L. BARTLETT.

BOTTLE CAPPING MACHINE.

APPLICATION FILED APR. 1, 1909.

1,005,795.

Patented Oct. 17, 1911.

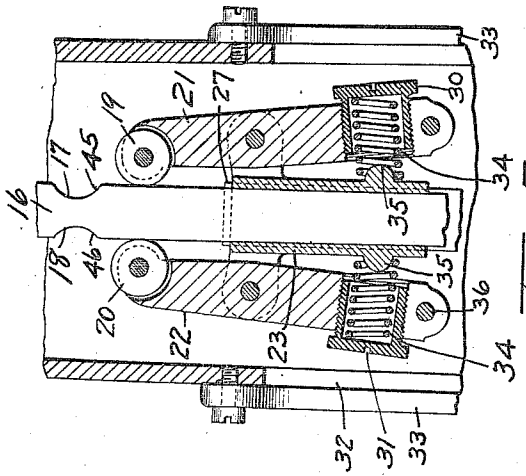

Fig. 3.

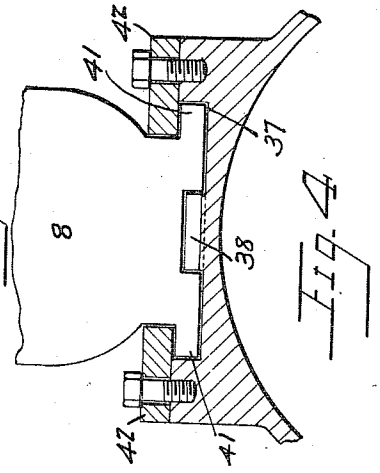

Fig. 4.

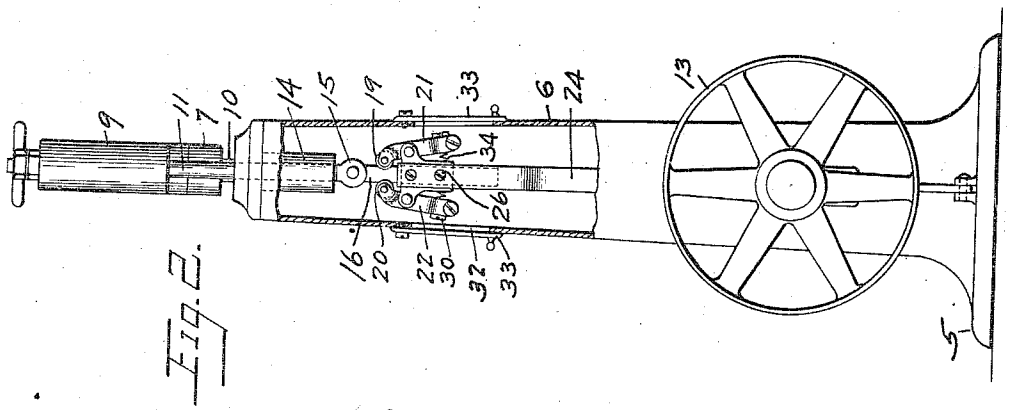

Fig. 2.

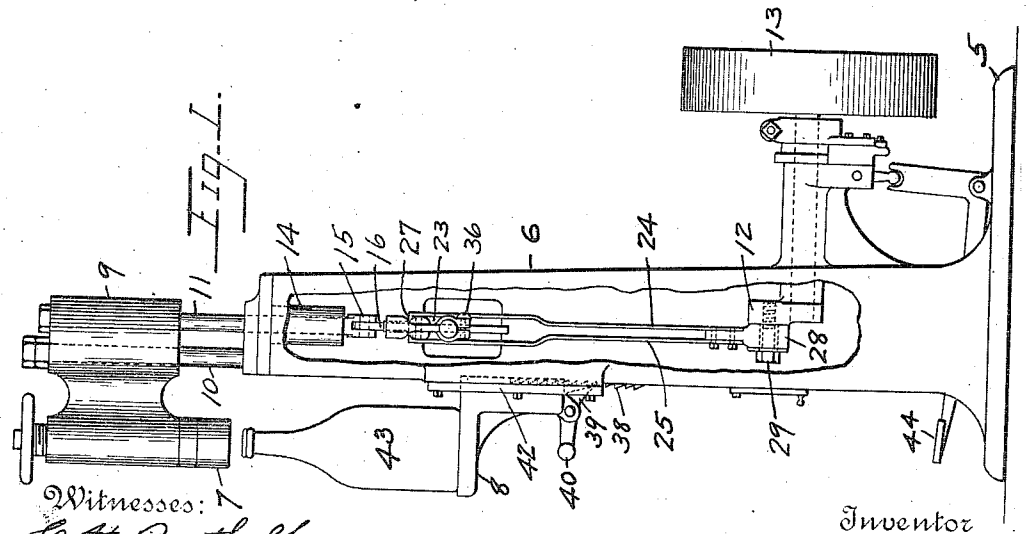

Fig. 1.

Witnesses:
C. H. Berthold
W. A. Elmore

Inventor
Leonard Bartlett.
By his Attorney
Garry P. Van Wye.

UNITED STATES PATENT OFFICE.

LEONARD BARTLETT, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO BARTLETT CAPPING MACHINE COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

BOTTLE-CAPPING MACHINE.

1,005,795. Specification of Letters Patent. Patented Oct. 17, 1911.

Application filed April 1, 1909. Serial No. 487,239.

To all whom it may concern:

Be it known that I, LEONARD BARTLETT, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Bottle-Capping Machine, of which the following is a specification.

This invention relates to machines for capping, or sealing bottles, and has for its object to provide a machine of the character described in which means are provided to prevent the breakage of bottles that are longer than the normal length.

A further object is to provide a bottle capping machine that is simple in construction, easy to adjust, and comparatively cheap to manufacture.

The invention is illustrated in the accompanying drawing, in which—

Figure 1, is an elevation of a bottle capping machine constructed according to my invention, a part being broken away to show the construction; Fig. 2, is a view taken at right angles to Fig. 1, with parts broken away; Fig. 3, is a sectional view of the compensating device on an enlarged scale; and, Fig. 4, is an enlarged plan view of a portion of the bottle platform and connections.

In the drawing like numerals of reference refer to the same parts in each of the views; and in practice I provide a bottle capping machine comprising a base, 5, a column, or standard 6, a vertically movable capping head 7, and an adjustable bottle platform 8.

The capping head 7, is mounted in a sliding block 9, vertically movable on the shaft 10, and operated by the shaft 11, which is connected with the crank arm 12, operated by the belt pulley 13, or in any desired manner.

The construction of the parts between the shaft 11, and the crank arm 12, embodies an essential part of my invention, and is adapted to form a compensating device to prevent a greater pressure being applied to bottles even if longer than usual than what is actually required to insure the secure seating of the seal. A part of this construction is illustrated in Fig. 3; and is of the following detail: The shaft 11, passes through a guide block, or stem 14, and is provided on the lower end with a yoke 15, in which is pivotally mounted a flat bar 16, having notches 17, and 18, in the opposite edges thereof, as particularly shown in Fig. 3, in which rest normally the wheels 19, and 20, respectively, of the pivotally mounted arms 21, and 22. These arms are mounted on a slide 23, through which the bar 16, passes; and to this slide are secured the links 24, and 25, by means of screws, as 26, and angled extensions, as 27, which engage the top of the slide. These links are secured to a block 28, mounted on the crank pin 29, so that the slide 23, is compelled to slide, or move up and down with the rotation of the crank, as will be readily understood; and as the arms 21, and 22, are mounted on the slide 23, these arms will be carried up and down at each rotation of the crank; and if the wheels 19, and 20, carried by these arms, remain seated in the notches 17, and 18, as they will normally, the bar 16, shaft 11, and head 7, will be drawn down at each downward movement of the crank arm.

The lower end of each arm 21, and 22, is bifurcated; and in each bifurcated end is a bushing, as 30, having a slot 31; and an opening 32, provides for easy access through the column and a pivotally mounted door 33, serves to close the opening 32. Within the bushing 30, is a coil spring 34, one end of which surrounds a projection 35, on the slide 23; the bushing 30, being closed at the outer end, the tension of the spring 34, can be regulated by screwing the bushing out, or in, as will be readily understood, so that the wheels 19, and 20, will be held more, or less firmly in the notches 17, and 18, as may be desired. Passing through the bifurcated end of each of the pivotally mounted arms below the bushing is a bolt, as 36, which will draw the bifurcated ends together to lock the bushing in any adjusted position.

I also provide an adjustable bottle platform 8, which is mounted on the column 6, as particularly shown in Figs. 1 and 4. As shown, the column is provided on the front with a channel 37, central of which is a rack 38, and a pawl 39, and handle 40, serve as quick adjusting means for the platform. This platform is provided with guides 41, and gibs 42, which are bolted to the face of the column and serve to secure the platform in place in a slidable manner so that it can be easily adjusted for different bottles.

The operation is as follows: The bottle

platform having been adjusted to the proper position, a bottle as 43, is mounted thereon, and then by means of the trip 44, the crank arm 12, is made to rotate, carrying with it on the downward stroke the head 7, until it contacts with the bottle. This head 7, is of any desired construction adapted to apply a seal to a bottle. When the head contacts with the bottle, the downward pull on the slide 23, will cause the wheels 19, and 20 to travel outward on the inclined surfaces 45 and 46, forming the lower walls of the notches, thereby increasing the tension on the bottle and seal; but should the bottle be longer than usual, the wheels will leave the notches 17, and 18, as shown in Fig. 3, and will travel down the vertical sides of the bar 16, so that after the wheels have passed out of the notches, the tension of the springs 34, will not be increased, and the tension on the bottle will not be increased and the bottle will not be broken even if considerably longer than the normal bottle. It will be understood that at the first contact of the head with the seal, the same will be forced into locking engagement with the bottle, and the subsequent movement of the head will not affect the sealing of the bottle. It will thus make no difference whether tension is maintained on the seal, or not. As a matter of fact, however, the movement of the head is so rapid that the friction of the wheels against the sides of the bar 18, will be sufficient to maintain practically the same pressure until the end of the stroke.

It will thus be seen that I have provided simple and efficient means to prevent the breakage of bottles; and that by my invention I am able to place all the parts of the compensating device within the column of the capping machine thereby adding to the neatness of the appearance of the machine as well as insuring the protection of the working parts. Then, too, by making the adjusting device of the bottle platform as shown, the machine can be adjusted quickly, and can be made at a comparatively small cost.

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

1. A bottle capping machine comprising a column and base, a bottle platform adjustably mounted thereon, a vertically movable capping head mounted above said platform, a power mechanism at the base of said column, means within said column to connect said head and said power mechanism, and a tension regulating device and compensating mechanism forming a part of said connecting means within said column, for the purpose set forth.

2. A bottle capping machine comprising a column and base, a bottle platform mounted thereon, a vertically movable capping head mounted above said platform, a power mechanism at the base of said column, means within said column to connect said head and said power mechanism, and a tension regulating device and compensating mechanism forming a part of said connecting means, said compensating mechanism comprising connecting means with tension regulating means adapted to permit disconnection when a certain pressure is reached.

3. A bottle capping machine comprising a column and base, a bottle platform adjustably mounted thereon, a vertically movable capping head mounted above said platform, a power mechanism at the base of said column, means within said column to connect said head and said power mechanism, and a tension regulating device and compensating mechanism forming a part of said connecting means, said compensating mechanism comprising a notched connecting bar, a sleeve mounted thereon connected with the power shaft, friction wheels on said sleeve adapted to engage said notches elastically, and means to increase the tension on said wheels.

4. A bottle capping machine comprising an adjustable bottle platform, a vertically movable head, power mechanism, and means connecting said power mechanism and said head, said connecting means comprising a shaft, a pivotally connected bar, a slide on said bar, arms, or levers, pivotally mounted on said slide, links connecting said slide with the power mechanism, wheels on said arms, said bar having notches with downwardly and outwardly inclined walls, said wheels being normally seated in said notches, and springs in the lower ends of said arms adapted to hold said wheels seated in said notches, for the purpose set forth.

5. In a bottle capping machine, a compensating device mounted between the power mechanism and the capping head, said compensating device comprising a bar, a slide mounted thereon, said bar having notches in the edges thereof, arms pivotally mounted on said slide, springs adjustably mounted in the lower ends of said arms, and wheels in the upper ends of said arms adapted to engage said notches, for the purpose set forth.

Signed this 30th day of March, 1909.

LEONARD BARTLETT.

Witnesses:

P. A. CONROY,

G. P. VAN WYE.