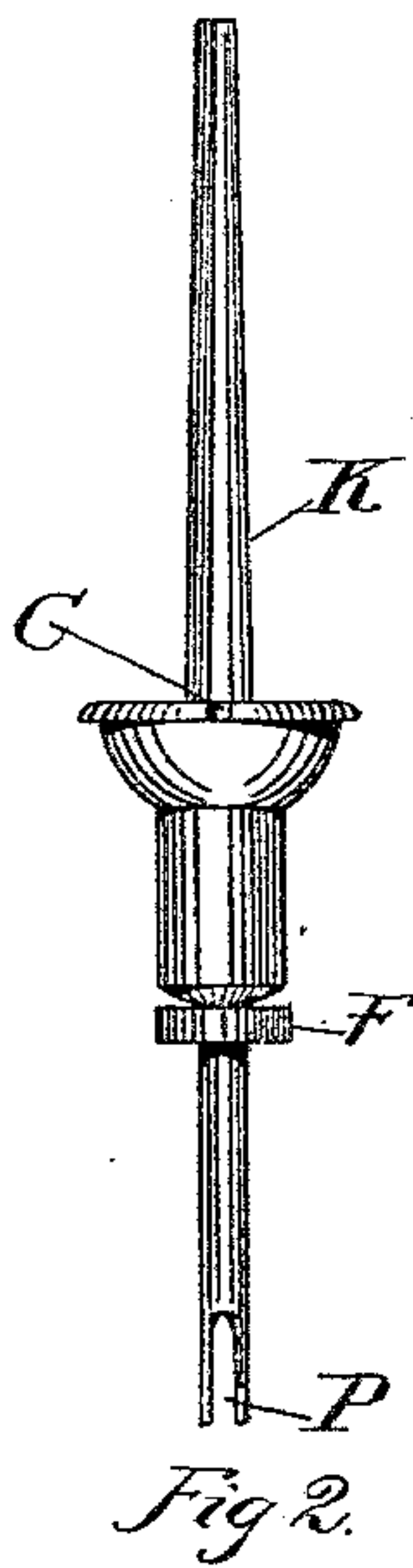
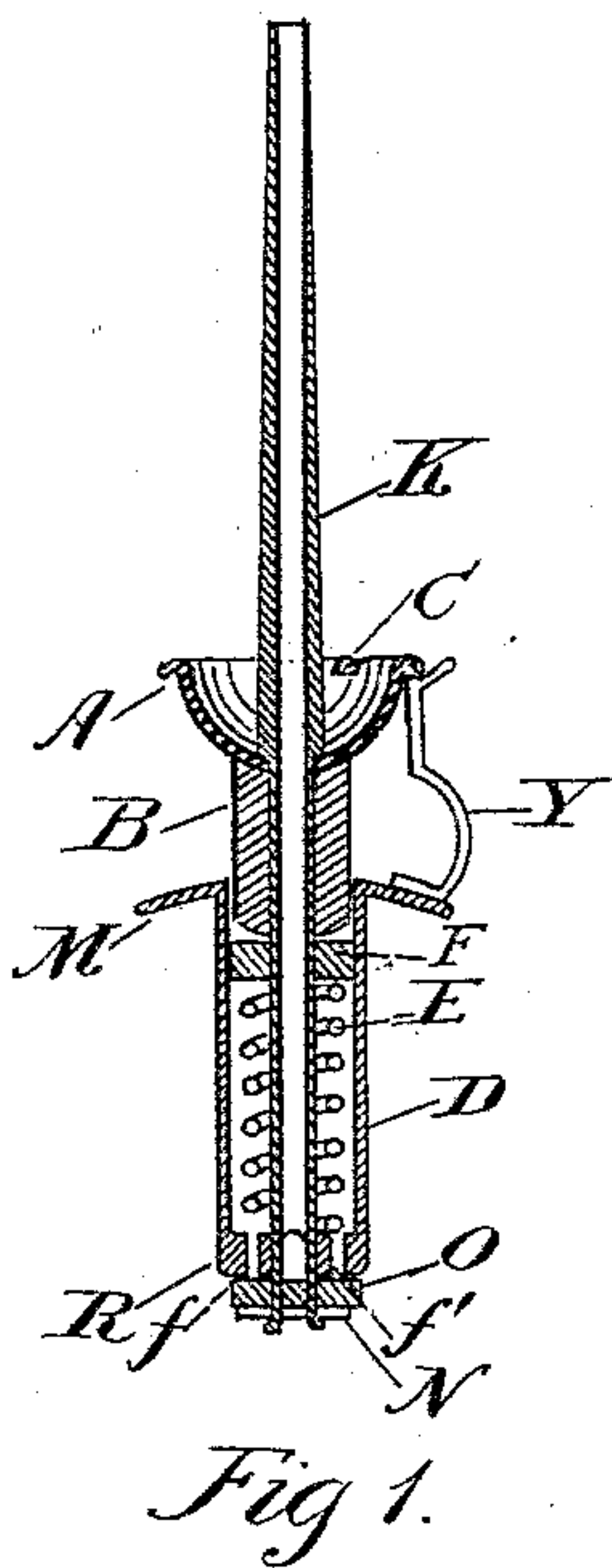
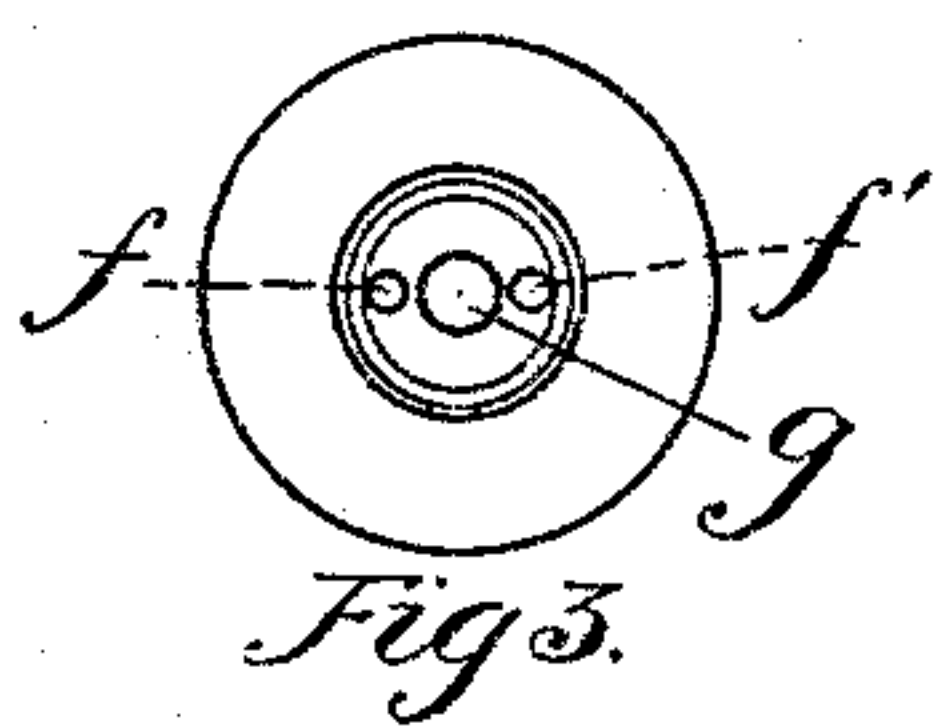


(No Model.)

S. P. DENISON.
DROPPER SPOUT.

No. 401,256.

Patented Apr. 9, 1889.



Witnesses.
Stolbrook Cushman
J. A. Jamison, Jr.

Inventor.
S. P. Denison
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UNITED STATES PATENT OFFICE.

SYLVESTER P. DENISON, OF BROOKLYN, ASSIGNOR OF ONE-HALF TO
HOLBROOK CUSHMAN, OF NEW YORK, N. Y.

DROPPER-SPOUT.

SPECIFICATION forming part of Letters Patent No. 401,256, dated April 9, 1889.

Application filed November 3, 1887. Serial No. 254,240. (No model.)

To all whom it may concern:

Be it known that I, SYLVESTER P. DENISON, of the city of Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Dropper-Spouts, of which the following is a full, complete, and exact specification, reference being had to the annexed drawings, which form a part thereof.

In the drawings, Figure I represents a vertical sectional view of my invention. Fig. II is a perspective view of the tube and packing. Fig. III is a plan view of the lower end of the cylinder. Fig. IV is a view of the packing which is placed inside the cylinder. Fig. V is a view of the washers.

The object of my invention relates to an improved dropper-spout by means of which fluid is delivered from the reservoir in which it may be contained in drops or regulated quantities.

In the drawings, D indicates a hollow cylinder having a base or bottom, R, on which rests a spiral spring, E. This cylinder D is furnished at one end with the circular flange M, and in its base or bottom are two holes indicated by f and f' and a larger one indicated by g . Through this cylinder and the hole g extends the tube K, constructed to form at one end a spout and at the other slotted to receive the fluid from the reservoir. This tube K carries the drip-cup A and cylindrical piston B, packed by the washer F, formed of some suitable material. The lower end of the tube K is slotted, as shown and indicated by P, Fig. II, and at this point passes through the hole in the flexible washer O, and then through the crescent-shaped holes in the washer N, after which it is secured to the washer or plate h . The slot P in the end of the tube K is made of sufficient length to extend beyond the washers O and N and to afford a free passage for the fluid. The pliant washers F and O are held in position by the action of the spring E. The tube K, cylinder B, and washer F form a piston in cylinder B, and the washers O and N also move with tube K and form a valve for opening and closing the holes f and f' .

When the dropper-spout is applied to any reservoir or vessel containing fluid, its man-

ner of operating is as follows: On reversing the reservoir and pressing the drip-cup A the slotted part P of the tube K is driven beyond the hole g in the bottom of the cylinder D, and the washers O and N are thus drawn away from the bottom of the cylinder and the air-holes f and f' are thrown open. This action of the piston exposes the slotted portion P of the tube K and permits the fluid from the reservoir to enter the tube of the piston. This movement compresses the air in the cylinder and forces the fluid in the reservoir to find a vent through the slotted portion P of the tube K. From this point it is driven to the end of the tube in quantities regulated by the extent and frequency of the depressions the piston undergoes.

The arrangement of the holes in the cylinder and the washers on the end of the tube, combined with the pumping action of the movable tube, form a device for opening and closing a passage for the fluid, which is the chief feature of my invention.

After each depression of the piston, it is immediately returned to its original position by the action of the spring E. The washers O and N are by this movement brought down on the bottom of the cylinder D, and the slotted portion P of the tube K being drawn in the cylinder the escape of the fluid is prevented. To prevent the accidental depression of the piston, I attach an upright, Y, to the flange M of the cylinder D, and make this upright Y of sufficient length to reach under the edge of the drip-cup A, as shown in the drawings. The drip-cup, movable tube, and washers O and N are all cylindrical and can be rotated in the cylinder. The edge of the drip-cup A can be cut out at any place, as at C, and when the dropper-spout is in use the cup can be rotated, so that the notch is opposite the upright Y, and the upright will thus slide up and down in the notch in the edge or rim of the drip-cup, and when not in use the cup can be rotated, so that the edge or rim of the cup will cover the upright Y, thus preventing any accidental depression of the piston.

This dropper-spout may be attached to the mouth of any vessel, it being available for both large and small ones.

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

1. A dropper-spout which consists of a movable tube furnished with suitable packing and slotted at its lower extremity and passing through the base of a cylinder provided with a spring and in its base with vent-holes, said tube having attached to its lower end a plate and pliant washer and at the other end a drip-cup capable of being rotated, substantially as described, and for the purposes set forth.

2. A dropper-spout which consists of a movable tube furnished with suitable pack-

ing and slotted at its lower extremity and passing through the base of a cylinder provided with a spring and in its base with vent-holes, said tube having attached to its lower end a plate and pliant washer and at the other end a drip-cup capable of being rotated and notched at its edge, in combination with a permanent upright sliding in said notch, substantially as described, and for the purposes set forth.

S. P. DENISON.

Witnesses:

HOLBROOK CUSHMAN,
EVAN P. GEORGE, Jr.