J. H. WELCH.
Bottle-Register.

No. 205,019. Patented June 18, 1878.

Fig. 1.

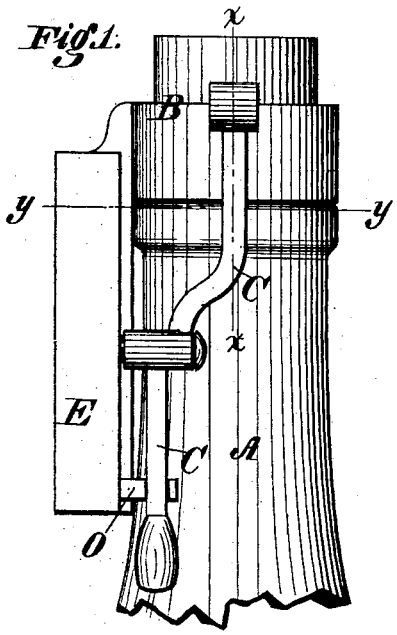


Fig. 2.

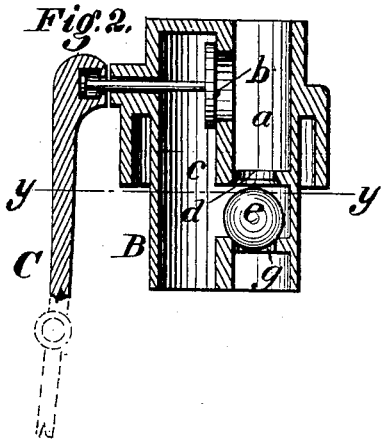


Fig. 3.

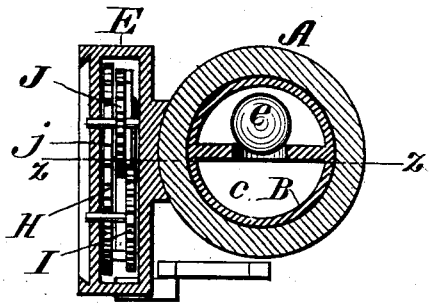


Fig. 4.

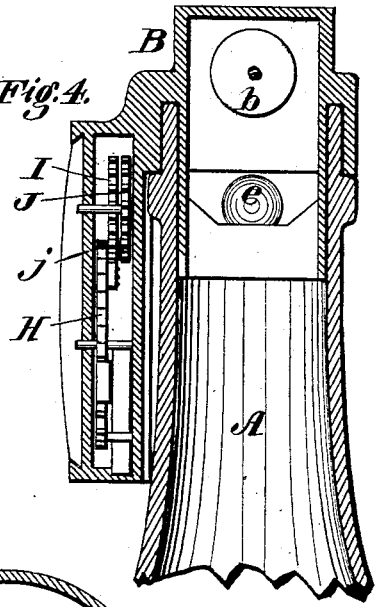
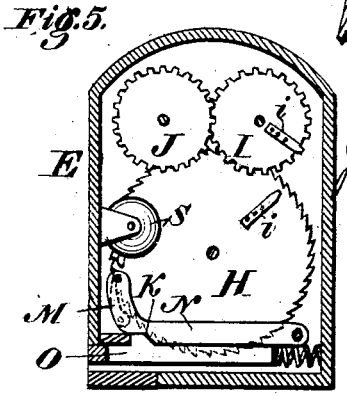


Fig. 5.



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JAMES H. WELCH, OF GEORGETOWN, DISTRICT OF COLUMBIA.

IMPROVEMENT IN BOTTLE-REGISTERS.

Specification forming part of Letters Patent No. **205,019**, dated June 18, 1878; application filed April 27, 1878.

To all whom it may concern:

Be it known that I, JAMES H. WELCH, of Georgetown, in the District of Columbia, have invented certain Improvements in Registering Attachments for Liquor-Bottles, of which the following is a specification:

This invention relates to that class of devices intended for attachment to liquor-bottles for the purpose of registering the number of times that liquor is poured from the bottle.

The invention consists in an improved construction of the apparatus, whereby it is rendered positive in its action and simple in construction, and whereby the filling of the bottle is permitted without affecting the registering mechanism, as will be hereinafter more fully described and explained.

Figure 1 represents a side elevation of a bottle provided with my attachment; Fig. 2, a vertical central section of the attachment on the line *x x* of Fig. 1; Fig. 3, a cross-section on the line *y y* of Figs. 1 and 2; Fig. 4, a cross-section on the line *z z* of Fig. 3; Fig. 5, a face view of the registering mechanism proper, with the outside of the inclosing-case removed.

In the drawing, A represents an ordinary bottle or decanter, and B the tubular neck or faucet, adapted to fit within and also over the upper edge of the mouth of the bottle, on which it will be firmly secured by means of a seal-lock or other suitable fastening.

As shown in Fig. 2, the neck B is provided with a discharge-opening, *a*, which communicates, by means of the valve *b*, with a passage, *c*, which is closed at its upper end, and which opens at its inner end into the bottle, the arrangement being such that when the bottle is inverted it is necessary to open the valve *b* in order to permit the escape of the liquor. The valve *b* has a stem or spindle extended outward through the side of the neck, and connected on the outside with one end of the thumb-lever C, which is pivoted at its middle and extended downward by the side of the bottle in such manner as to be readily depressed by the operator when the bottle is inverted. For the purpose of permitting the bottle to be filled without holding the valve *b* open, the discharge-passage *a* is provided at its lower or inner end with a throat or opening, *d*, below which there is supported a ball-valve, *e*, the arrangement being such that when the bottle stands in an upright position the valve *e* stands below the seat *d*, leaving the same open and permitting liquor to be introduced through the passage *a* and throat *d* into the bottle past the valve *e*, and while the valve *b* remains closed. When, however, the bottle is inverted, the ball-valve *e* drops upon and closes the throat *d*, effectually preventing the escape of the liquor until the valve *b* is opened.

In order to insure the action of the valve *e* when the bottle is inverted, the seat or support upon which the valve rests when open is made with a central opening, *g*, through which the liquor acts against the valve to drive it to its seat. While it is preferred to use the ball-valve, as described, it is obvious that any other form of inwardly-opening valve may be employed to permit the introduction of the liquor without opening the main valve *b*, it being only necessary that the supplemental valve shall be of such character as to close with certainty when the bottle is inverted.

In order to prevent the possibility of holding the valve *e* open when the bottle is inverted by the introduction of instruments through the passage *a*, the latter may be provided with wire-gauze cross-bars or other fenders, or curved in such manner as to prevent access to the ball from the outside.

For the purpose of registering each action of the valve *b*, I secure to the side of the neck B a small close case containing the registering mechanism connected with the operating-lever C.

As shown in Fig. 5, the register consists mainly of three wheels, H, I, and J, each provided with a series of peripheral teeth, and a side arm or tooth, *i*, the latter being so arranged that as each wheel completes a revolution its side tooth acts upon the periphery of the next wheel and causes the same to advance the distance of one tooth. Thus it will be seen that the rotation of each wheel in the series causes the next wheel to advance one tooth, motion being thus communicated through the entire series. The wheels may be provided with any suitable number of teeth, preferably one hundred each; and, in order to give the proper indication of the operation of

the valve, one or more of the wheels will have their spindles extended through the plate *j*, and provided with hands or pointers to travel over graduated or numbered dials or circles on the front of the plate, as represented in Fig. 4. The first wheel of the series H receives motion from a pawl, M, pivoted on the lever N, which latter receives motion from a sliding bar, O, which is pivoted at its outer end to the valve-operating lever C, as represented in Fig. 1.

As shown in Fig. 5, the sliding bar O is provided with an inclined shoulder, K, which acts against a corresponding shoulder on the bar N, by which means it is that the movement of the sliding bar is caused to elevate the bar or lever N. The arrangement of parts is such that the bar N is raised and the registration effected the instant that the bar O begins to move, and by a very slight movement of the same, and this before the valve *b* is opened sufficiently to permit the escape of liquor. After the lever N is raised to effect the registration the bar O slides freely under the lever N without having any further effect upon the same.

In order to effect the automatic closing of the valve *b*, a spring may be applied to the lever C, or against the inner end of the sliding bar O, as represented in Fig. 5, the latter arrangement being preferred, for the reason that the spring is then protected from injury.

It will be observed that the case E has no communication with the interior of the neck or valve, and that there is no possibility of the liquor finding its way into the registering mechanism; also, that the case E, in which the registering mechanism is mounted, is tightly inclosed in such manner as to prevent the possibility of tampering with the mechanism.

The case E may be closed and sealed, to be opened only by the proper officer; or it may be provided with a glass front, through which the numbers indicated may be seen at any time.

For the purpose of giving an audible alarm whenever the valve is operated, a bell, S, may be arranged within the case E, or attached to any other suitable part of the device, and its hammer or striker connected with the lever C, lever N, or slide O in such manner that the bell will be sounded whenever the lever is moved.

While it is preferred to use the valve *b* in the form shown, any other approved form of valve may be substituted.

With the above-described apparatus each and every opening of the valve *b* must be registered, and consequently each discharge of liquor indicated upon the valve. The form and arrangement of parts represented are considered the most desirable for practical use; but it is obvious that the details may be modified as desired, provided the mode of operation of the various parts remains unchanged.

It is also obvious that, instead of arranging the filling-valve *d* in connection with the discharge-passage *a*, the valve may be located in an independent filling-passage.

In order to permit a sufficient movement of the lever to actuate the registering mechanism before opening the discharge-valve *b*, a small amount of play or lost motion should be permitted between the valve-stem and the lever, as represented in Fig. 2; but when it is done a separate spring should be applied to hold the valve shut.

Having thus described my invention, what I claim is—

1. In a registering device for bottles, &c., a filling-valve arranged to open inward for the purpose of permitting the bottle to be filled without operating the discharge-valve or registering mechanism.

2. In a registering-valve for bottles, the combination of the passages *a c*, filling-valve *e*, and discharge-valve *b*, the latter connected with a registering mechanism.

3. The combination of the neck B, adapted to fit the mouth of a bottle, and provided with the discharge-valve *b*, the tight case E, containing the registering mechanism, with an actuating-slide, O, and the lever C, connected with the slide and the valve, as shown.

4. The combination of the valve-operating lever C, the slide O, connected thereto and provided with the inclined shoulder, and the register-operating lever N, as described and shown.

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