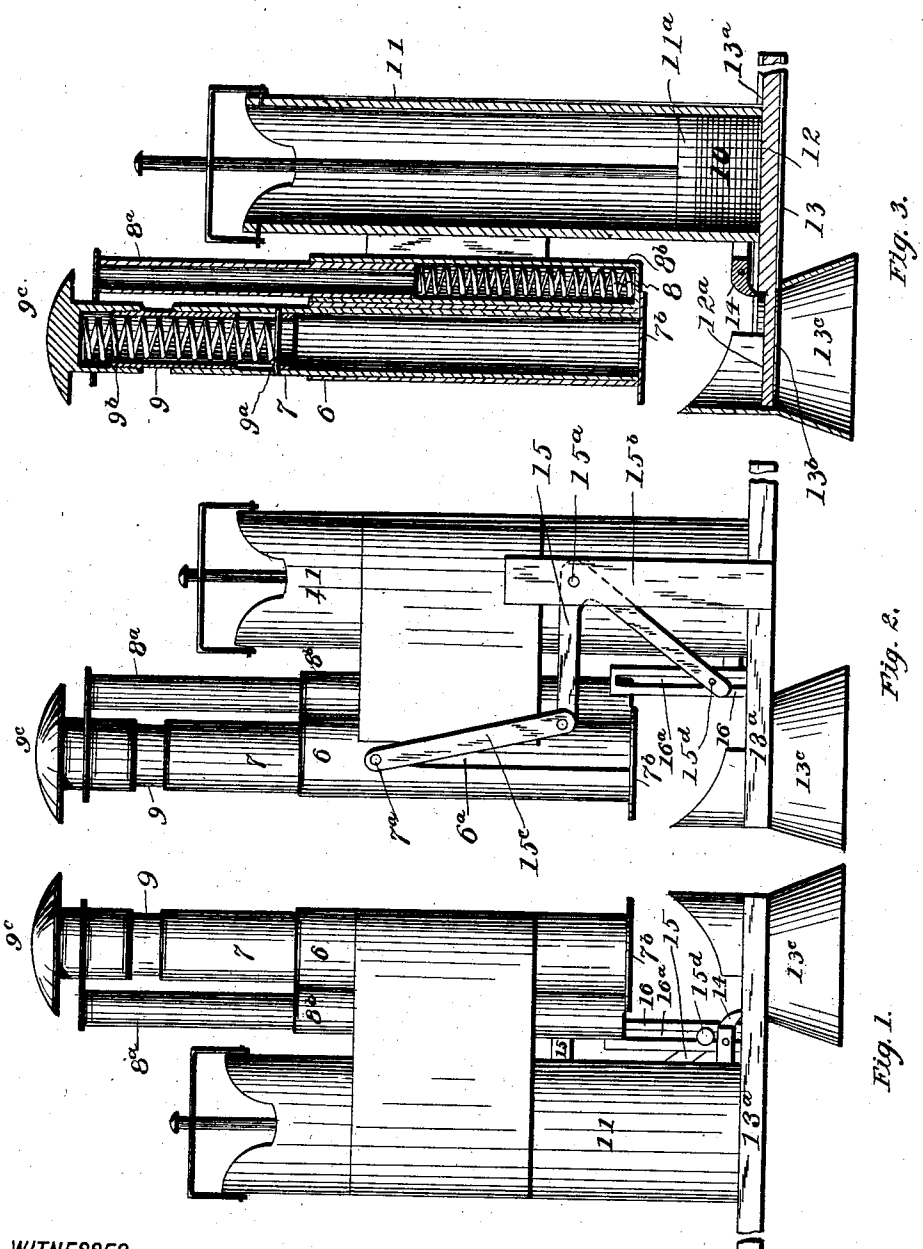
No. 708,083. Patented Sept. 2, 1902.

J. D. SCHELL.

BOTTLE CAPPING MACHINE.

(Application filed Dec. 23, 1901.)

(No Model.)



WITNESSES:

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UNITED STATES PATENT OFFICE.

JAMES D. SCHELL, OF EVANSTON, ILLINOIS.

BOTTLE-CAPPING MACHINE.

SPECIFICATION forming part of Letters Patent No. 708,083, dated September 2, 1902.

Application filed December 23, 1901. Serial No. 86,951. (No model.)

To all whom it may concern:

Be it known that I, JAMES D. SCHELL, a citizen of the United States, residing at Evanston, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bottle-Capping Machines; 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 the figures of reference marked thereon, which form a part of this specification.

My invention relates to bottle-capping machines, and particularly to such machines used to seal milk-bottles by inserting disks of paper or the like into the mouths thereof.

The object of the invention is to improve the construction and action of such machines.

A further object is to provide a spring which will cushion the stroke of the plunger after the disk is seated in the mouth of the bottle, thereby avoiding forcing the disk into the bottle and possible breakage of the bottle.

A further object is to provide an improved feeding device for the disks.

In the drawings, Figure 1 is an elevation of one side of the machine. Fig. 2 is an elevation of the other side. Fig. 3 is a central vertical section.

Referring particularly to the drawings, 6 indicates a tube containing the plunger 7. The tube has at one side a longitudinal slot 6^a, in which works a pin 7^a, projecting from the plunger. The lower end of the plunger has a head 7^b of suitable size and shape to force the disks into the mouth of the bottle. The plunger is returned after its downward stroke by a spring 8, contained in telescoping tubes 8^a and 8^b, attached, respectively, to the tube 6 and the plunger 7. Said plunger is tubular and contains a supplementary tube 9, which projects from the upper end thereof. The tube 9 is slotted on opposite sides, and a pin 9^a extends from the plunger through said slots. This pin limits the movement of the tube 9 and also forms an abutment for the lower end of a spring 9^b, which is contained within said tube and which cushions the same relative to the plunger. A suitable handle 9^c is secured to the top of the tube 9.

On the downward thrust of the plunger the spring 8 is compressed until the head of the plunger strikes the disk into the mouth of the bottle. Unless this thrust be nicely gaged there would be a risk with a rigid plunger of forcing the disk into the body of the bottle or of breaking the bottle or of jarring the hand of the operator. This effect is avoided by the use of the spring 9^b, which when the plunger has forced the disk to its seat in the bottle compresses to a certain extent and takes up any further motion, thereby cushioning the stroke of the plunger. The disks (indicated at 10) are contained in a tubular magazine 11 under a follower 11^a and are fed from the bottom of the magazine into a seat or recess 12^a, formed at the forward end of the sliding carrier 12. The seat is of proper shape and depth to receive a single disk. The carrier slides back and forth upon a base-plate 13, which has flanges 13^a at its edges, forming ways for the carrier. Said plate has an opening 13^b therein directly under the plunger to permit the passage thereof, also a flange 13^c around and below the opening to guide the head of the bottle to the proper position to receive the disk. The carrier is actuated by a bell-crank connection with the plunger. The bell-crank is indicated at 15, pivoted at 15^a to a brace 15^b, extending from the base-plate to the magazine. One arm of the crank is joined by a rod 15^c to the pin 7^a on the plunger, and the other arm of the crank has a pin 15^d, which works in the slot 16^a of a vertical plate 16, projecting from the carrier. Vertical movement of the plunger causes relative horizontal movement of the carrier. It is to be noticed that at the normal elevated position of the plunger the carrier is advanced over the opening 13^b in the base-plate. When the plunger is depressed, the carrier recedes. When the carrier advances, it carries in the seat 12^a a disk taken from the bottom of the stack in the magazine. A detent 14 is pivoted at the lower end of the magazine. When the carrier has advanced, the detent drops behind the disk, and when the carrier recedes on the downward stroke of the plunger the detent shoves the disk off the carrier directly under the descending plunger, which forces it into the mouth of the bottle.

Having thus described the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a bottle-capping machine, in combination, a vertically-reciprocating spring-supported plunger, a magazine-tube adjacent thereto, a reciprocating plunger-actuated disk-carrier under the mouth of the tube, adapted to carry a disk to a position beneath the plunger, and a detent to prevent backward movement of the disk when the carrier recedes.

2. In a bottle-capping machine, the combination with disk-feeding means, of a support, a reciprocating spring-supported plunger therein comprising telescoping tubes cushioned relative to each other, one of said tubes having a plunger-head and the other a handle, and connections between the plunger and the feeding means to cause coöperative action.

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

JAMES D. SCHELL.

Witnesses:
NELLIE FELTSKOG,
HARRY G. BATCHELOR.