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APPARATUS FOR DRAWING OFF OR DISPENSING AERATED  
OR OTHER LIQUIDS.

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NO MODEL.

Fig. 1

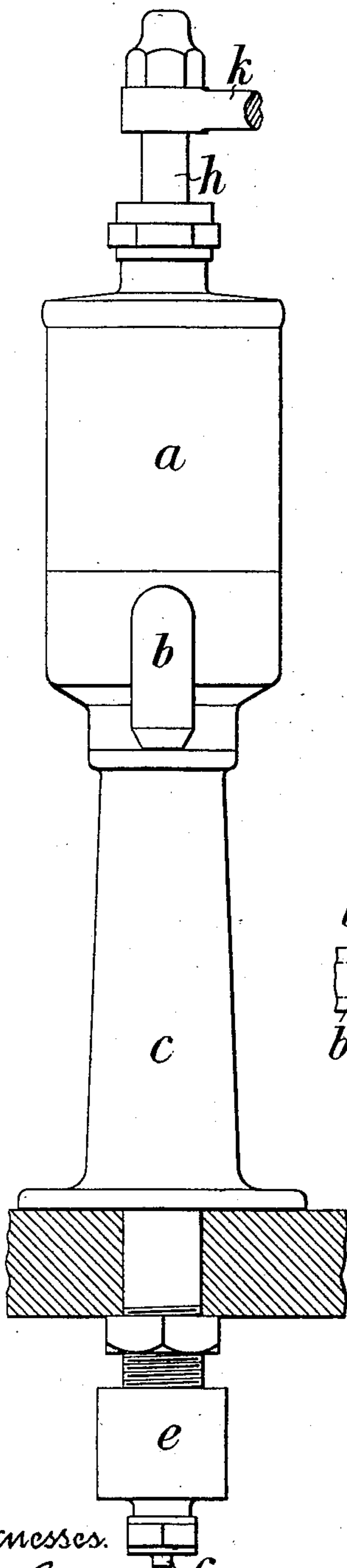


Fig. 2

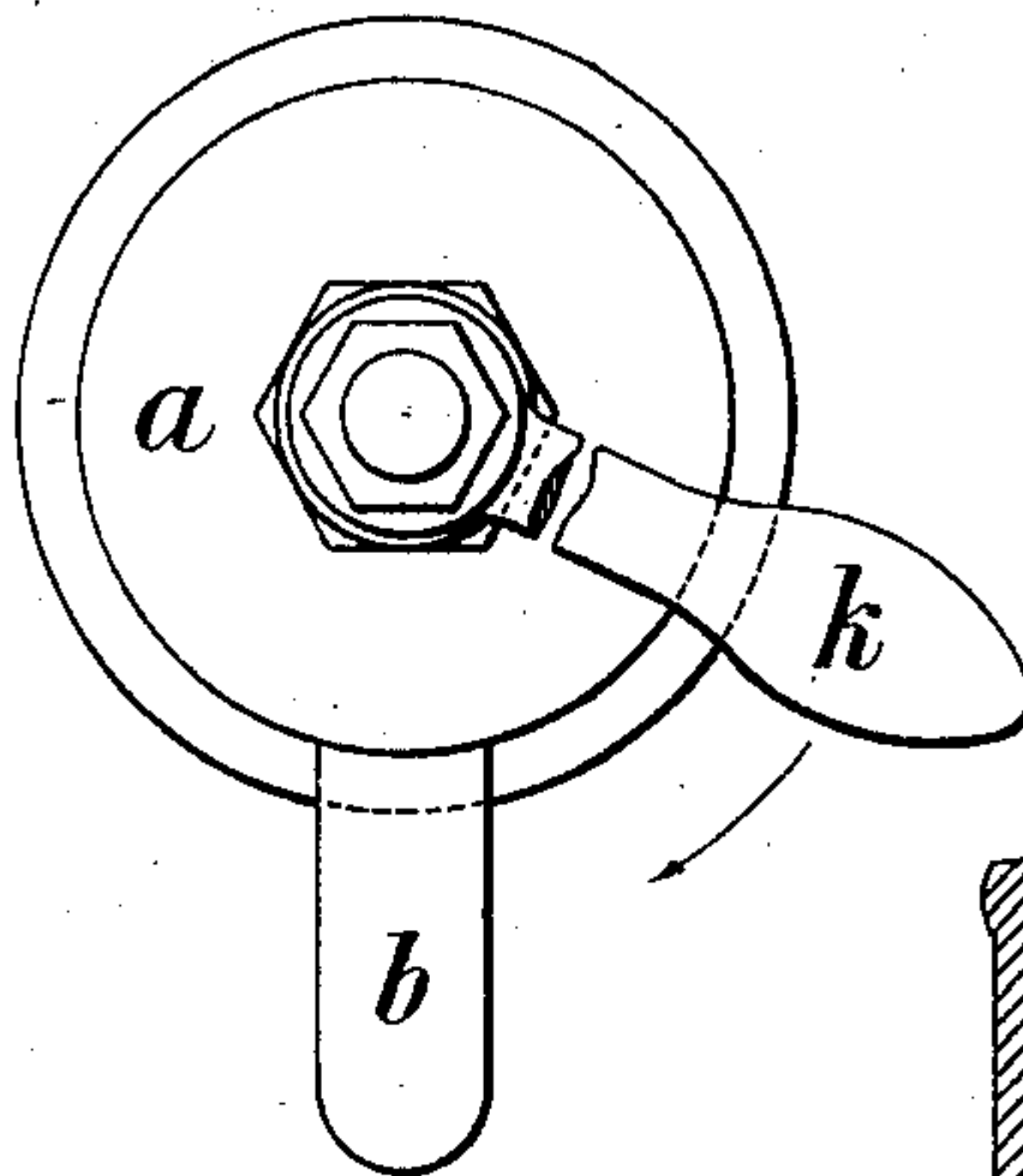


Fig. 3

Fig. 5

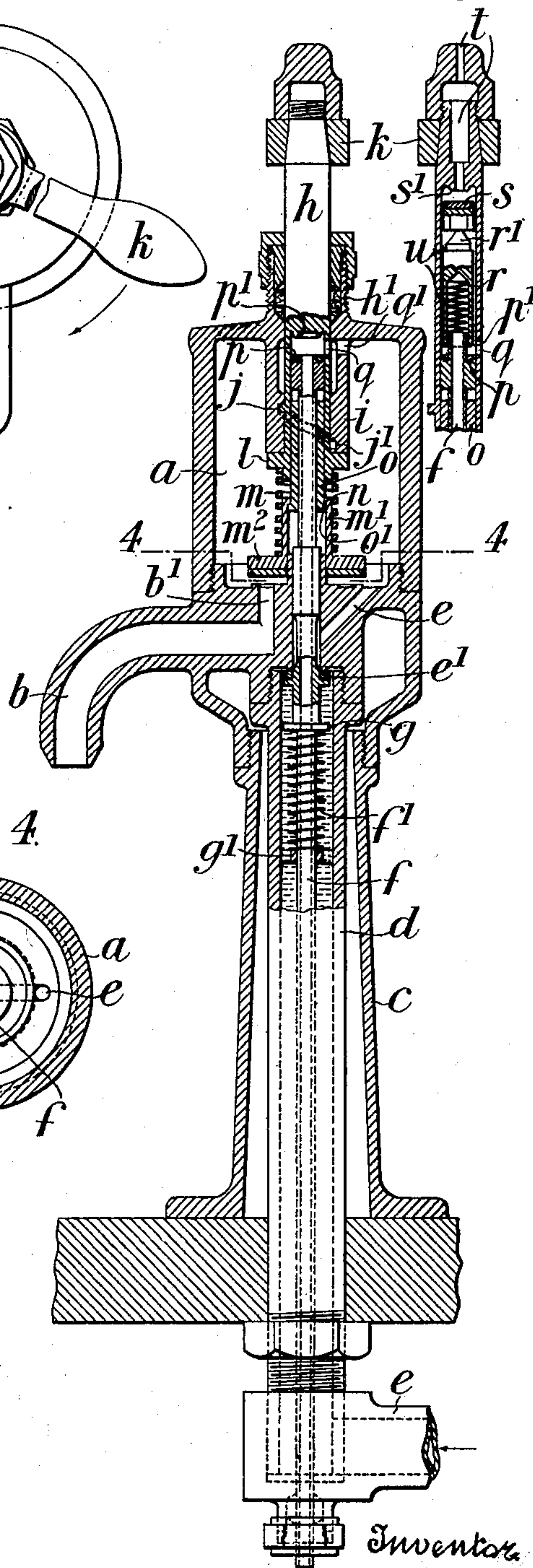
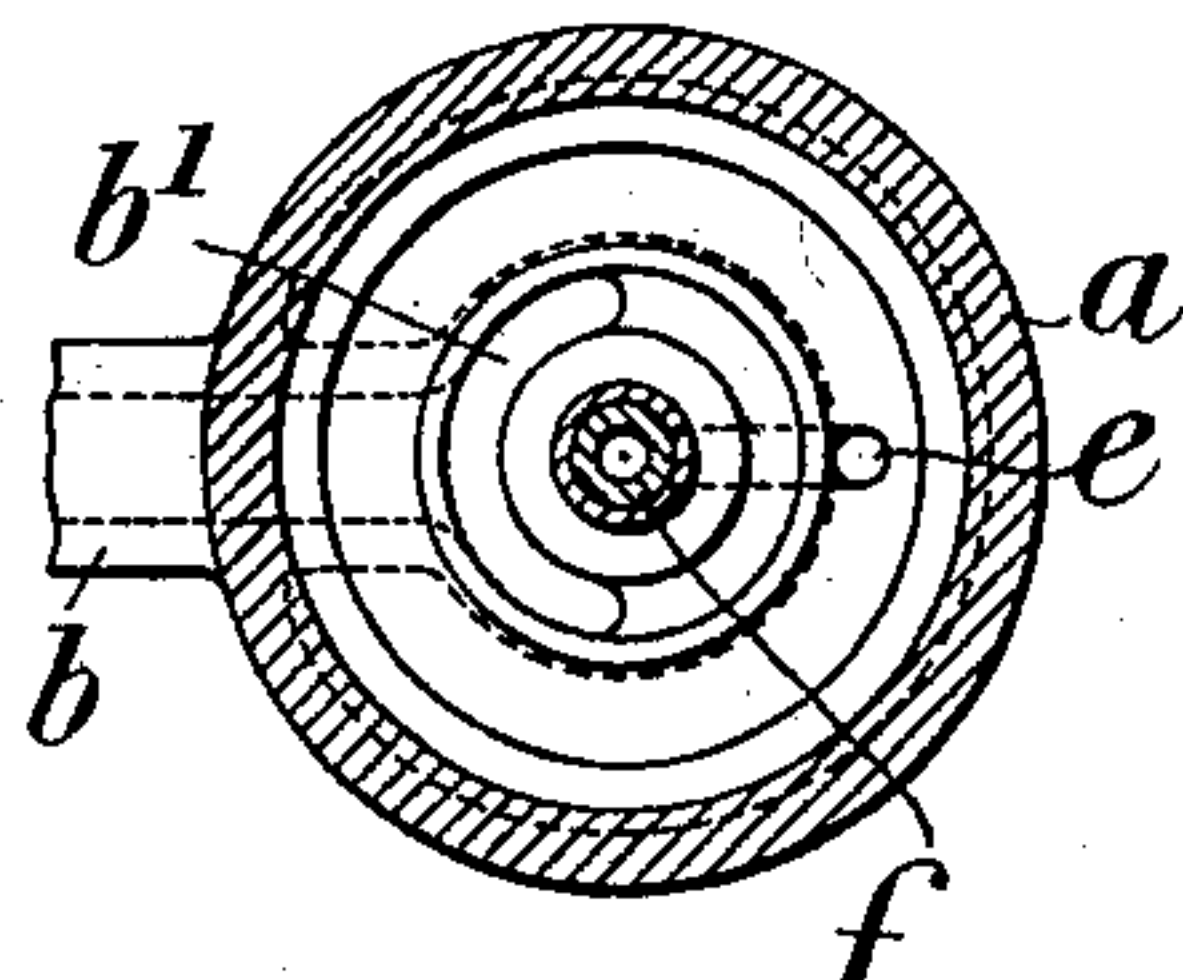


Fig. 4



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## UNITED STATES PATENT OFFICE.

JOSEPH FLETCHER, OF LONDON, ENGLAND.

APPARATUS FOR DRAWING OFF OR DISPENSING AERATED OR OTHER LIQUIDS.

SPECIFICATION forming part of Letters Patent No. 735,867, dated August 11, 1903.

Application filed February 4, 1903. Serial No. 141,842. (No model.)

*To all whom it may concern:*

Be it known that I, JOSEPH FLETCHER, engineer, a subject of the King of Great Britain, residing at 73 Narford road, Clapton, London, England, have invented new and useful Improvements in Apparatus for Drawing Off or Dispensing Aerated or other Liquids, of which the following is a specification.

This invention relates to improvements in apparatus for drawing off or dispensing aerated and other liquids.

According to the invention I provide an intermediate vessel from which the aerated or other liquor is drawn from the main reservoir, the said vessel being provided with inlet and outlet valves and with a snifting-valve, and also with means, such as a spindle, whereby the said valves can be controlled by their proper sequence by a single operation.

In the accompanying drawings, Figure 1 is a front elevation of a suitable form of apparatus made according to the invention. Fig. 2 is a plan view thereof. Fig. 3 is a sectional side elevation of the apparatus. Fig. 4 is a section at line 4 4, Fig. 3; and Fig. 5 is a vertical section illustrating the modification in the construction of the apparatus where the latter is designed for dispensing still-liquors.

*a* is the intermediate vessel or chamber, which is provided with the outlet or delivery-spout *b*, into which it opens by the orifice *b'*, the said vessel being mounted upon the hollow standard *c*, adapted to be secured in any suitable position.

Through the hollow standard *c* there passes a supply-pipe *d*, which is in connection at its lower end with a pipe *e*, extending from the reservoir containing the aerated or other liquid to be dispensed. This pipe *d* is in connection with the chamber *a* through the medium of a passage *e*, the said passage being, however, normally closed by a valve *e'*, mounted upon a tube or hollow spindle *f*, extending completely through the pipe *d* to the exterior and through the intermediate chamber *a*, as clearly shown in Fig. 3. This valve *e'* is normally held against the seating *e<sup>2</sup>* by means of the spiral spring *f'*, which is coiled around the hollow spindle *f*, and bears at its

upper end against a collar *g* upon the said spindle and at its other end against a collar *g'*, fixed in the pipe *d*.

*h* is a hollow spindle which passes through a stuffing-box *h'*, provided at the upper part of the chamber *a*, the said spindle extending into an internal hollow projection or boss *i* inside the chamber *a* and having a thread or projection *j*, which engages an internal spiral groove or thread *j'*, formed in the said hollow boss *i*, so that as the said spindle *h* is turned, through the medium of the handle *k*, it is moved up and down relatively with the boss *i*. Below the said boss the hollow spindle *h* is provided with a collar *l*, which bears upon the upper end of a spring *m*, coiled around a sleeve *m'*, attached to a valve *m<sup>2</sup>*, against which the lower end of the said spring *m* bears and which is adapted, as hereinafter described, to close the orifice *b'* to the delivery-spout *b*. The upper end of the sleeve *m'* is formed with an internal lip or flange *n* and is made with a central hole to receive a sleeve *o*. This sleeve *o* is secured to the spindle *h* and its lower end has a flange *o'*, which engages the flange *n*. The aforementioned tube *f* passes through the sleeves *m'* and *o* and is formed at its upper end with a valve *p*, which can be brought against the fixed seating *p'* in the upper end of the hollow spindle *h*, so as to close the upper end of the tube *f*, which when the said valve is not closed is in communication with the interior of the intermediate chamber *a* through the openings *q* and *q'* in the hollow spindle *h* and the internal boss *i*, respectively.

The operation of the apparatus is as follows: Assuming the parts to be in the position shown in the figures—that is to say, with the valve *m<sup>2</sup>* open—the handle *k* is turned in the direction of the arrow, Fig. 2. This causes the hollow spindle *h* to move downward by reason of the engagement of the projection *j* in the screw-thread *j'*, so that the valve *m<sup>2</sup>* is closed, the valve *e'* remaining closed, it being held upon its seat by the spring *f'*. The further turning of the handle *k* causes the sleeve *o* to move relatively with the sleeve *m'* (the spring *m* being compressed) and brings the seating *p'* upon the valve *p*,



so that the communication between the intermediate chamber *a* and the tube *f* is cut off, and the continued movement of the spindle *h* presses the tube *f* downward, and thereby opens the valve *e'*. The pressure in the liquid-reservoir then forces the aerated liquid up through the tube *d* and through the passage *e* into the chamber *a*. On then turning the handle *k* back the above-described operations take place in the reverse order—that is to say, the valve *e'* is first closed, so as to shut off communication between the reservoir and the intermediate chamber *a*, the valve *p* is opened, so as to allow the excess pressure in the chamber *a* to be reduced, an operation known as “snifting,” and finally the valve *m*<sup>2</sup> is raised from its seat by the sleeve *o*, thereby permitting the contents of the chamber *a* to discharge through the delivery-spout *b*.

Where the apparatus is to be used for dispensing still-liquors, such as beer, I provide an additional valve for admitting air to the chamber *a* during the discharge of the liquor from the said chamber. This arrangement is illustrated in Fig. 5. The valve-seating *p'* instead of being formed at the upper end of the hollow spindle *h* is provided upon the under side of a hollow plug *r*, the upper end of which is made conical, as shown at *r'*, the said conical end supporting the additional valve *s*, the seating *s'* of which is formed within the upper end of the hollow spindle *h*, which end is perforated by the air-passage *t*. A spring *u*, disposed inside the hollow plug *r*, normally tends to hold the seating *p'* from the valve *p*.

The operation of this device is as follows: On the turning of the handle *k* in the manner above mentioned the valve *m*<sup>2</sup> is first closed. The further descent of the hollow spindle *h* then first closes the valve *s*, then the valve *p*, and finally opens the valve *e'*, so as to admit liquid to the chamber *a*, as described. On turning the handle *k* back these operations take place in the opposite order, so that the valve *s* is opened before the valve *m*<sup>2</sup>, thereby admitting air through the passage *t* into the hollow spindle *h* to enable the liquid to run from the chamber *a* when the valve *m*<sup>2</sup> is opened.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is—

1. In apparatus for dispensing liquids, the combination with a chamber provided with an inlet and an outlet, and a dispensing-nozzle connected to said outlet, a spring-actuated valve normally closing said outlet, a tubular device connecting said inlet with a liquid-reservoir and provided with a valve-seat, a longitudinally-movable hollow spindle extending through said tubular device and

through said outlet-valve into said chamber and provided with a valve for engaging said valve-seat, said spindle communicating at its outer end with the atmosphere and at its inner end with the said chamber to form a snifting-tube, a separate longitudinally-movable spindle extending into said chamber in line with said hollow spindle, and provided with a valve for engaging the inner end of said hollow spindle when moved in one direction, operative connections between said second spindle and the outlet-valve for opening the latter when the spindle is moved in the opposite direction, and operating mechanism for reciprocating said second spindle longitudinally, substantially as described.

2. In apparatus for dispensing liquids, the combination with a chamber provided with an inlet and an outlet, and a dispensing-nozzle connected to said outlet, a spring-actuated valve normally closing said outlet, a tubular device connecting said inlet with a liquid-reservoir, and provided with a valve-seat, a longitudinally-movable hollow spindle extending through said tubular device and through said outlet-valve into said chamber and provided with a valve for engaging said valve-seat, said spindle communicating at its outer end with the atmosphere and at its inner end with the said chamber to form a snifting-tube, a separate longitudinally-movable spindle extending into said chamber in line with said hollow spindle, and provided with a valve for engaging the inner end of said hollow spindle when moved in one direction, operative connections between said second spindle and the outlet-valve for opening the latter when the spindle is moved in the opposite direction, said second spindle and said chamber being provided with engaged threaded portions and an operating device for rotating said second spindle to secure the longitudinal movement thereof, substantially as described.

3. In apparatus for dispensing liquids, the combination with a chamber provided with an inlet and an outlet, and a dispensing-nozzle connected to said outlet, a spring-actuated valve normally closing said outlet, a tubular device connecting said inlet with a liquid-reservoir and provided with a valve-seat, a longitudinally-movable hollow spindle extending through said tubular device and through said outlet-valve into said chamber and provided with a valve for engaging said valve-seat, said spindle communicating at its outer end with the atmosphere and at its inner end with the said chamber to form a snifting-tube, a separate longitudinally-movable spindle extending into said chamber in line with said hollow spindle, and provided with a valve for engaging the inner end of said hollow spindle when moved in one direction, operative connections between said second



spindle and the outlet-valve for opening the latter when the spindle is moved in the opposite direction, said second spindle being provided with an air-inlet passage communicating with the said chamber, a valve for closing said air-inlet passage interposed between said spindle and the first-mentioned hollow spin-

dle, and operating mechanism for reciprocating said second spindle longitudinally, substantially as described.

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