

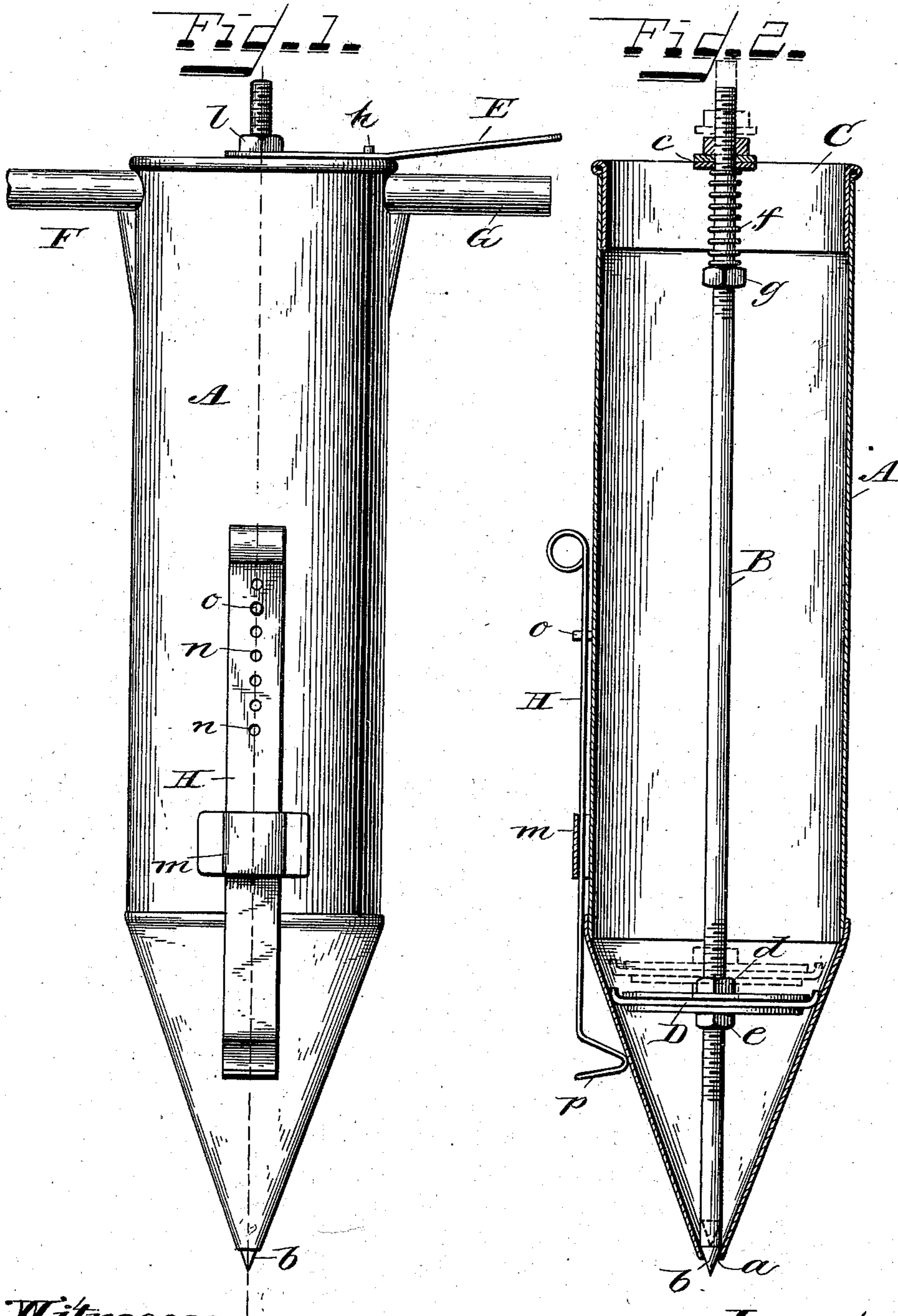
(No Model.)

J. F. FIRTH.

FERTILIZER DISTRIBUTER FOR TOBACCO PLANTING.

No. 560,850.

Patented May 26, 1896.



Witnesses.

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# UNITED STATES PATENT OFFICE.

JOHN F. FIRTH, OF CARLISLE, KENTUCKY.

## FERTILIZER-DISTRIBUTER FOR TOBACCO-PLANTING.

SPECIFICATION forming part of Letters Patent No. 560,850, dated May 26, 1896.

Application filed February 12, 1896. Serial No. 579,011. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN F. FIRTH, a citizen of the United States, residing at Carlisle, in the county of Nicholas and State of Kentucky, have invented certain new and useful Improvements in Fertilizer-Distributers for Tobacco-Planting, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to fertilizer-distributers for tobacco-planting; and it consists of a certain novel construction and arrangement of parts herein described, and particularly pointed out in the claims.

In the drawings, Figure 1 is a front side view of my machine. Fig. 2 is a central vertical section of same.

A is a cylindrical or tubular reservoir of any convenient size, preferably sufficient to hold two gallons or more of water or liquid fertilizer, and made of tin, galvanized iron, copper, or any other suitable material. The lower end of this reservoir is cone-shaped and provided with an aperture *a* at the apex of the cone. Fitting in this aperture is the pointed end *b* of the rod or plunger B, which passes up centrally through the reservoir and through a cross-bar *c*, which connects the upper edges of a cylindrical cap C, removably fixed at the upper end of the cylindrical reservoir A. This cap C can be slid out of the reservoir at any time, thus removing the plunger B and all its attachments and leaving the reservoir entirely open for cleaning or otherwise. At the lower end of the plunger B a valve D is mounted, with nuts *d* and *e* to hold same on the rod, the rod being screw-threaded, so that the valve is capable of adjustment along the rod to compensate for wear. The valve, when the plunger is down, bears against the conical sides of the reservoir and shuts off the flow of water to the aperture at the point of the cone.

The upper end of the rod is provided with a coiled spring *f*, which bears between the cross-piece *c* and a nut *g*, adjustable along the rod to regulate the tension of the spring. The effect of this spring is to keep the rod normally down with the valve D closed.

The cross-piece *c* carries a stud *h*, upon which is fulcrumed a hand-lever E, the inner

end of which is slipped over the rod B and has a bearing between the cross-piece *c* and the nut *l*, mounted on the rod.

F and G are handles for the machine, and by depressing the lever E it will be evident that the rod B will be raised and the valve D opened, as shown by dotted lines in Fig. 2, while the moment the hand-lever E is released the spring *f* will depress the rod and close the valve. The nut *l* is also adjustable on the rod, so that the amount of opening of the valve may be regulated as desired.

H is a gage held by loop *m* and provided with a series of holes *n*, while stud *o* in the reservoir A engages any desired one of these holes, and thus the position of the gage is adjusted to correspond to the depth of opening to be made in the ground, the lower end of the gage being provided with a right-angled extension *p* for this purpose.

The machine is used in the following manner: The gage is first adjusted to correspond with the character of hole desired to suit the condition of the plant, and the reservoir A is then filled with water or other liquid fertilizer. The operator then grasps the handles F and G and inserts the implement in the ground as far as the gage will allow, the point *b* of the plunger preventing any dirt from closing up or clogging the aperture in the reservoir. The operator then depresses the hand-lever E and keeps it depressed until the required quantity of liquid fertilizer has run out, when by releasing the lever the valve closes, shutting off the liquid. The amount of liquid required depends very largely on the character of the soil and the condition of the plant. There must be sufficient to properly moisten the ground, but not such a quantity as will form a mud-cake to be afterward baked by the sun and weather and thus stifle out the life of the plant.

With my arrangement the operator can deliver the exact quantity needed by operating the hand-lever E as described. Another point to be noticed is that with my arrangement the valve D can be adjusted to compensate for wear and that the valve and rod can be at once removed for repairs without in any way damaging or opening up the main reservoir.

Still another feature is the arrangement whereby the hand-lever comes out directly

over the handle, so that without removing his hand the operator has complete control of the valve and no independent operation is necessary.

5 Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

1. A fertilizer-distributor, comprising a cylindrical or tubular reservoir having a conical  
10 or tapering end, a cap with a cross-bar fitting in the upper end of the reservoir, a plunger within the reservoir and passing through the cross-bar, a valve on the plunger located in the tapering end, nuts on either side of the  
15 valve for adjusting the same, a lever embracing the upper end of the plunger, a pin on the cap to which the lever is fulcrumed, a nut on the plunger to be engaged by the lever to vary the extent of movement of the plunger,  
20 and a spring to return the plunger to the closed position, substantially as shown and described.

2. A fertilizer-distributor, comprising a cy-

lindrical or tubular reservoir having a conical or tapering end, a cap with a cross-bar fitting  
25 in the upper end of the reservoir, a plunger within the reservoir and passing through the cross-bar, a valve on the plunger located in the tapering end, nuts on either side of the valve for adjusting the same, a lever embrac-  
30 ing the upper end of the plunger, a pin on the cap to which the lever is fulcrumed, a nut on the plunger to be engaged by the lever to vary the extent of movement of the plunger, a spring to return the plunger to the closed  
35 position, and a gage consisting of a strip having its lower end bent laterally and provided at its upper end with a series of holes, and a pin on the reservoir to engage the holes, substantially as shown and described.

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Witnesses:

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