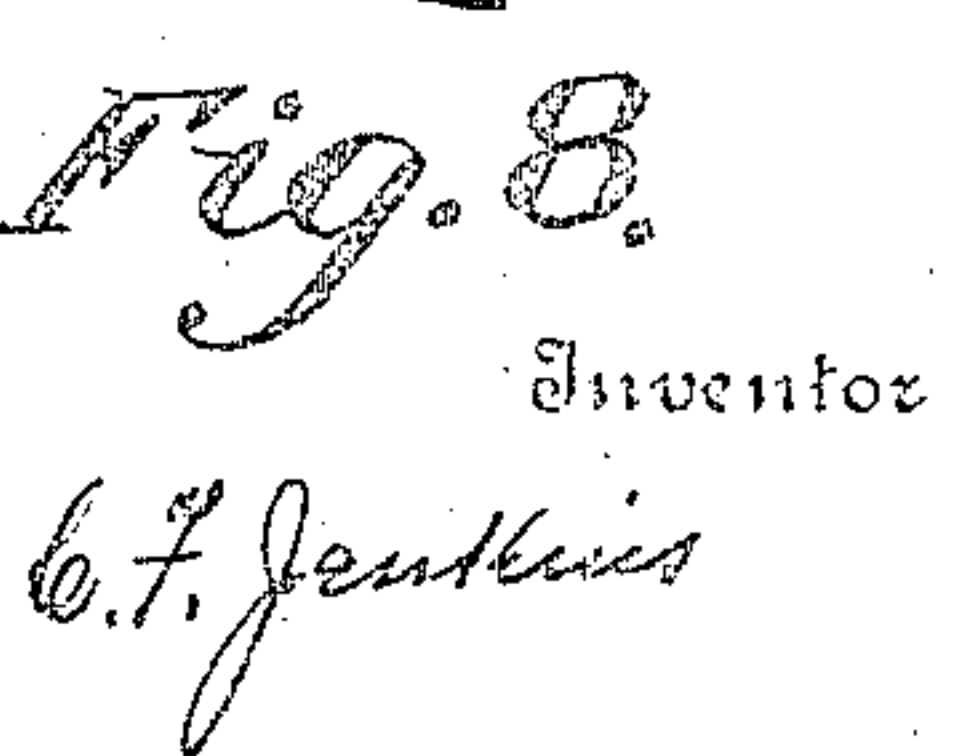
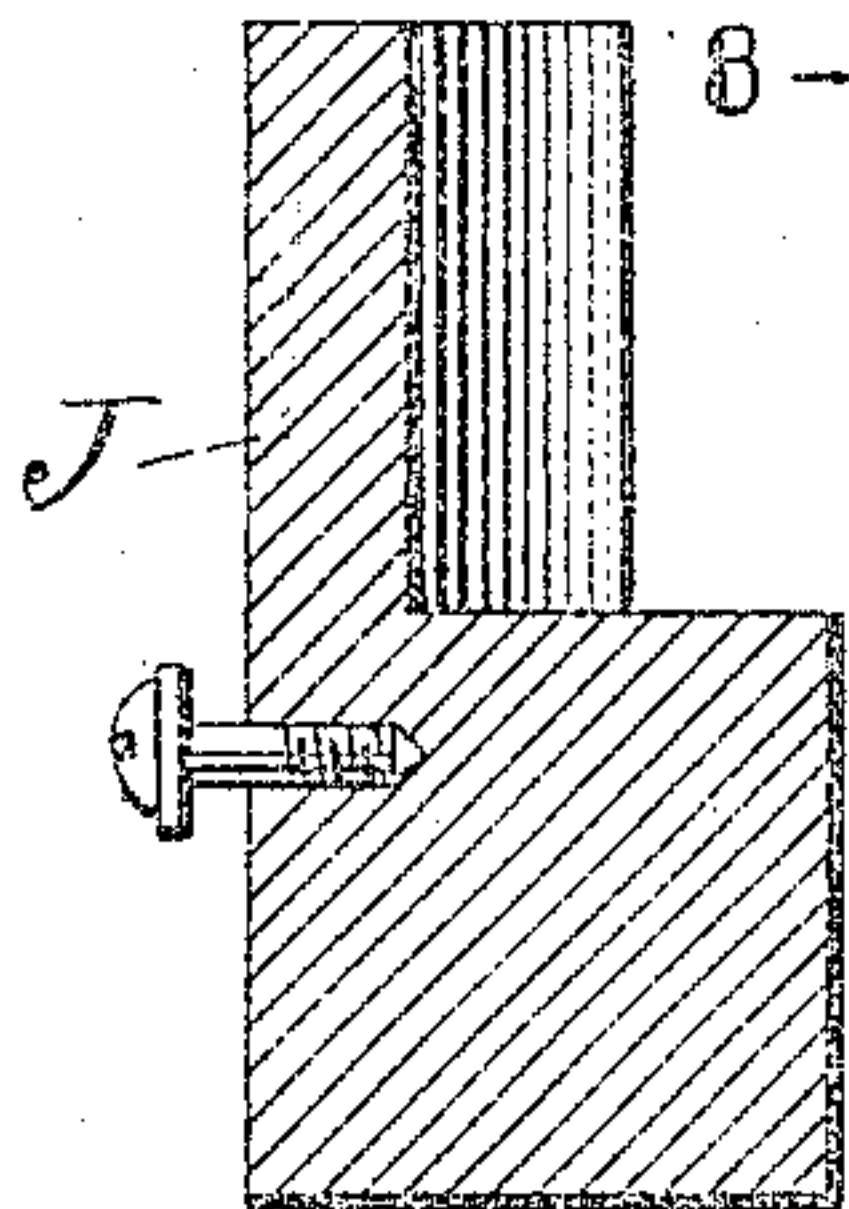
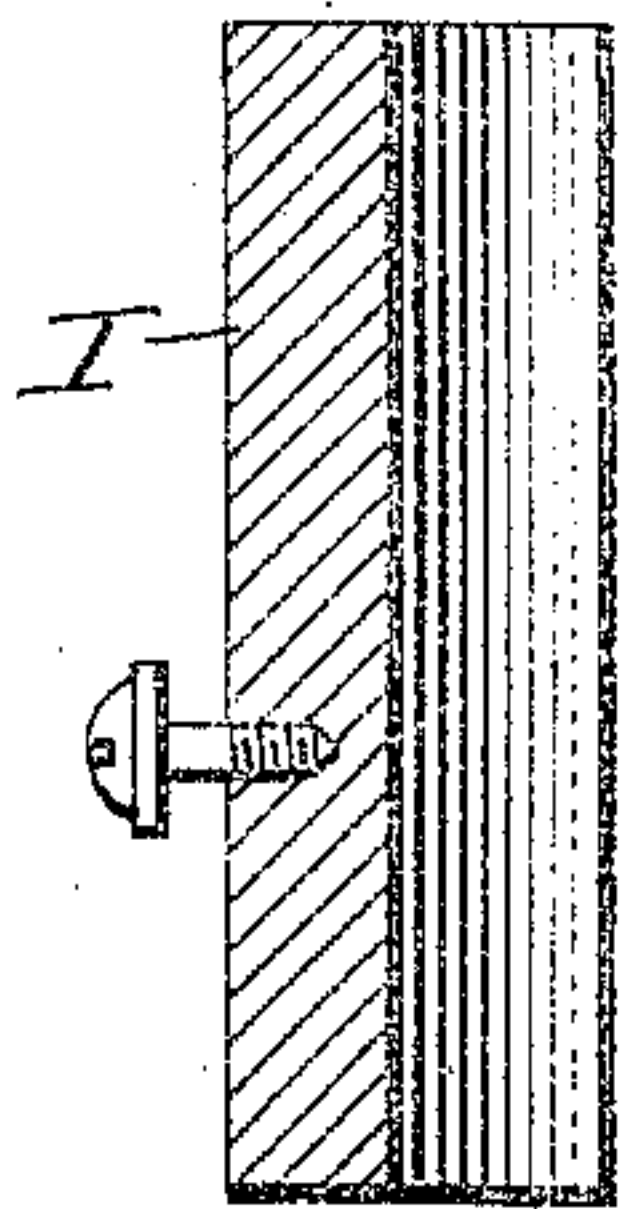
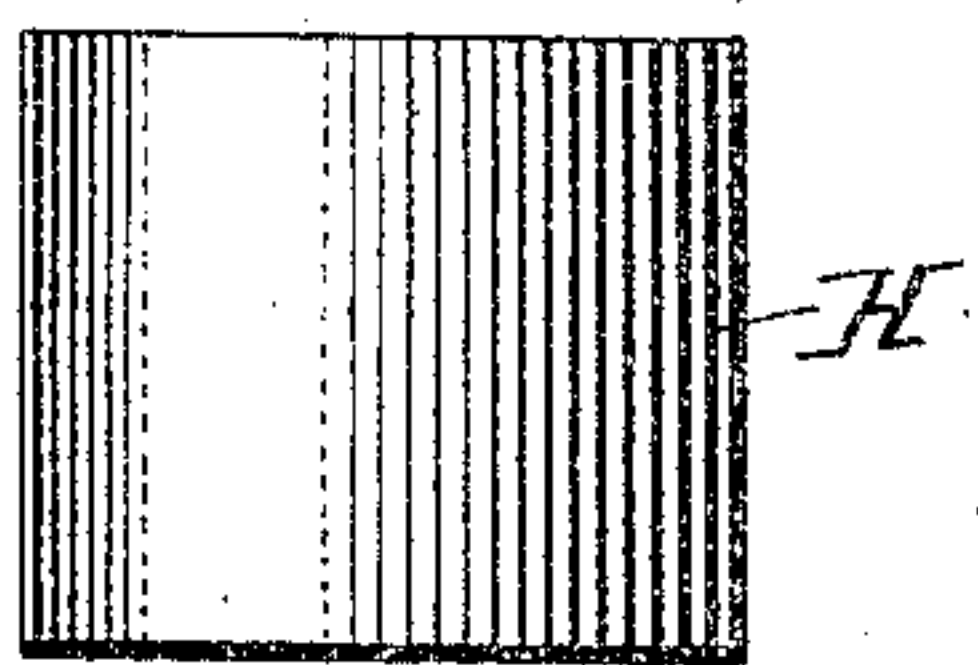
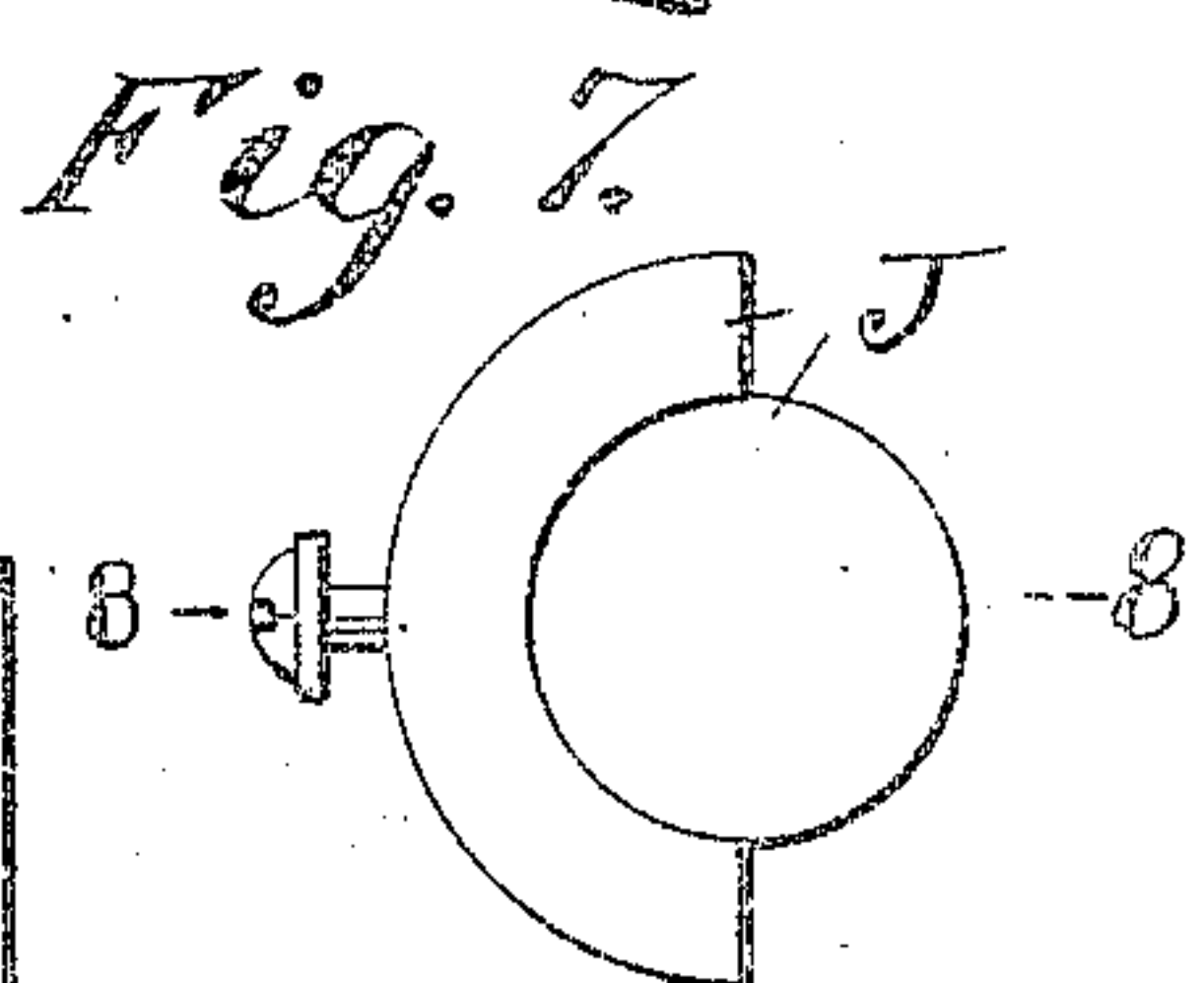
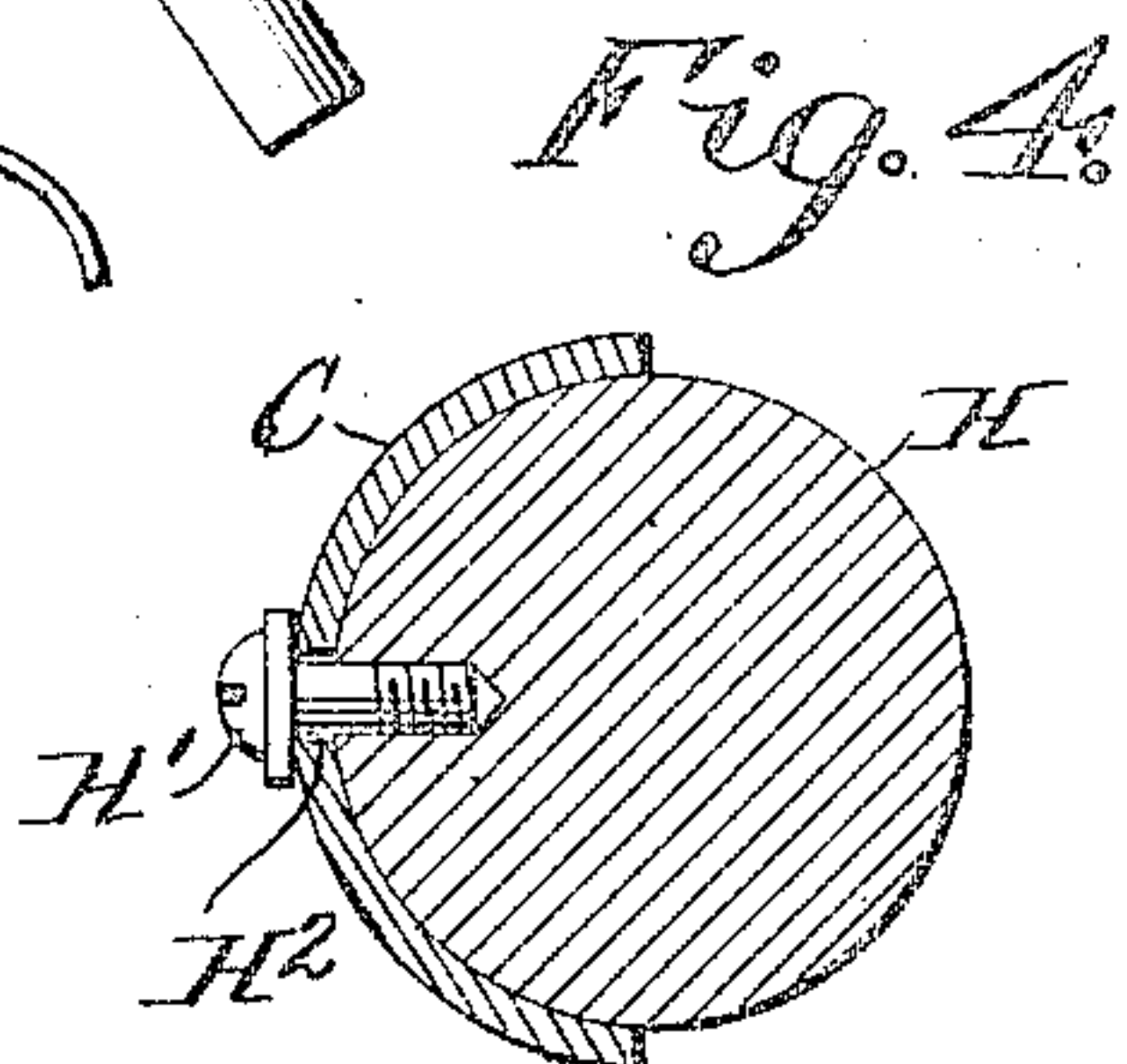
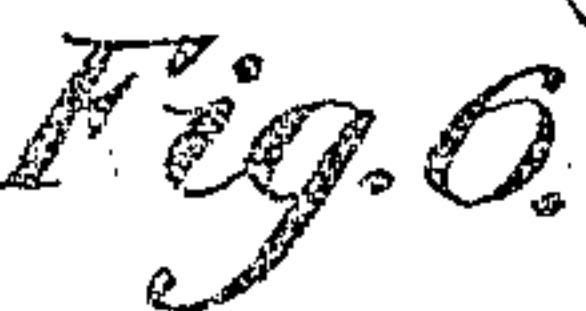
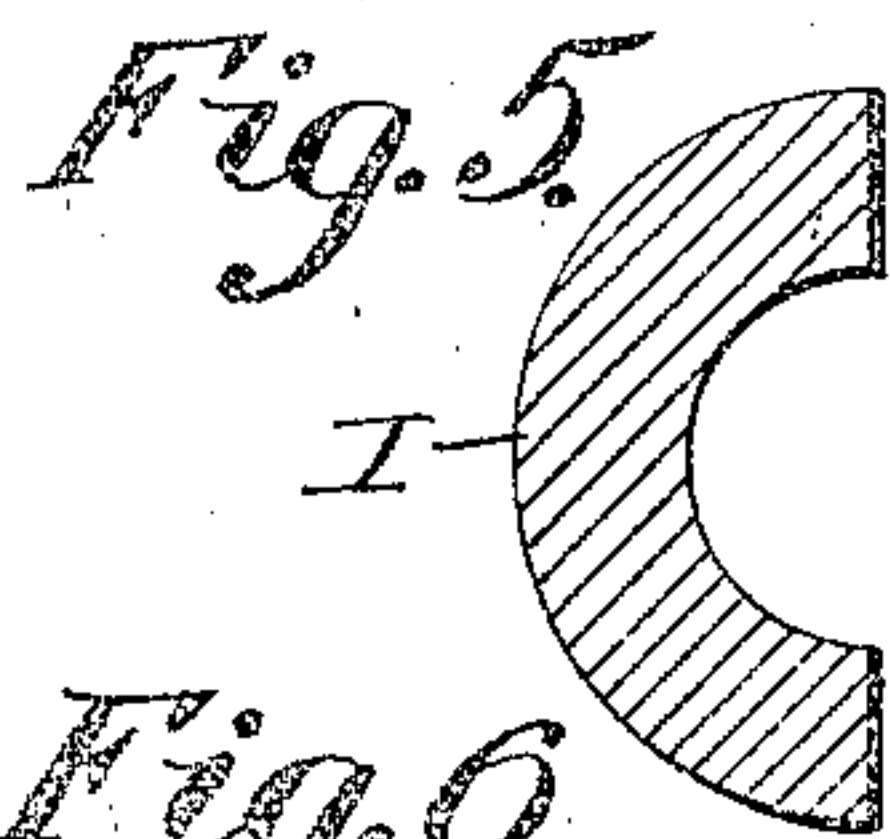
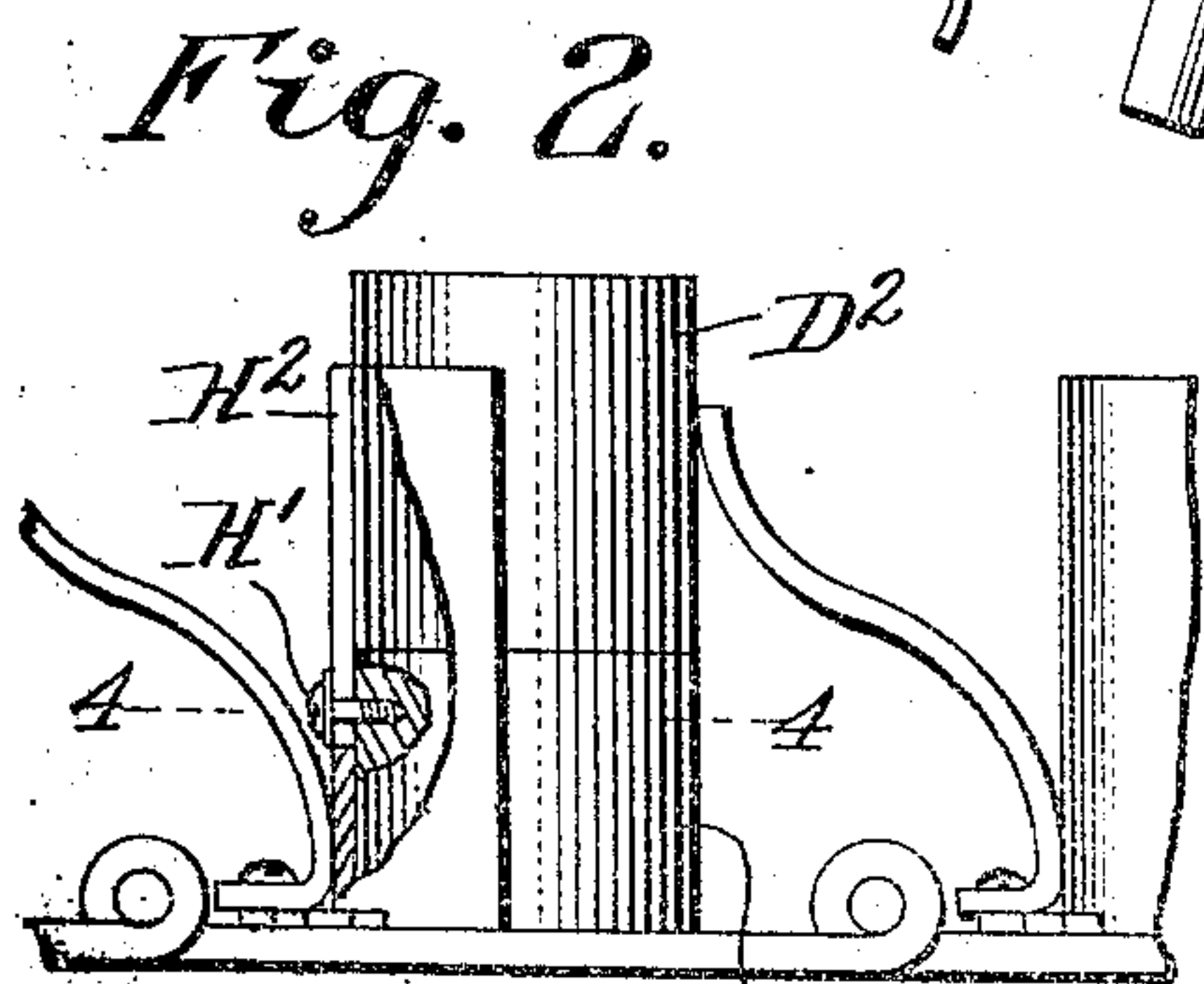
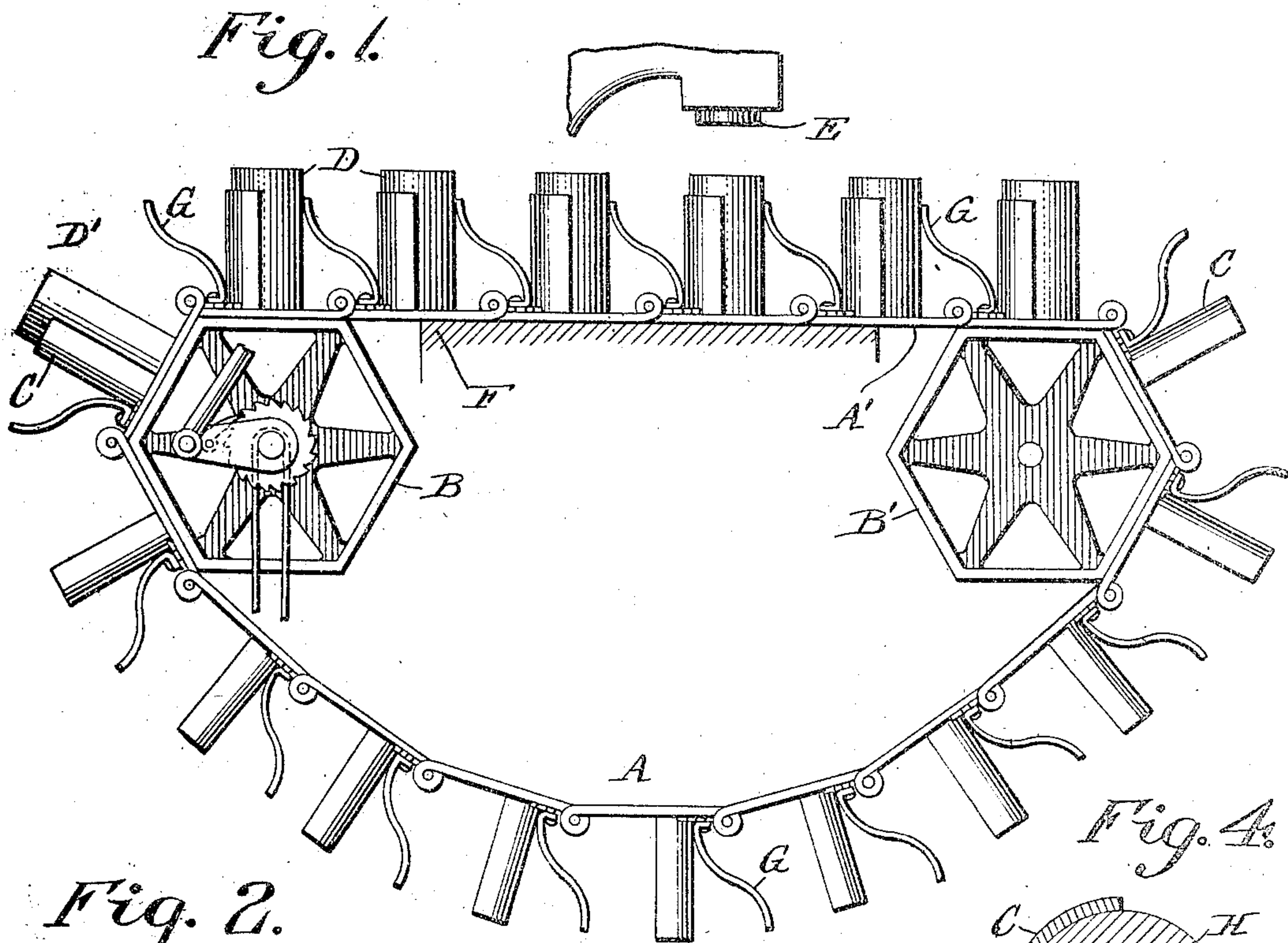


C. F. JENKINS.
 DEVICE FOR HOLDING BOTTLE BODIES FOR THE INSERTION OF CLOSURES.
 APPLICATION FILED FEB. 23, 1909.

958,252.

Patented May 17, 1910.



Witnesses
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UNITED STATES PATENT OFFICE.

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DEVICE FOR HOLDING BOTTLE-BODIES FOR THE INSERTION OF CLOSURES.

958,252.

Specification of Letters Patent.

Patented May 17, 1910.

Application filed February 23, 1909. Serial No. 479,374.

To all whom it may concern:

Be it known that I, CHARLES FRANCIS JENKINS, citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Devices for Holding Bottle-Bodies for the Insertion of Closures, of which the following is a specification, reference being had therein to the accompanying drawing.

The invention relates particularly to means for holding paper bottles and the like accurately in position during the insertion of closures therein, and to means whereby the same machine may insert closures in bottles differing in height and diameter.

In the accompanying drawings, Figure 1 is a side view of the feed belt mechanism of a machine for inserting closures. Fig. 2 is a like view of a portion of the same devices provided with devices for use with bottles of less height. Fig. 3 is a side elevation of a block forming a part of such devices. Fig. 4 is a section on the line 4—4, Fig. 2. Figs. 5 and 6 are, respectively, a horizontal and a vertical section of a block to be used with bottles of the same height as those shown in Fig. 1, but of less diameter. Fig. 7 is a plan view of a block adapted for use when the bottles are both short and of small diameter. Fig. 8 is a section on the line 8—8, Fig. 7.

In these views, A represents an endless bottle carrying belt driven step by step by pulleys B, B', and in this instance made up of hinged plates A' each bearing a rigid cylindrically curved bottle supporting wing C perpendicular to the plane of the plate, the whole being so arranged that bottles D being fed to the wings in succession at D' are presented in succession below a closure-inserting plunger E directly over any suitable belt support F adapted to resist the depression of the belt by the plungers. All the parts thus far specifically mentioned are well known and without novelty herein claimed.

Obviously, when a bottle closing disk placed under the plunger is to be forced into the bottle which should receive it, the bottle must be held accurately in place or it will be crushed by the action of the plunger, and one object of this invention is to insure such adjustment by simple automatic means. To this end, a spring G is fixed to each belt plate to project over the adjacent plate, when the

two plates are in the same plane, and press a bottle upon said adjacent plate firmly against the wing within which it lies. As the belt passes over the pulley on the left in Fig. 1, the angle made by any two adjacent plates is such that a bottle is readily fed between the wing and the spring upon the next plate, but the next step in the belt's advance brings the two plates into the same plane and causes the spring to swing against the bottle and hold it exactly in position while it advances step by step, stopping for an instant beneath the plunger which inserts a closure or cap, until the opposite pulley is reached, when the spring swings from the bottle and the latter is discharged by gravity.

For making bottles of different heights, it has been necessary to adjust, or replace, various parts of the machine, with much loss of time. I accomplish the desired result by putting in each wing a bottle supporting block H of suitable height, such as is shown in Figs. 2, 3 and 4. In each block is set a projecting screw H', and in putting the block in place this screw is passed into an open slot H² in the wing until the block rests upon the belt plate, when slightly turning the screw locks the block in position. The machine is thus quickly adapted for shorter bottles D² of the same diameter, and obviously it may be as quickly changed to accommodate the higher or longer bottles.

If it be desired to use long bottles of less diameter than those fitting the wings, a bushing-like block I, such as is shown in Figs. 5 and 6, may be secured to the belt in like manner, and in case bottles which are both small and short are to be used, the block J of Figs. 7 and 8 may be employed.

By providing suitable sets of blocks, the same machine may be quickly adapted for inserting closures in bottles of any desired diameter or height less than the diameter and height for which the machine is adapted when no blocks are used. It may also be observed that while cylindrical boxes or bottles are chosen for illustration, the invention is not thus limited in its application.

What I claim is:

1. The combination with a belt provided with bottle supporting wings at intervals, of springs secured to the belt in front of said wings, respectively, in position to swing toward the same as the belt passes from

flexed position to a rectilineal path and yieldingly press each bottle into exact position against a wing.

2. In a machine of the class described, the combination of a chain of flat plates provided with bottle supporting wings, with springs secured to the plates, each in position to swing over the adjacent plate toward the wing thereon, as the chain passes from a flexed to a rectilineal form; whereby a bottle body inserted between the wing and spring when the chain is flexed is pressed firmly into position against the wing when the chain is straightened.

3. In apparatus of the class described, the combination with a bottle conveying belt provided at intervals with forwardly open wings to support bottles laterally, of springs carried by the belt in position to press bottles against said wings, respectively, and a series of bottle supporting blocks detachably secured alongside said wings, respectively, for supporting bottles of smaller dimension.

4. The combination with a belt provided with wings for laterally supporting in vertical position the rear side of bottles conveyed by the belt, of a series of blocks detachably secured to the wings, respectively,

and adapted to support smaller bottles with their axes in the position of the axes of larger bottles supported directly by the wings.

5. The combination with the conveyer belt provided with bottle supporting wings having open slots, of blocks adapted to support bottles above the belt and provided with screws adapted to enter said slots, respectively, for detachably securing the blocks in position.

6. The combination of a belt provided with wings for laterally supporting bottles conveyed by the belt, with a series of blocks detachably secured to the wings respectively, and adapted to support smaller bottles, and springs secured to the belt in position to swing toward and hold bottle bodies against said blocks as the belt passes from flexed to rectilineal form; whereby the tops and axes of the bottles are always in correct position.

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

CHARLES FRANCIS JENKINS.

Witnesses:

JAMES L. CRAWFORD,
WALLACE GREENE.