(No Model.)

D. WICKHAM.

APPARATUS CONNECTED WITH FILLING AND CORKING BOTTLES.

No. 422,867. Patented Mar. 4, 1890.

Fig: 1.

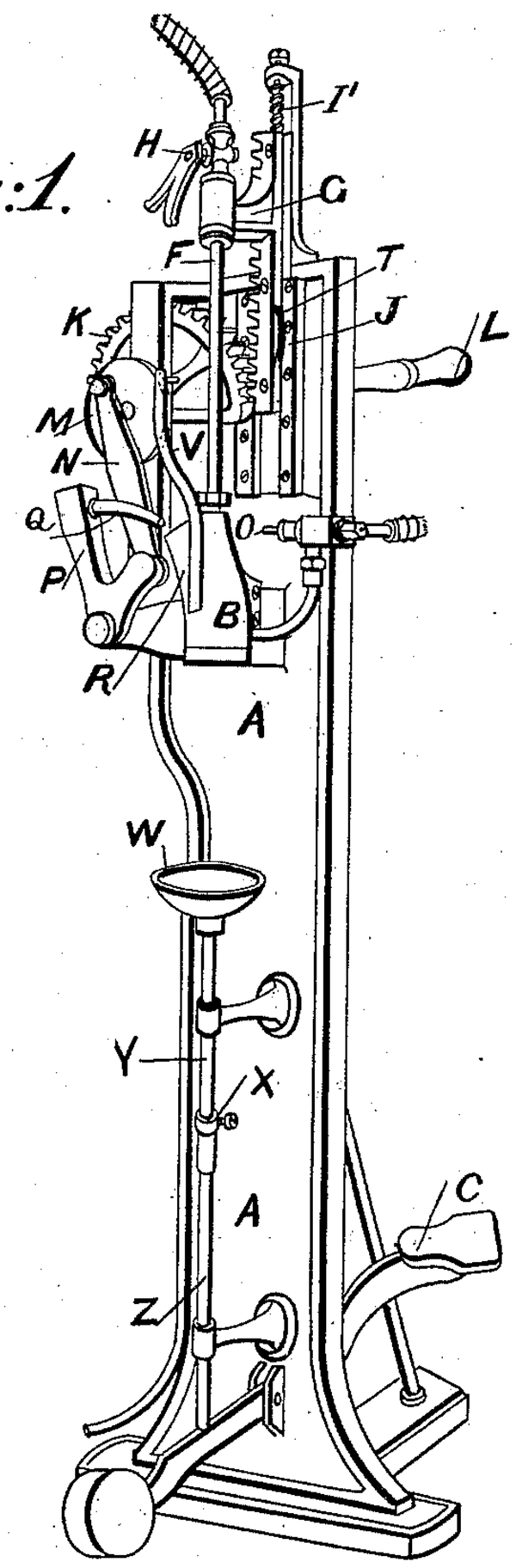


Fig: 3.

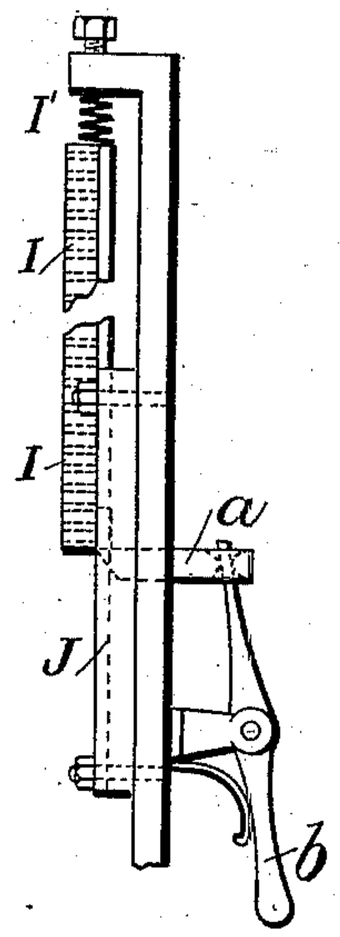
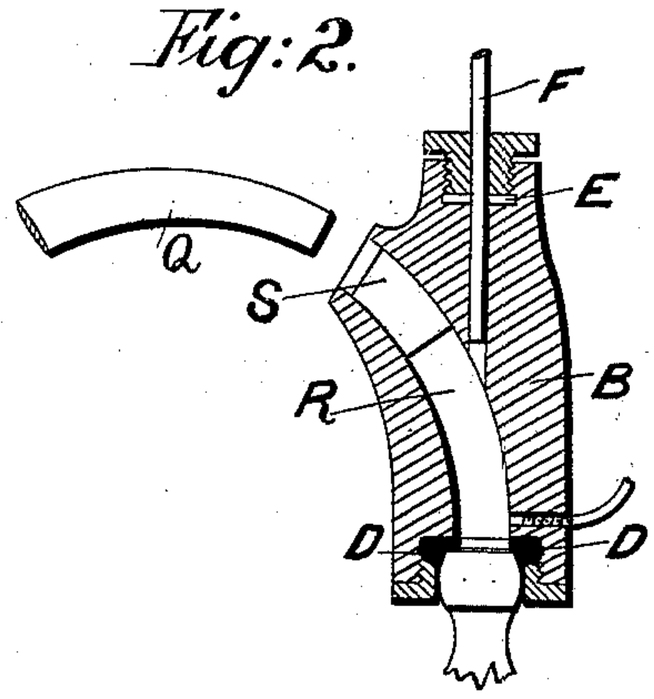


Fig: 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

DENNIS WICKHAM, OF WARE, COUNTY OF HERTFORD, ENGLAND.

APPARATUS CONNECTED WITH FILLING AND CORKING BOTTLES.

SPECIFICATION forming part of Letters Patent No. 422,867, dated March 4, 1890.

Application filed December 16, 1889. Serial No. 333,935. (No model.) Patented in England November 23, 1888, No. 17,080.

To all whom it may concern:

Be it known that I, DENNIS WICKHAM, a subject of the Queen of Great Britain, residing at The Star Brewery, Ware, Hertfordshire, England, have invented new and useful Improvements in Apparatus Connected with Filling and Corking Bottles, (patented in Great Britain, No. 17,080, dated November 23, 1888,) of which the following is a specification.

This invention relates to bottling-machines, and has for its object to provide novel means for charging the bottles with fluid and for inserting corks into the bottle-mouths. To accomplish this object, my invention involves the features of construction and combination or arrangement of devices and the principles of operation hereinafter described in detail, and specified in the claims, reference being made to the accompanying drawings, in which—

Figure 1 is a perspective view of sufficient of a bottling-machine to exhibit my invention. Fig. 2 is a detail side elevation of the rack-bar and its support and holding-catch; and Fig. 3 is a vertical sectional view of the fluid and cork receiver, showing also a part of the cork-driver.

In order to enable others skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings, wherein—

The letter A indicates an upright frame or standard, to which is secured a stationary bottle-receiver B, into which a bottle-neck can be inserted by a treadle C or other appliance, the entrance to bottle-receiver being furnished with an india-rubber or other cushion D, Fig. 2, to make the bottle air-tight when the bottle is pressed into it.

The upper portion of the bottle-receiver B is provided with a screw-gland or stuffing-box E, and a piston-like pipe F slides therein, said pipe F being in connection with a supply-pipe from a cask, tank, or reservoir containing the liquid to be bottled, and from which it flows by gravity or by pressure. The pipe F is connected to a block G in connection with a tap or valve H, which is opened during a descending motion of a rack I for charging purposes, said rack being held between guide-plates J J for true up-and-down motion. The rack is geared into by a quadrant K, worked by crank-handle L, and the axle of the quadrant carries a crank-disk M, to which a link or appliance N is connected for giving an oscillatory circular motion to a bell-crank lever P, one arm of which carries a curved plunger or cork-driver Q, which enters a side nozzle or aperture R of the basket or bottle receiver B, said nozzle or aperture being first provided with a cork S, which the plunger or cork-driver drives home into the bottle-neck. On the rack is a cam-plate T, which, when the rack descends, presses against a valve-stem O and opens a valve, by which a supply of gas is first admitted into the bottle previous to the entry of the liquid, which is effected by its tap-lever riding against another cam-plate V or a pin thereon when the rack has traveled a little farther, the liquid entering the bottle near the lower part through the pipe-like piston F, so that it is not disturbed by the presence of gas already within the bottle.

The cam-plates T and V are adjustable to suit long and short bottles.

The position of the quadrant K, in connection with the rack I, is such that the link or appliance for operating the plunger Q first forces the cork, which has been placed in the side nozzle or aperture, a slight distance down the nozzle or aperture, as seen at Fig. 2, to make it gas-tight, and when the crank-handle L (which has a reciprocating circular motion) is operated the link or appliance N only passes a sufficient distance over the center of the disk M, to which it is connected, for the plunger to enter the nozzle or aperture R; but when the crank-handle L is reversed in its travel for withdrawing the tube-like piston F out of the bottle the plunger is driven into the nozzle or aperture again, and to a greater distance, to force the cork home into the bottle-neck, the supply of gas and of liquid having been just previously shut off by the uprising of the rack I.

The plunger Q is segmental and is an important feature in this invention when used in connection with the side nozzle or aperture R, which is also segmental, the bottle-receiver having a closed top within which the

liquid-supplying piston-like pipe F is fitted. This combination is applicable to bottling-machines generally.

The length of cork to be driven into the bottle by the plunger is adjusted or governed by a movable bracket.

The treadle C, when a bottle is placed in the cup W, is lifted into position for being filled. The cup W is adjustable as to height to suit pint or quart bottles by the pinch-nut X and sleeve Y on the stem Z.

When the rack is lifted its full height, it comes into contact with and compresses the spring I′, a catch *a* (see Fig. 3) suddenly passing from the back of the upright into position for the rack to rest upon, the teeth of the rack and quadrant being disengaged, so that the quadrant can continue its travel for operating the plunger to force the cork home. On the return of the handle L it strikes against the lever *b* of the catch *a* and withdraws said catch, the teeth of the rack and quadrant re-engaging, ready for lowering the supply-pipe into a fresh bottle, which has in the interim been placed in position.

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

1. In a bottling-machine, the combination of a bottle-receiver having a segmental cork-passage opening through one side and a central vertical pipe-passage, with a swinging segmental cork-driver, and a pipe reciprocating in said central passage alternately with said cork-driver, substantially as described.

2. In a bottling-machine, the combination, with a bottle-receiver, a segmental cork-driver, and a vertically-reciprocating pipe, of mechanism, substantially as described, for alternately reciprocating said cork-driver and pipe through passages in the bottle-receiver, substantially as described.

3. In a bottling-machine, the combination of a bottle-receiver having a cork-passage, a rack-bar carrying a fluid-inlet pipe which is movable through the receiver, a gear for reciprocating the rack-bar and fluid-inlet pipe, and a cork-driver, substantially as described.

4. In a bottling-machine, the combination of a bottle-receiver having a segmental cork-passage, a rack-bar carrying a fluid-inlet pipe which is movable through the receiver, a gear for reciprocating the rack-bar and fluid-inlet pipe, a crank on the shaft of the gear, an oscillating lever having a segmental cork-driver, and a connection between the crank and lever, substantially as described.

5. In a bottling-machine, the combination of the bottle-receiver having a segmental cork-passage, the rack-bar carrying the fluid-inlet pipe, which is movable through the receiver, the quadrant-gear engaging the rack and having its shaft provided with a crank-disk, an oscillating lever carrying the segmental cork-driver, and a link-connection between the lever and the crank-disk, substantially as described.

In witness whereof I have hereto signed my name, in the presence of two subscribing witnesses, this 18th day of November, 1889.

DENNIS WICKHAM.

Witnesses:

ALFRED PULLEY,

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Both of 9 Gracechurch Street, London, England.