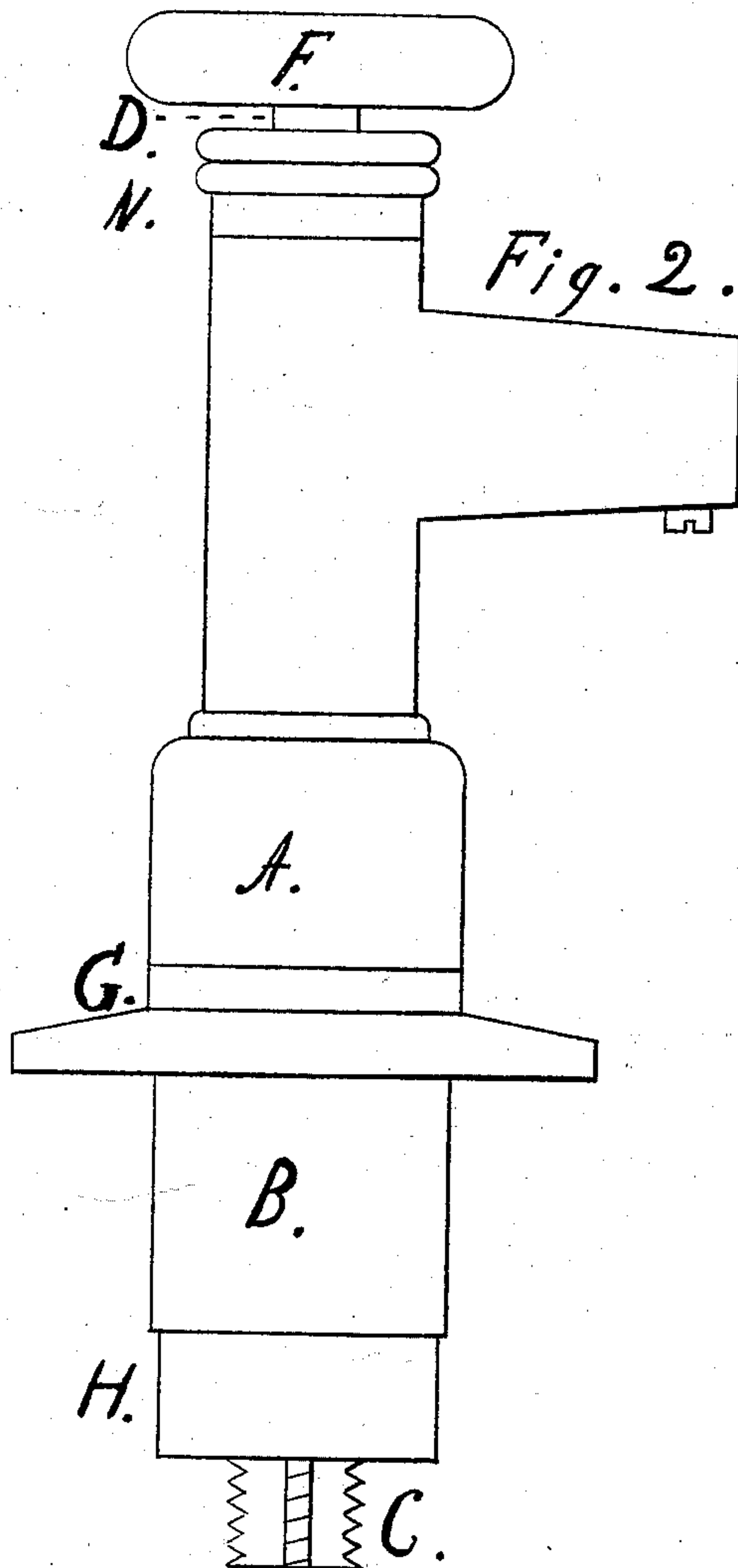
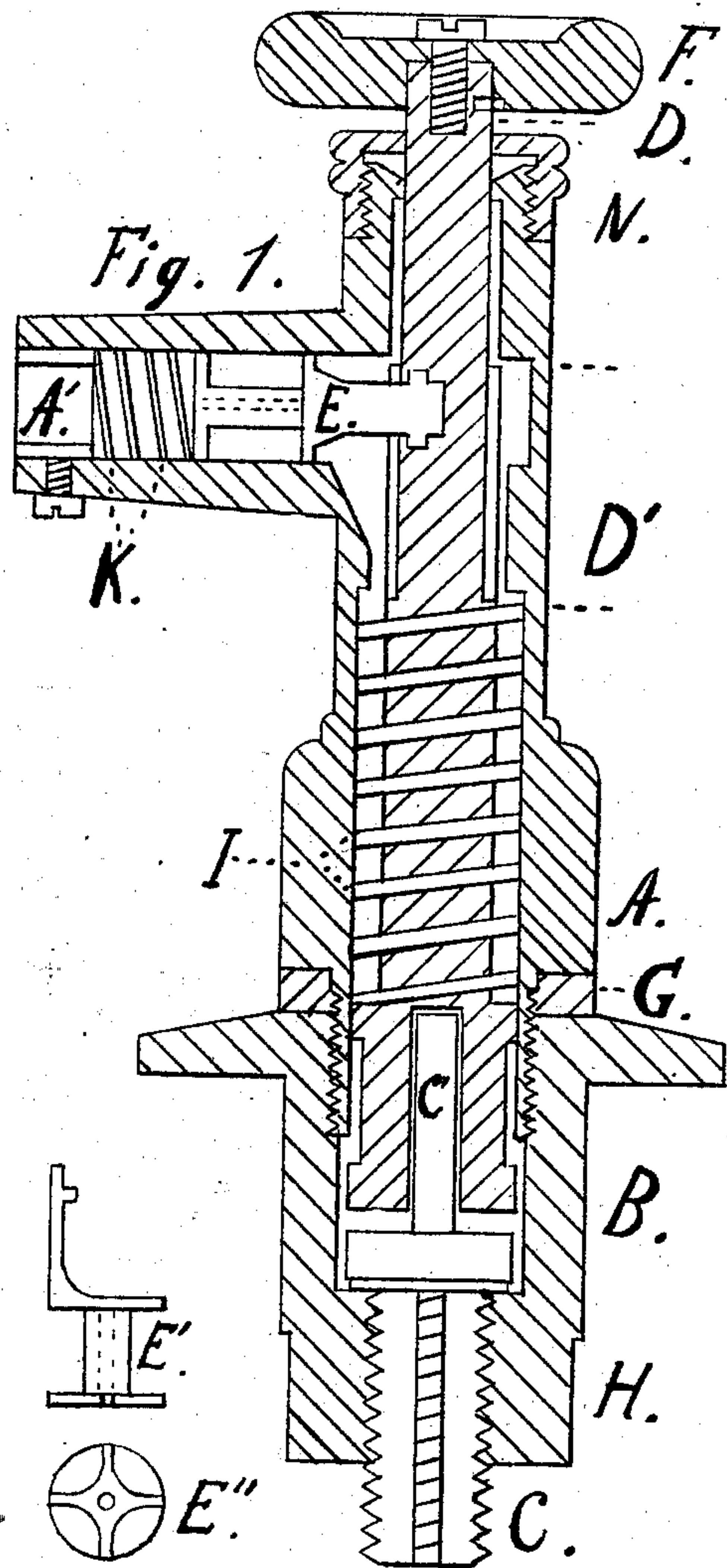


W. H. EMMONS & M. WELSH.

Faucets.

No. 150,467.

Patented May 5, 1874.



Witnesses:

Wm. G. Church.
Jas H. Rice.

Inventors:

Wm. H. Emmons.
Morris Welsh.

UNITED STATES PATENT OFFICE.

WILLIAM H. EMMONS, OF BOSTON, AND MORRIES WELSH, OF EAST BRIMFIELD, ASSIGNORS OF ONE-THIRD THEIR RIGHT TO EDWIN L. SANBORN, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN FAUCETS.

Specification forming part of Letters Patent No. **150,467**, dated May 5, 1874; application filed May 24, 1873.

To all whom it may concern:

Be it known that we, WM. H. EMMONS, of Boston, Massachusetts, and MORRIES WELSH, of East Brimfield, Massachusetts, have invented an Improved Faucet, of which the following is a specification:

The object of our invention is to draw beer or other liquids readily, easily, and safely from barrels, kegs, or other vessels; to foam or enliven them when lifeless or insipid, if required; to save corks; to prevent injury to the barrel or vessel from which the liquid is drawn; and, by keeping the vessel air-tight when emptied, prevent it from souring by the combination of the flanged hub or bushing B, in which is the valve-seat and the valve C, with the other parts of the faucet, as hereinafter set forth and described, reference being had to the accompanying drawing.

Figure 1 is a side view in a section, showing the internal parts. Fig. 2 is a side view.

A is the shell or body of the faucet. B is the hub or bushing. C is the valve. D is the stem or spindle. E is the foaming piston or plunger. F is the knob or handle. G is a leather ring for packing. H is a space left for a strainer to be fastened to B. I is a spiral spring. K is a spiral spring. The plunger E is shown at E' turned one-quarter way around, and an end view of the bottom is seen at E''. N is a nut for packing the stem.

The flange of the bushing B should be true on the front as well as on the back side, so that the joints can be easily made tight. The bushing can be fastened to a barrel or other wooden vessel with common wood-screws. The part of the flange which comes near the chimes of the barrel can be cut partly away, if desired.

The large end of the stem D should fit in the end of the body A, as a piston. Supporting-points should be left a short distance from the end, so that when the piston part is out of A the stem can still be moved without falling out of line. This end of the stem is made with a socket to fit loosely the end of the valve marked C'. Near the other end of D, between the dotted lines D', Fig. 1, are cut grooves, similar to these in gear-wheels, long enough to

allow the stem to be moved one inch or so lengthwise when in gear with the plunger E.

The spring I must be strong enough to keep the piston part of the stem out of the body A when it is not drawn back.

The spring K is fastened one end to the bushing A' and the other end to the bottom of the plunger E. This spring works both ways, from compression and extension. It is of such a length as to continually press or draw the plunger, so that the tooth on its upper part always tends toward the center line of the stem D. Thus the plunger E is moved up or down by the rotation of the stem each time that its motion is reversed.

The hole in the nozzle can be a little on one side of the center, so that more stock can be left on the upper part of E.

The body A should be cored out, so that when the plunger E is forced down there is no outlet for the liquid, except through the small hole of E, indicated by the dotted lines.

The bushing B can be cast so as to have a strainer on the end, or one can be made separate and put on when required.

The foaming arrangement may not be needed, perhaps, in all cases. If not, it could be left out, or if in it need not be used. A leather ring should be used on the valve to come against the seat.

In operating the faucet the body A is screwed into the bushing B, which is supposed to be attached to a barrel. The end of the valve enters the socket in the stem D. To draw the liquid, turn the knob or handle F so as to open the valve, which is closed by turning in the opposite direction. To foam the liquor, if dull or stale, pull the knob forcibly, when a part of the liquid in the body A will be forced rapidly through the hole in the plunger E. This foaming operation can be repeated with effect without reopening the valve. The valve-seat might be in the back side of B.

The inner end of the valve C is made fluted. On the flukes are cut screw-threads. These flukes act as guides, as well as to bring the valve to its seat. The other end of the valve is a long shank, made so as to enter freely the socket in the end of the stem D. The

shank is made long, so as to insure the entering of it into the socket before the body A commences to screw into the bushing B. The valve has a concentric groove cut into its face for the reception of leather or other substance for packing.

The bushing B is merely a flanged hub with a hole through it. The outer or large part of the hole has a screw-thread cut in it, so as to allow the body A to be screwed into it. The inner or small part of the hole has a screw-thread in it, into which fits closely the fluted part of the valve C. The shoulder between the outer and inner parts of the hole serves as a valve-seat.

With the bushing B and the valve C, as constructed, we use, not a common faucet, but the shell or body A, with the other parts as shown and described.

It will be seen from a view of the drawing that the body A has a hole completely through it. In this hole is placed the stem D, which acts as a pump plunger or piston, a socket-wrench for moving the valve, and as a pinion-gear for moving the plunger E up and down, thus opening and closing the main outlet for the liquid.

When the stem has been turned so as to close the valve, the plunger E has been forced down the nozzle so as to also close the outlet. Then the liquid remaining in A can only be drawn by forcing it through the small hole in E, which is done by pulling the knob attached to the stem D.

When the valve C is closed the plunger has been forced down the nozzle by the action of the teeth on the stem D, made by cutting the grooves, as described, on the tooth on the upper end of the plunger, thus closing the

duct or passage-way of the liquor from the body A through the nozzle. In this position of the plunger no liquid remaining in A can escape, except it be forced through the small hole in E, which is done by pulling forcibly the stem D.

It will be seen that the spiral spring K, which is attached to E, is closed or compressed when E is forced down, thus causing a pressure upward on E, which pressure causes the tooth on E to mesh in gear with the teeth on the stem D, when the stem is turned so as to open the valve C, thus insuring the moving of the plunger up into the nozzle, so as to open the passage-way from the body of A, through the nozzle, when the valve is open. When this has been done it will be seen that the spring K has been extended. Now, instead of pressing the plunger E upward it (the spring) draws the plunger down, so that when the stem D is turned so as to close the valve, the tooth on E meshes in with the teeth on the stem D, thus causing E to descend, as before described.

We claim—

1. The combination of the valve C and bushing B with the stem D, casing A, having shoulder at D', and the spiral spring I, all constructed and arranged for operation as hereinbefore set forth.

2. In combination with the stem D, operating also as a plunger, the plunger E, arranged to operate by said stem, the spring K, and the casing or body A, all constructed and arranged substantially as shown and described.

WM. H. EMMONS.

MORRIES WELSH.

Witnesses:

HOLLIS G. CHURCH,
WM. H. RICE.