefer to use a perforated tapering plug, so it will not bind too tightly in the hole; and, also, there is an advantage in making a tapering hole in the plug, as this shaped hole allows any particles of moss or other material more readily to float up out of the tubular plug. Around this plug is placed an earth-guard, C, to protect the plug-tube B from being filled with earth, while the earth may be packed around this guard or curb C nearly to its top, as seen in Fig. 2.

This arrangement or construction is intended especially for underground irrigation, the water being supplied to the ground at the lower end of well or earth-guard C, as indicated by the level of the broken line in Fig. 2; but, if desired, my plan will also afford surface irrigation, as the tube C may be sunk to a greater or less depth in the ground, as desired. I generally leave this earth-guard or well C open at the top to light and air, and for the free inspection of flow of water; but in some soils and under certain circumstances the well may be covered to a foot in depth beyond the reach of the plow, (after the hole in plug B has been properly regulated by a wedge placed thereon, or otherwise, to partly close the hole, as desired.) No roots or mud will enter plug B or reach pipe A, on account of earth-guard C. After the flow of water has been regulated according to the pressure of water and other circumstances, the pipes require very little further attention or expense, and the benefit to the orchard is almost incalculable.

I do not broadly claim underground pipes for irrigation; but

What I claim, and desire to secure by Letters Patent, is—

In combination with an underground pipe or pipes, the plug B and well or earth-guard C, for the purpose of supplying water at a depth below the surface of the earth, and yet excluding dirt and mud from entering the pipes, substantially as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

EZRA M. HAMILTON.

Witnesses:
A. W. POTTS,
E. H. OWEN.