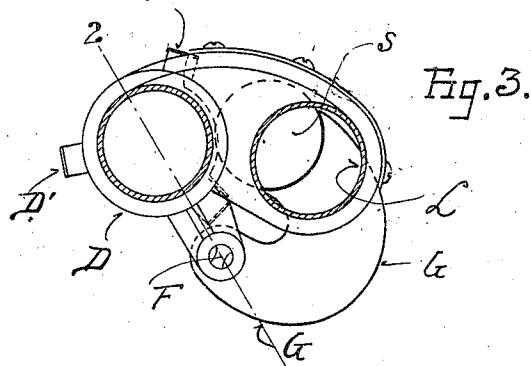
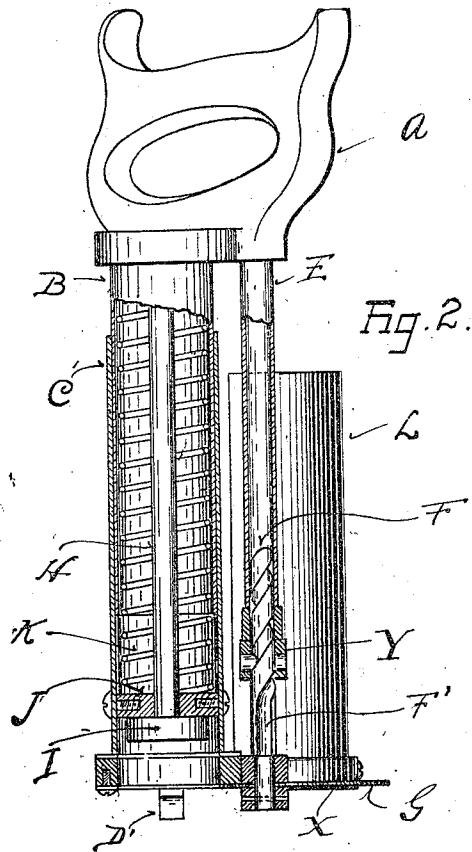
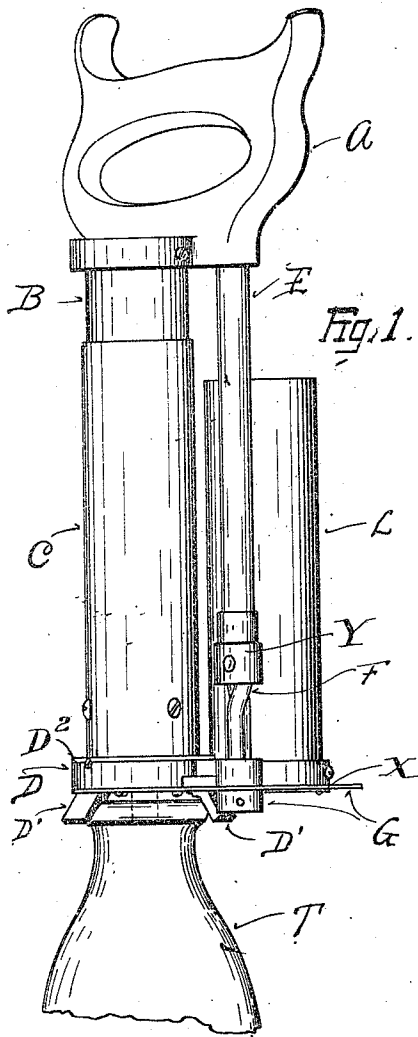


C. F. JENKINS.
BOTTLE CAPPING MACHINE.
APPLICATION FILED MAY 4, 1910.

979,766.

Patented Dec. 27, 1910.



WITNESSES:
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CHARLES FRANCIS JENKINS, OF WASHINGTON, DISTRICT OF COLUMBIA.

BOTTLE-CAPPING MACHINE.

979,766.

Specification of Letters Patent. Patented Dec. 27, 1910

Application filed May 4, 1910. Serial No. 559,258.

To all whom it may concern:

Be it known that I, CHARLES FRANCIS JENKINS, a citizen of the United States, residing at Washington, District of Columbia, have invented certain new and useful Improvements in Bottle-Capping Machines, of which the following is a specification.

This invention relates to hand devices for capping glass milk bottles and the like, the general object being to provide inexpensive apparatus which is convenient, rapid, and certain, in operation, which is very compact and in which the work is done by the force applied by the hand, springs being employed only for restoring parts to initial position after each operation, or to aid in such restoration.

In the accompanying drawings, Figure 1 is a side elevation of the apparatus. Fig. 2 is a like view with certain parts shown in vertical axial section. Fig. 3 is a plan view, parts being broken away a little above the base of the apparatus.

In general terms, the apparatus consists of a reciprocating plunger and a parallel cap hopper secured upon a base to be applied to the mouth of the bottle, a pivoted pusher operated by the plunger device to push a cap from the hopper into the path of the descending plunger, and a spring for restoring the parts to initial position after each operation. The plunger is provided with a handle and is actuated by direct thrust of the hand, the handle serving also for lifting the apparatus and transferring it from bottle to bottle.

In the figures, T represents a bottle to be closed, D, D² a base to which is fixed a barrel or hollow cylinder C having in its lower portion a fixed bearing J for a plunger rod H bearing at its lower end a head or plunger I by which, as will appear, the cap is pushed down through the base into its seat in the bottle.

In order that the plunger may be quickly aligned with the bottle, the base is provided with outwardly flaring lugs D' to rest upon the bottle as shown. The plunger rod is rigidly attached to a handle A which also bears a rigid concentric sleeve B fitting in the barrel C from the upper end of which it projects. Within this sleeve is a coiled spring K which rests upon the bearing J and yieldingly resists the descent of the plunger and sleeve. The base also carries a hopper L parallel to the barrel C and downwardly cut

off by a thin plate X secured to the base. Upon this plate lies a pusher plate G having at its end a concave margin adapted to engage the edge of the lowermost cap in the hopper. The pusher has near its opposite end a hub which is fixed to the lower end of a shaft revolubly mounted in the base and having that portion just above the base, at F' simply flattened while the portion more distant from the base and terminating at F is twisted or spirally formed to work in a sort of nut Y secured to the lower end of a rigid sleeve fixed to the handle and encircling the upper end of the pusher shaft.

Normally, the spring K holds the handle raised or holds the base so far down that the bearing J rests upon the plunger I, as shown in Fig. 2, the nut Y at the same time being upon the twister portion of the pusher shaft and the pusher being swung back so far that its curved margin lies just outside of the interior of the hopper, and the lower cap rests upon the plate X.

In use, the apparatus is lifted by means of the handle A and placed upon a bottle as in Fig. 1. The handle being pushed downward the plunger descends and the nut Y rotates the pusher plate which engages and pushes forward the lower cap in the hopper until it lies immediately beneath the plunger. The cap reaches this point just before the descending plunger reaches the pusher's plane, and at this instant the nut Y leaves the spiral portion of the pusher shaft and rotation ceases, the nut moving down on the straight portion F' while the plunger inserts the cap in the bottle mouth. The cap as it is pushed forward moves in a way in the lower part of the base, the walls of the way being slightly outside the channel in which the plunger moves and slightly convergent, to gently resist the descent of the cap, although this is not an indispensable condition, since the cap could fall but slightly in any case and could hardly be displaced materially. When the handle is again lifted to carry the device to another bottle, gravity tends to carry the base and its immediate attachments to the relative position illustrated in Fig. 2, and this tendency is aided, if necessary, by the spring K, so that no matter how rapid the movements of the operator, the parts will be in proper or initial relative positions before the apparatus can be placed upon a second bottle. Obviously the spring has little to do

and may advantageously be very light, adding little to the work to be done by the user whose force is almost entirely used in inserting the cap and lifting the apparatus.

5 It is to be observed that the feeding of the cap and inserting it in the bottle are both accomplished with a single hand thrust in one direction, both feeding and insertion being positive and directly by the hand, so that
10 any failure is instantly perceived and at once obviated, or in other words the device is practically entirely certain in operation.

What I claim is:

1. The combination with a base having an
15 opening to register with a bottle mouth, of an open tube surrounding said opening, a sleeve telescoping in said tube and provided with a handle and with an axial plunger, a stop limiting the upward movement of the
20 plunger in said tube, a spring resisting contrary movement, a closure hopper alongside said tube, a vertical rod rotatably secured to the base alongside the hopper, means for rotating the rod back and forth as the plunger reciprocates, and a pusher fixed to the
25 rod and adapted to push closures from the hopper into the path of the plunger.

2. The combination with a base having an opening adapted to register with the mouth
30 of a bottle upon which the base may rest, of a plunger alining with the opening and normally above it, a stop limiting the plunger's upward movement, a spring resisting contrary movement, a closure hopper alongside the plunger, a vertical rod alongside the
35 hopper and provided with a surface groove longitudinal near the base and spiral above, a horizontal pusher fixed to the lower part of the rod to swing across the lower part of the hopper and push closures therefrom be-
40 neath the raised plunger, and a non-rotary member moving with the plunger and engaging in said groove, whereby as the plunger descends, the pusher feeds a closure be-
45 neath it and holds it against return, and itself returns to initial position as the plunger again rises.

In testimony whereof I have affixed my signature in presence of two witnesses.

CHARLES FRANCIS JENKINS.

Witnesses:

JAMES L. CRAWFORD,
WM. H. HUTCHERSON.