No. 835,162. PATENTED NOV. 6, 1906.

W. C. MORRILL.

LIQUID DISPENSING APPARATUS.

APPLICATION FILED APR. 20, 1906.

Fig. 1.

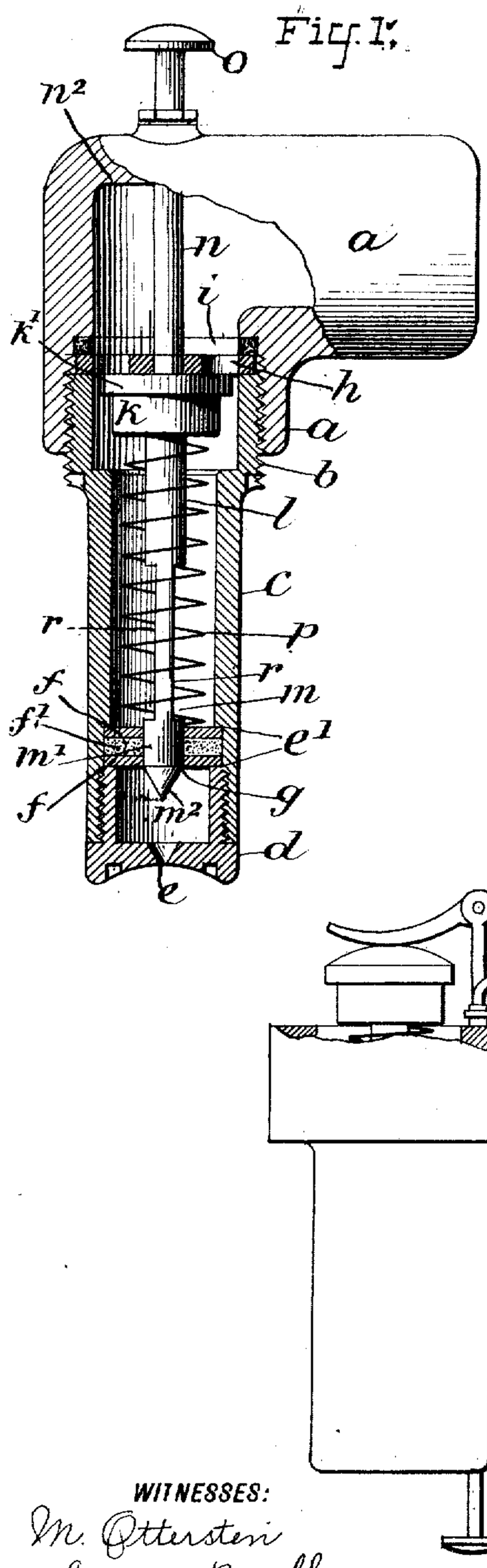

Fig. 2.

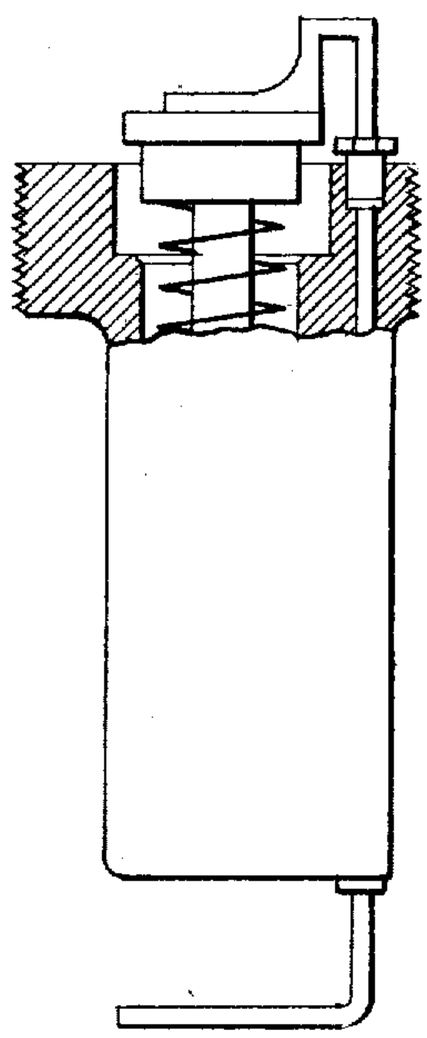

Fig. 3.

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LIQUID-DISPENSING APPARATUS.

No. 835,162. Specification of Letters Patent. Patented Nov. 6, 1906.

Application filed April 20, 1906. Serial No. 312,840.

To all whom it may concern:

Be it known that I, WILLIAM C. MORRILL, a citizen of the United States, and a resident of the borough of Manhattan, city of New York, and State of New York, have invented certain new and useful Improvements in Liquid-Dispensing Apparatus, of which the following is a specification.

The invention relates to improvements in liquid-dispensing apparatus, of which a full, clear, and exact description will be given hereinafter.

The invention consists of a reciprocating piston connected with or integral with a depending valve-rod, the whole adapted to operate within a fixed or stationary cylinder, all of which will be pointed out in the claims hereinafter.

In the drawings, Figure 1 represents a vertical section of the device complete. Fig. 2 represents a modification in which is shown devices connected with the piston and valve rod in a manner to enable the operator to operate the pump from below the outlet or discharge orifice. Fig. 3 represents a modification showing how the piston and valve rod may be forced downward by an upward movement of devices connected therewith.

Similar letters refer to similar parts throughout the drawings, in which—

a represents a pipe or tube in the lower end of which is secured the screw-threaded plug portion *b* of the fixed or stationary cylinder *c*, the lower end of the latter having a screw-nipple *d* secured thereto and provided with the discharge-orifice *e*. Suitably located within the said fixed cylinder *c* is arranged the transverse wall *e'*, composed of two metallic disks *f f* and carrying between them the leather disk *f'*. The said transverse wall *e'* is provided with a centrally-located perforation which forms the valve-seat *g*. The top of the plug portion *b* is provided with a perforated plate or cap *h*, which abuts upwardly against the leather washer *i* when properly mounted or secured within the pipe-fitting *a*. The piston-head *k*, with its detent-shoulder *k'*, may be connected with or intergral with the valve-rod *l*. A portion of the latter located below the piston-head *k* is cut away or depressed, thus forming a slide-valve *m* in connection with the valve-seat *g*. The lower end of the valve-rod is provided with the cylindrical head *m'*, terminating in the conical tip or cleaner m^2, the latter adapted to open up the discharge-orifice *e* upon each downward stroke. The piston-head and detent-shoulder aforesaid is provided with the piston-rod *n*, having its bearings in the cap *h* and the upper wall n^2 of the pipe-fitting *a*. The extreme exterior end of the piston-rod *n* is provided with the push-button *o*.

Surrounding the valve-rod *l* beneath the piston-head *k* and upon and above the transverse wall is located the helical spring *p*.

Mode of operation: The liquid enters the fixed cylinder from the reservoir by way of the perforations of the cap and the screw-plug *b*. When desirous of extracting the liquid from within the cylinder, the operator should depress the piston-rod by pressing upon the push-button *o*, when it will force downward the piston-head *k* into the cylinder *c*, whose throw is regulated by the detent-shoulder *k'*. At the same time the valve-rod descends, carrying with it the conically-tipped cylindrical head, thereby allowing the ports *m* of the slide-valve to perform their functions and forcing the liquid into the lower chamber and through the discharge-orifice *e*. When the pressure is removed from the operating-rod, the retracting-spring *p* will carry the movable parts back to their normal position, when the operation of the device may be repeated.

It will be obvious that many forms, such as modifications shown, may be employed without departing from the spirit of my invention.

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

In a liquid-dispensing device, the combination of a cylinder a transverse partition secured in the cylinder between a shoulder on the cylinder and a nipple screwed in one end of the cylinder, an opening in such partition forming a valve-seat, a reciprocating piston within the cylinder and having a cylindrical slide-valve rod depending therefrom and passing through the valve-seat in the partition, recesses on the sides of said rod to form outlet ports and a conical head on the lower end of such rod.

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