

J. DECERIER.
MACHINE FOR FILLING AND CLOSING BOTTLES.
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898,563.

Patented Sept. 15, 1908.

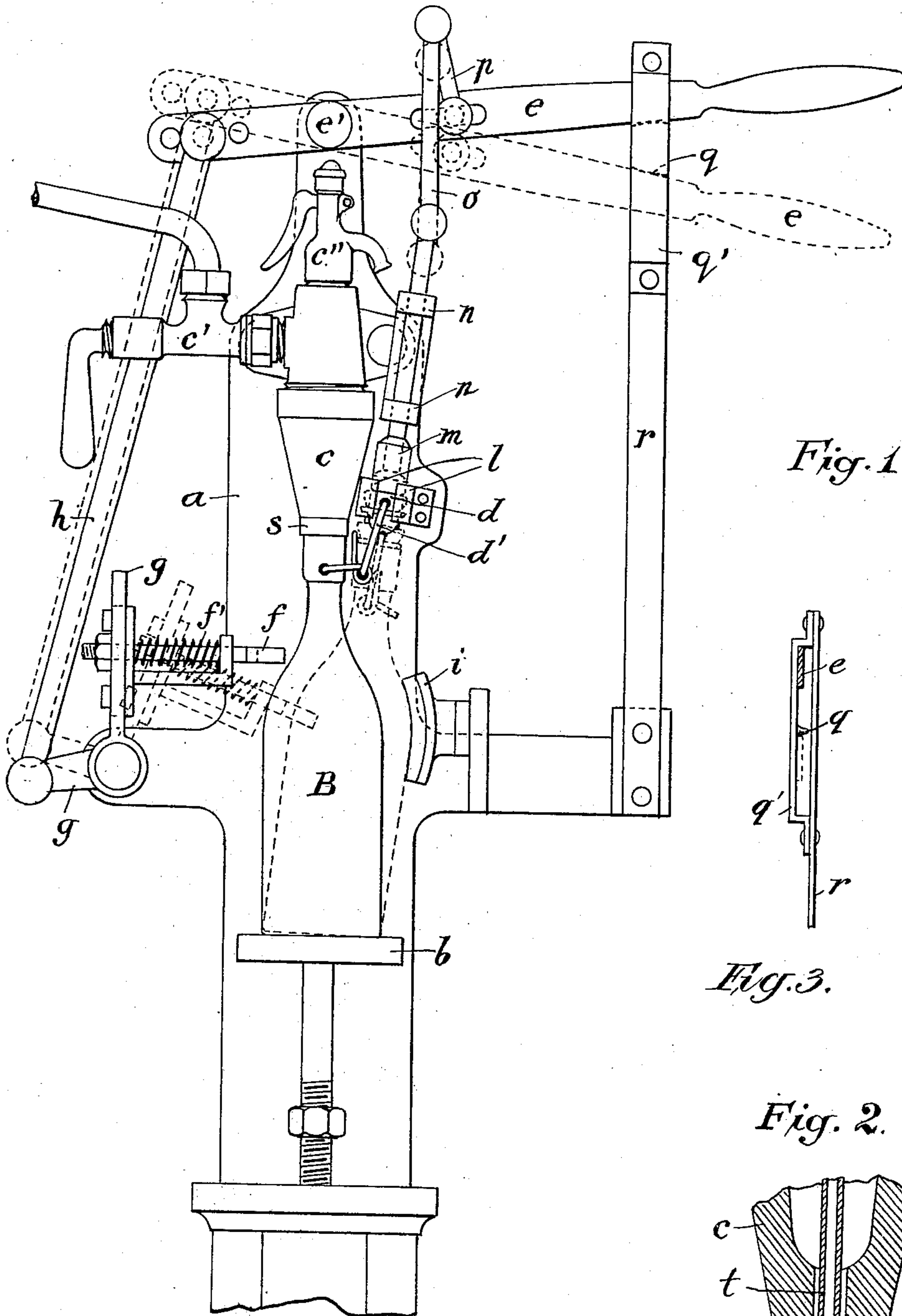


Fig. 1.

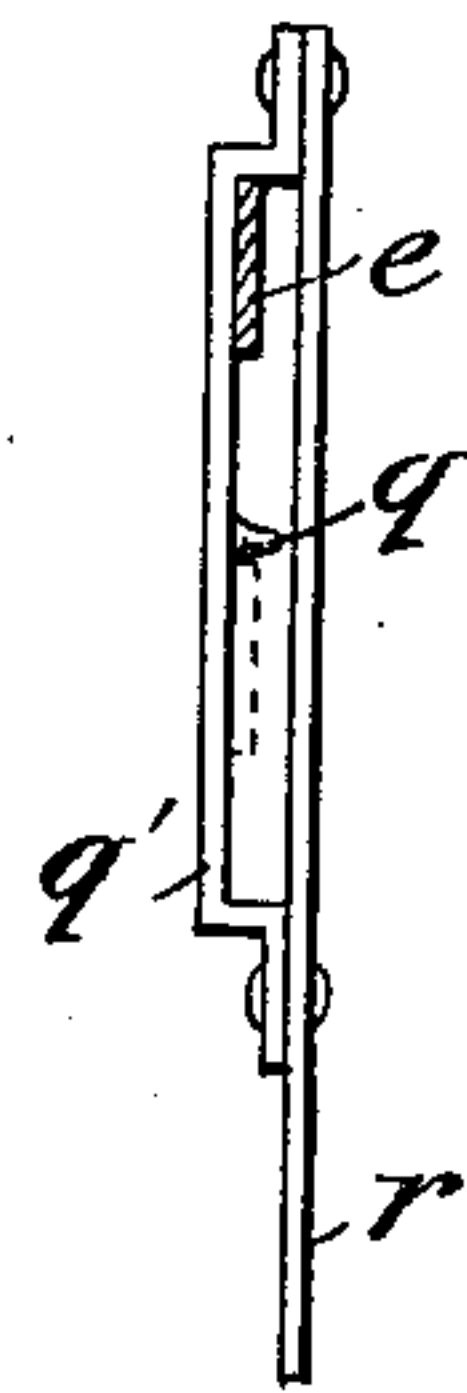
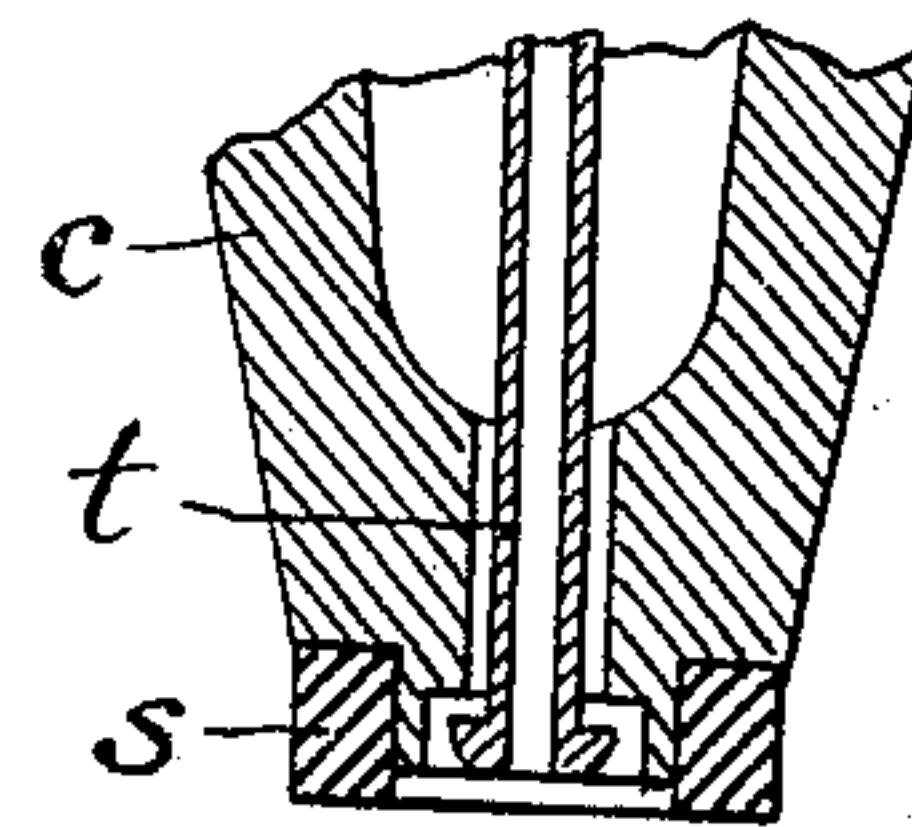


Fig. 3.

Fig. 2.



Witnesses
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UNITED STATES PATENT OFFICE.

JEAN DECERIER, OF REIGNIER, FRANCE.

MACHINE FOR FILLING AND CLOSING BOTTLES.

No. 898,563.

Specification of Letters Patent.

Patented Sept. 15, 1908.

Application filed December 5, 1906. Serial No. 346,388.

To all whom it may concern:

Be it known that I, JEAN DECERIER, citizen of France, residing at Reignier, Haute Savoie, France, have invented certain new and useful Improvements in Machines to Put in Bottles with Mechanical Stoppers Foaming Drinks and the Like; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The objects of the present invention are to construct a machine which will permit to put in an easy manner foaming drinks, such as lemonade, beer, etc., into bottles with mechanical stoppers without any loss of gas and liquid, and to secure other advantages and results some of which will be hereinafter more fully pointed out in the specification and claims.

The invention consists in the improved bottle filling machine and in the arrangement and combination of its component parts.

In the accompanying drawing, like letters of reference indicate similar parts in both figures.

Figure 1 is an elevation of the upper part of the machine showing the devices which manipulate the bottle and its stopper in full lines in the position they occupy during the filling operation of the bottle, and in dotted lines the position wherein the bottle is closed by its stopper. Fig. 2 is a vertical section of the faucet to receive the bottle neck while it is being filled. Fig. 3 is an end view of a stop for the handle of the machine.

In its main parts, the machine is similar to those actually in use wherein the bottles are closed by hand. These parts are the machine frame *a*, the vertically movable support *b* intended to receive the bottle *B* and operated in the usual manner by a treadle, not shown in the drawing, the faucet *c* with its stop-cock *c'* and air valve *c''* to which is given in the drawing the form of an ordinary siphon-head.

The new part of the machine consists in an arrangement of levers and other parts which permit to take the bottle *B* away from below the faucet *c* and close it immediately by

its stopper *d* held in readiness, by simply manipulating a lever, so that any person having no experience at all in the matter can use the machine without any loss of liquid and gas. The arrangement permitting to do this comprises a hand lever *e* pivoted at *e'* on the machine frame *a* and connected to two devices of which one serves to push the bottle-neck away from below the faucet *c* and the other to close it by its stopper. The first of these devices is formed by a yielding fork *f* adjustably supported in one arm of a bell-crank *g*, which is connected at its other arm to the hand lever *e* through intermediary of a bar *h*. The fork *f* when operated inclines the bottle and holds it against a stop *i* lined with leather or some other yielding material to prevent a shock liable to break the bottle; for the same reason, the fork *f* is furnished with a spring *f'*.

The device for operating the mechanical stopper *d* of the bottle consists of two distinct parts of which one serves to hold the stopper ready and the other to push it down on the neck of the bottle, in the moment the latter arrives in position under the stopper *d*.

The device which serves to hold the stopper in readiness is formed by two flat springs *l* fixed upon the machine frame *a* and forming with their outer ends a circular claw permitting the passage of the stopper hoop *d'*, and the device which serves to operate the stopper is formed by a plunger *m* carried in a support *n* and connected by bars *o* and *p* to the hand lever *e*.

The bar *p* is adjustable in a slit in the hand lever *e* and in the same manner the connecting bar *h* can be attached more or less distant from the pivot *e'* of the hand lever in order to allow to the machine of being adjusted for bottles and stoppers of different sizes.

The hand lever *e* can be secured in two positions by means of a stop *q* fixed in a long loop *q'* provided at the end of a support *r* which yields when the loop *q'* is pushed back by the thumb of the hand bringing the lever *e* over or under the stop *q*.

At the lower end of the faucet is a rubber ring *s* (Fig. 2) against which the bottle-neck is held while the bottle is filled, and the faucet *c* contains a small pipe *t* connected with the valve *c''* and permitting the air to escape out of the bottle when the valve *c''* is opened.

The machine is used as follows: The empty

bottle B is placed upon the support *b*, raised against the faucet *c* by stepping upon the treadle and the stopper *d* placed in the spring claws *l* against the plunger *m*, then the cock
 5 *c'* is opened and thus the fluid admitted through the faucet into the bottle which is firmly maintained against the rubber ring *s*; the air and free gas in the bottle are allowed to escape through the valve *c''* by pressing
 10 two or three times hastily upon its operating lever and as soon as the bottle is full the hand lever *e* is brought by a fast movement into the position shown in dotted lines by diminishing momentarily the pressure of the
 15 foot upon the treadle and by then bearing thereupon again to hold the bottle stopper *d* against the plunger *m*.

If the hoop of the stopper does not snap automatically over its position of highest
 20 tension, the closure is assured by hand and the bottle can be taken off.

In operating the lever *e* suddenly the bottle is so rapidly closed that no loss of liquid occurs.

25 Having thus described my invention, what I claim is:

1. A machine for filling and closing bottles having a stopper attached thereto comprising a bottle support, a filling tube, a pair of
 30 spring arms to yieldingly hold the stopper, a yielding arm to tilt the bottle, a stop for the tilted bottle, a plunger to force the stopper in the bottle, and manually operated means for simultaneously actuating the tilting arm and
 35 the plunger.

2. A machine for filling and closing bottles having a stopper attached thereto comprising a bottle support, a filling tube, a pair of spring arms to yieldingly hold the stopper, a

yielding arm to tilt the bottle, a stop for the 40 tilted bottle, a plunger to force the stopper in the bottle, a pivoted lever having a handle thereon, and link connections from the lever to the tilting arm and the plunger to simultaneously actuate them. 45

3. A machine for filling and closing bottles having a stopper attached thereto comprising a bottle support, a filling tube, a pivoted arm, a fork having a spring to take up the shock, the fork being adapted to engage the
 50 bottle to tilt it, a spring claw to hold the stopper attached to the bottle, a plunger to operate through the claw, a lever having a handle thereon, and link connections from the lever to the pivoted arm and the plunger 55 to simultaneously actuate them.

4. A machine for filling and closing bottles having a stopper attached thereto comprising a frame, a bottle support, a filling tube, a spring claw for holding the stopper, a bell-
 60 crank having a fork on one arm, the fork being backed by a spring, means for adjusting the fork, the fork being adapted to tilt the bottle, a plunger adapted to operate through the claw, a lever pivoted to the frame and 65 having a handle portion, a link connecting the bell-crank with the lever, a link connecting the plunger with the lever, and an adjustable connection between the links and the lever to vary the throw of the bottle and the 70 stopper.

In testimony, that I claim the foregoing, I have hereunto set my hand this twelfth day of November 1906.

JEAN DECERIÉR.

Witnesses:

L. H. MUNIER,
 R. SALLBERGER.