2. Sheets. Sheet. 1.

# W. L. Fish,

## Sprinkler.

No. 106,802 Patented Aug. 30. 1870.

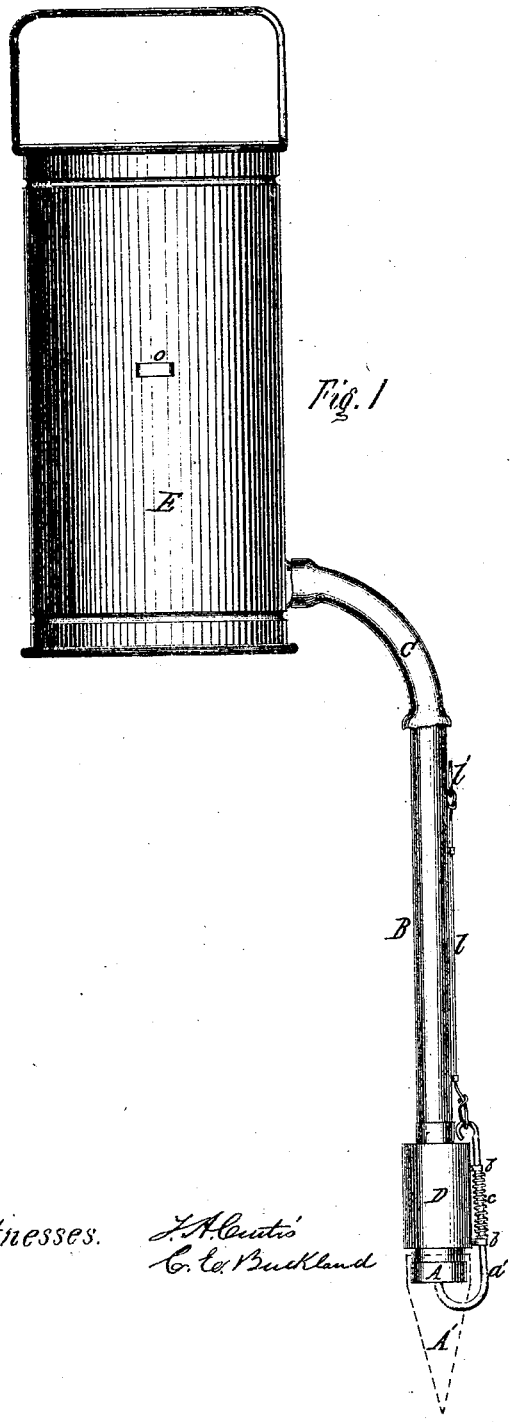


Fig. 1

Witnesses. J. A. Curtis
C. C. Buckland

Inventor.
Warren L. Fish

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

W. L. Fish.

2. Sheets. Sheet. 2.

Sprinkler.

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Fig. 3

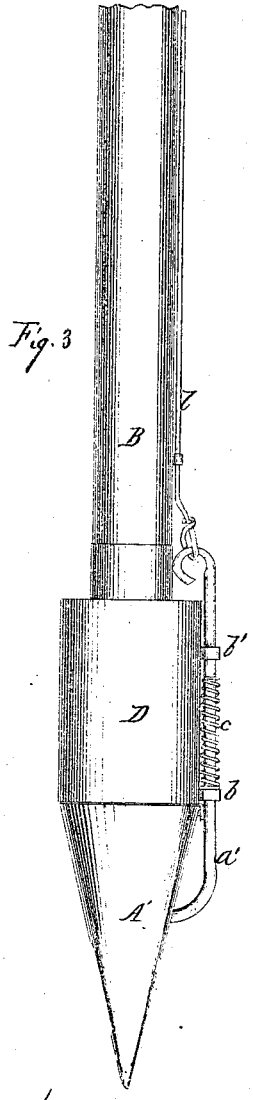



Fig. 2

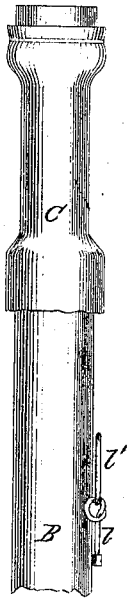
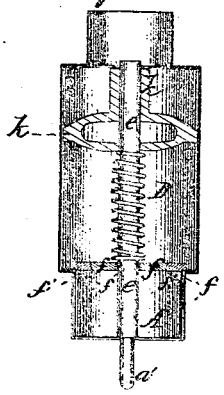



Fig. 4



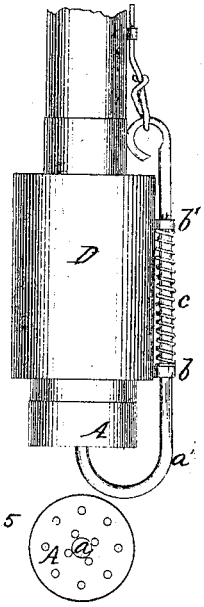




Fig 5




Inventor

Warren L. Fish

Witnesses C. A. Curtis

C. C. Bucklan d

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

# United States Patent Office.

WARREN L. FISH, OF SPRINGFIELD, MASSACHUSETTS.

*Letters Patent No.* 106,802, *dated August* 30, 1870; *antedated August* 18, 1870.

## IMPROVEMENT IN PORTABLE SPRINKLERS.

The Schedule referred to in these Letters Patent and making part of the same

*To all whom it may concern:*

Be it known that I, WARREN L. FISH, of Springfield, in the county of Hampden and State of Massachusetts, have invented a new and useful Improvement in Sprinklers; and I do hereby declare the following, when taken in connection with the accompanying drawing and the letters of reference marked thereon, to be a full, clear, and exact description thereof; and which said drawing constitutes part of this specification, and represents in—

Figure 1, a side view of my sprinkling device, as attached to the vessel containing the water;

Figure 2 is a side view of the tube, having a perforated nozzle or cap, and showing the method of operating the valve;

Figure 3 is a similar side view of the tube with the valve-case, but with a conical or pointed nozzle;

Figure 4 is a vertical section of the valve-case, through line F G of fig. 2; and

Figure 5 is a plan view of the perforated nozzle or cap.

My invention relates to the sprinklers designed for use in watering flowers or plants, and

It consists of a rigid tube, having a flexible tube attached to one end, and at the other a cylindrical or other conveniently shaped case, in which is a valve, operated by means of a wire or rod pressing against the valve from the outside, to open it, while it is closed by means of a spiral spring placed upon the spindle or rod of the valve inside the case; and the device is designed for and particularly adapted to the cultivation of the tobacco plant, although it may with equal facility and advantage be used in the cultivation of other plants, vegetables, or shrubs.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and the mode of its operation.

In the drawing—

F represents a vessel, which may be of any desired shape and size, having a short pipe at the lower end, communicating with the interior of the vessel.

B represents a tube of the desired size and length, to one end of which is attached the valve-case D, which contains the valve, and this tube B is connected to the vessel E by means of the flexible tube C, one end of which is attached to the short pipe at the lower end of the vessel E, while the other end is attached to the end of the pipe B.

Fig. 4 shows in detail the construction of the valve and its case.

D represents a cylindrical case, having a brace or stay, *k*, therein, extending from one side of the case to the other, and this brace or stay *k* has a vertical hole made therein, through or in which operates the valve-rod *e*, near the lower end of which is attached the disk *f*, which fits well upon the annular valve-seat *f'*.

Upon the valve-rod *e* is placed a spiral spring *h*, the upper end of which bears against the lower side of the brace *k*, the lower end of said spring bearing against the valve-disk *f*.

To the lower end of the valve-case D is attached a cap, A, which has a sufficient number of small holes therein, for the passage and distribution of the water.

This perforated cap A has a central perforation, *a*, therein, through which passes the curved end of the rod *a'*, the extreme end of which bears upward against the end of the valve-rod *e*.

This curved rod *a'* operates in the guides *b b'*, attached to the outside of the case D, and a small annular collar, or its equivalent, may be attached to the said rod *a'*, just above the guide *b*, and a spiral spring, *c*, may be placed upon the rod *a'*, above the said small collar, and the upper end of the said spring bears upward against the upper guide *b'*, the lower end bearing down against the said annular collar.

The upper end of the rod *a'* has a cord or wire, *l*, attached thereto, which extends along up the tube B, passing through small guides *x*, upon said tube B.

Instead of using the perforated cap A, a conical cap, A', suitably perforated, may be used, into or through which may pass the curved end of the rod *a'*.

A ring or hook, *l'*, may be attached to the upper end of the cord or wire *l*.

Its operation is as follows:

The vessel E may be carried upon the shoulder or upon the back by means of straps passing through the loops *o* upon the said vessel, or secured in any other suitable manner, and is filled with water. The tube B is carried in the hand by grasping the upper end near the ring *l'*, and in such manner that the ring *l'* is seized by one of the fingers of the hand. The lower end of the tube, having the cap A thereon, may then be thrust at the roots of the plant, or any desired point where it is desired to deposit the water, and by pulling the ring *l'* and cord or wire *l*, the rod *a'* is drawn upward, the extreme end of the curved part of the rod forcing up the valve-rod *e* and disk *f*. As long as said valve-rod and disk remain elevated, the water in the vessel is free to pass down out of the tube, and through the cap A or A'.

When the wire or cord *l* is released, the spiral spring *c* upon the rod *a'* forces said rod back to its original position, and the valve-rod and disk *f* being then free to move back, they are forced down to their original position by the action of the spiral spring *h*, and the flow of water is then stopped.

In practice, it would, perhaps, not be necessary to have but one spiral spring, that is to say, the spring *h* about the valve-rod *e* might be sufficient to force back both the valve *f* and the rod *a'*.

It is often desirable to deposit the water from a sprinkler, in small quantities and in particular spots, and with as little waste as possible. This is especially desirable in the cultivation of tobacco, and of cabbage plants, and, in fact, of a great variety of garden-plants, where the leaves are so large that water cannot well be deposited at the roots by the ordinary sprinklers.

By my invention, however, the lower end of the tube may be thrust beneath or through the leaves, and directly to the root of the plant, and just the desired quantity of water may then be deposited, and without any waste whatever.

The pointed cap A′ is a very useful appendage in some cases, such, for instance, as in setting out tobacco and cabbage plants, when the earth is in a very dry state, making it necessary to water the young plants when they are set out. The pointed cap A′ is thrust into the earth, to make the hole in which to place the plant, and, at the same time the hole is made, the valve is raised by a slight pull of the finger, and just the quantity of water is deposited in the hole to give the earth the desired degree of dampness around the roots of the young plant. As, ordinarily, the holes are made by one operation, and the water deposited by another, it is evident that my invention is a saving in time and labor.

If muddy or dirty water be used, the curved end of the rod *a′* may be pulled out of the cap A or A′, and swung around to one side, and then the cap be removed, and so using the device without any cap, as it is not always necessary that the water should be distributed through a perforated cap.

Having thus described my invention,

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

An improved watering device, consisting of the tube B, the valve *f*, with the spring *h* thereon, and operated by means of the rod *a′*, all constructed and operating substantially as described, and connected with a suitable vessel for containing the water, by means of the flexible tube C.

WARREN L. FISH.

Witnesses:

T. A. CURTIS,

C. E. BUCKLAND.