

A. L. JENKINS.
PRESS.

APPLICATION FILED DEC. 10, 1908.

983,059.

Patented Jan. 31, 1911.

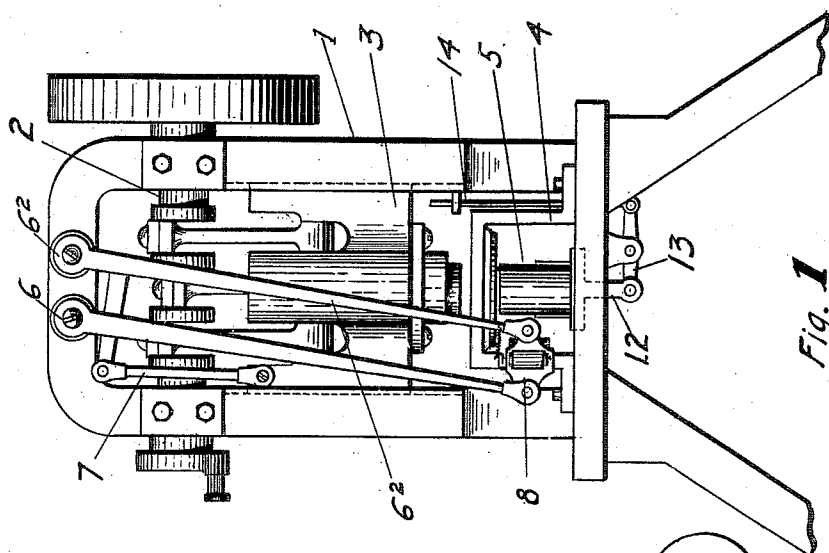


Fig. 1

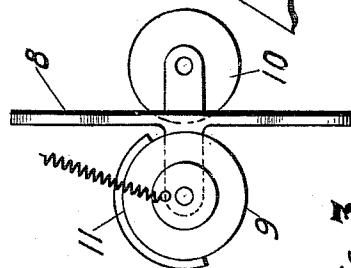


Fig. 3

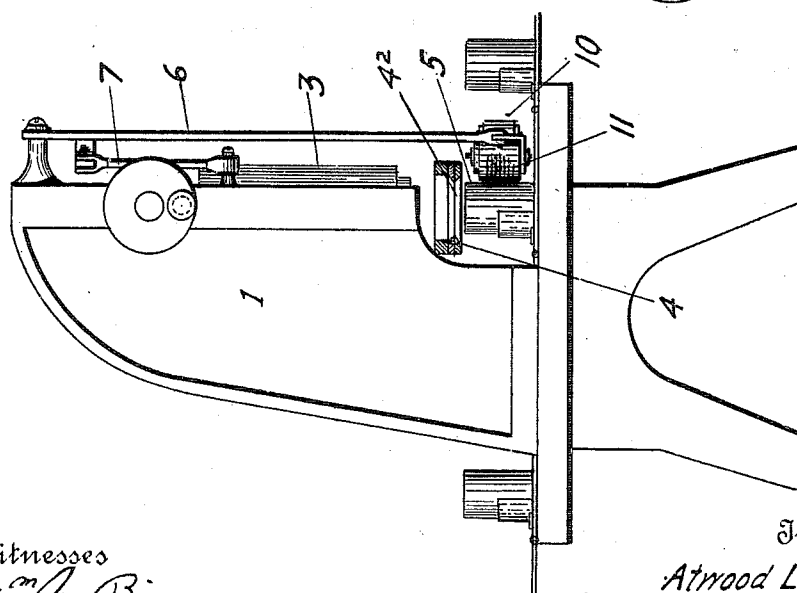


Fig. 2

Witnesses
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UNITED STATES PATENT OFFICE.

ATWOOD L. JENKINS, OF RICHMOND, INDIANA, ASSIGNOR, BY MESNE ASSIGNMENTS,
TO SINGLE SERVICE PACKAGE CORPORATION OF AMERICA, A CORPORATION OF
NEW JERSEY.

PRESS.

983,059.

Specification of Letters Patent.

Patented Jan. 31, 1911.

Application filed December 10, 1908. Serial No. 486,924.

To all whom it may concern:

Be it known that I, ATWOOD L. JENKINS, citizen of the United States, residing at Richmond, in the county of Wayne and State of Indiana, have invented certain new and useful Improvements in Presses, of which the following is a specification.

The object of the invention is to provide improved presses for forming and inserting cups or closures in paper bottles and at the same time printing any desired matter upon the bottles. Open paper tubes are likely to spring out of true form and for that reason to be crushed when it is attempted to force a closure or cap into place. This evil is eliminated by pressing the bottle into a conical or otherwise converging passage which accurately forms and holds it in exact position while the closure is put in place. I also provide a printing device arranged to be moved into and out of printing contact, at proper times by the movement of other members of the press.

In the drawings, Figure 1 is a front view of a press provided with my printing devices. Fig. 2 is a side view of the same apparatus. Fig. 3 is a plan view of a portion of the printing mechanism.

In these drawings, 1 designates a press frame provided with a table and carrying, above a table, a power driven crank-shaft 2 which actuates a tubular head 3 working in ways in the frame and bearing an annular cutting plunger 20, and also actuates a forming and inserting plunger 21 concentric with and reciprocating within the cutting plunger. Below and in line with the plungers 20, 21 is a reciprocating bottle elevating device 12 operated by a centrally pivoted lever 13 to the outer end of which is attached a rod 14 sliding in ways in the frame and normally having its upper end in the path of the head 3 so that as the head descends the lever is tilted raising the member 12. Bottles 5 are placed upon this member by hand or otherwise, for example, by an intermittently moving chain of plates 22 traveling across the table above the member 12 and each bearing a curved lateral support 23 for bottles. The plungers coact, respectively, with a cutting die 24 and a forming die 4², shown in this instance as made up of two superposed plates oppositely beveled outwardly from the opening, all supported, at a little more than a bottle's height above the

table, by rigid members 4. Two equal parallel arms 6, 6² are pivoted at their upper ends near the top of the frame and at their lower ends are pivotally attached to a frame 8 which revolvably supports in vertical position a printing roller 9 and a smaller inking roller 10, the proportions and arrangements being such that as the arms swing about their upper pivots when a bottle is in place below the plungers, the printing roller impinges upon and imprints the bottle to which it is parallel. Such swinging of the arms is effected by a rigid arm 24 projecting laterally from one arm and connected by a link 7 with the head 3. Obviously, as the head descends the arms carry the rollers past the bottle and as it ascends they restore the frame to initial position.

In order that the bottle shall properly resist the lateral pressure of the printing roller it is necessary that its upper as well as its lower portion should be supported, and the timing of the mechanism is such that the bottle is raised into the conical forming die and thus securely held during the printing. It is also obvious that as such raising is effected by the descent of the cutting plunger during the nearly simultaneous descent of the forming plunger also, the same operation serves the second purpose of accurately centering the bottle and pressing its mouth into true form for receiving the closure.

What I claim as my invention and desire to protect by Letters Patent of the United States, is:—

1. The combination with reciprocating closure cutting and inserting plungers, of fixed dies co-acting with the plungers, respectively, and provided below with devices to receive and hold in position and form the open end of a bottle pressed into the same, a bottle support alining with the plungers, and means actuated by the movement of one of the plungers to raise a bottle thereon into engagement with said devices.

2. In a press of the class described, the combination with a reciprocating closure inserting device, of a carrier for bringing cylindrical receptacles successively to rest in alinement with said device, means for centering and accurately holding the receptacle during the insertion of a closure, and a printing device arranged to swing in a plane tangent to the receptacle to print thereon while it is thus held.

3. The combination with means for supporting an open bottle, of devices for forming and inserting a closure, and a printing device actuated by the movement of said devices for printing upon the bottle so supported.

4. The combination with bottle supporting devices, of means for forming and inserting a closure in a bottle supported by said devices, a printing device arranged to swing past the place of a bottle so supported to print upon the same, and means whereby the printing device is so swung by the advancing movement of the forming and inserting means.

5. The combination with a press adapted to support a bottle and to insert a closure

therein and provided with a device above the normal position of the bottle for holding the open end of the bottle in proper fixed position, of automatic means for raising bottles into engagement with said device, a printing device movable into and out of printing contact with bottles so raised and held, and means whereby other moving press members so move the printing device at proper intervals.

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

ATWOOD L. JENKINS.

Witnesses:

M. H. DILLON,
H. G. WEDELL.