

W. NOTTBERG & W. LEHMANN.
BOTTLE REST AND GUIDE FOR BOTTLE CAPPING MACHINES.
APPLICATION FILED JAN. 27, 1909.

949,712.

Patented Feb. 15, 1910.

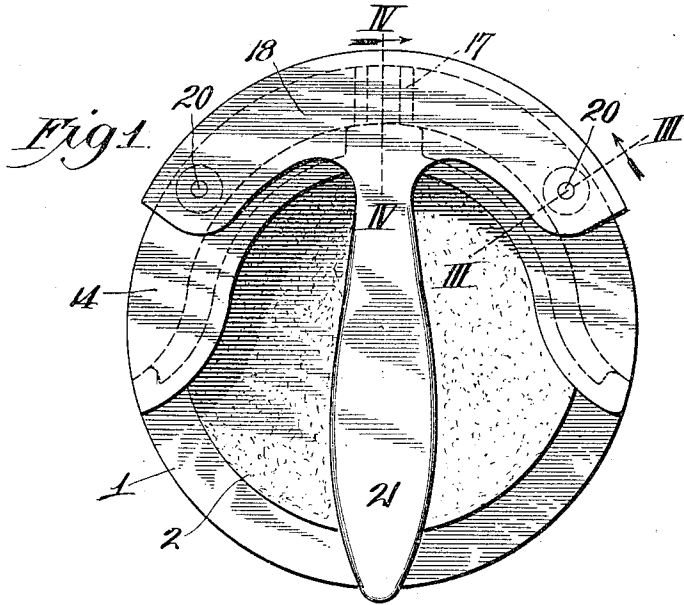


Fig. 2.

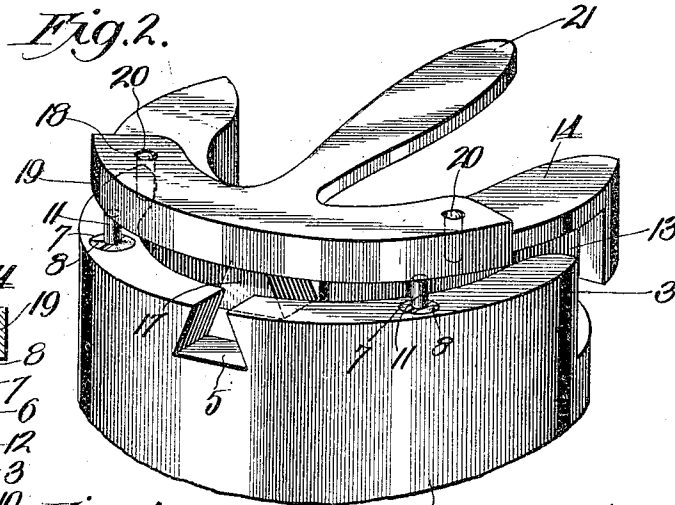


Fig. 3.

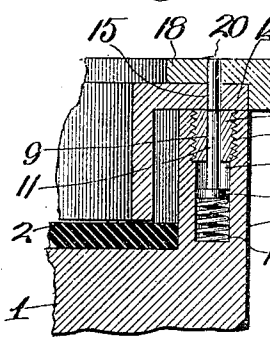


Fig. 4.

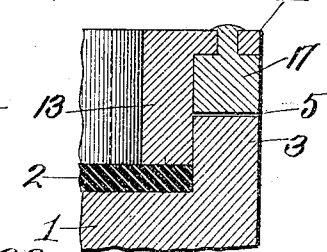


Fig. 5.

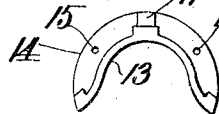
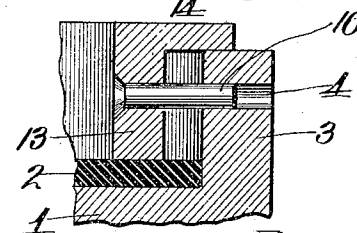


Fig. 6.



Witnesses
Frank R. Gore
A. C. Rodgers.

Inventors:
W. Nottberg and W. Lehmann
By George F. Thorpe Atty.

UNITED STATES PATENT OFFICE.

WILLIAM NOTTBERG AND WALTER LEHMANN, OF KANSAS CITY, MISSOURI.

BOTTLE REST AND GUIDE FOR BOTTLE-CAPPING MACHINES.

949,712.

Specification of Letters Patent. Patented Feb. 15, 1910.

Application filed January 27, 1909. Serial No. 474,403.

To all whom it may concern:

Be it known that we, WILLIAM NOTTBERG and WALTER LEHMANN, citizens of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented certain new and useful Improvements in Bottle Rests and Guides for Bottle-Capping Machines, of which the following is a specification.

This invention relates to bottle corking, sealing, crowning or capping machines of that type involving a plurality of superposed bottle rests and crowning heads arranged so as to revolve in unison around a central shaft, each bottle rest being adapted once in each revolution to gradually ascend until the bottle is crowned and then gradually descend to its original level where the bottle is automatically discharged to leave the "rest" free to receive a second bottle. Heretofore it has been necessary to arrest such machines to remove a bottle guide and substitute another to accommodate a different sized bottle and frequently breakages occur through the material weakening of the rests and guides to accommodate the screws for securing the latter in position. The old construction is also objectionable because the screws which are countersunk in the guides frequently work loose and permit the guides to rock and as a result dispose a bottle to be crowned eccentrically of the crowning head, the result being the crushing of the bottle, the loss of the commodity being bottled and the cutting of the operator's hands by the broken glass. Again the screws above referred to have sharp heads and in starting them by hand the operator very frequently cuts his index finger and thumb.

The object of our invention is to produce means whereby the guides may be changed without interrupting the operation of the machine and without injury to the attendant.

A further object is to produce means for reliably securing a guide in position and obviating all possibility of such guide shifting and disposing the bottle eccentrically of the crowning head.

With these general objects in view and others as hereinafter appear, the invention consists in certain novel and peculiar features of construction and organization as hereinafter described and claimed, and in order that it may be fully understood refer-

ence is to be had to the accompanying drawing, in which—

Figure 1, is a top plan view of one of the bottle rests or plungers equipped with a bottle-guide; said figure also showing in operative position a wrench by which the guide is secured in or removed from position. Fig. 2, is a perspective view showing the wrench in engagement with the bottle-guide and the latter in the position it occupies just prior to its application to the bottle rest or plunger. Fig. 3, is a central vertical section on the line III—III of Fig. 1. Fig. 4, is a vertical section on the line IV—IV of Fig. 1 with the wrench omitted. Fig. 5, is a reduced inverted plan view of one of the bottle guides. Fig. 6, is a section corresponding to Fig. 4, of a modified form of construction.

In the said drawing, 1 indicates a bottle rest or plunger provided at its upper end with a rubber or equivalent cushion 2, and for about half its circumference with an upwardly projecting arcuate wall 3, having an opening centrally between its ends by preference, which opening is shown as a cylindrical hole 4 in Fig. 6 and a dove-tail notch 5 in Figs. 2 and 4, it being desirable to state in this connection that it is preferable to form new plungers with holes 4 and old plungers with the notches 5, for the reason that in old plungers a vertical socket, not shown, is generally found at the point where such opening occurs and it is undesirable to provide such plungers with the opening 4 as the same would intersect the socket referred to and leave the upper part of the wall of the plunger weakened to an undesirable degree.

At opposite sides of and equi-distant from the opening 4 or the opening 5 as the case may be, the wall 3 is provided with vertical sockets 6, the upper ends of the socket walls being preferably threaded as at 7 to receive closure screw plugs 8 having central vertical bores 9, it being noted in this connection that any other type of bored plug may be employed if desired, in lieu of a screw plug. 10 are expansive springs in said sockets and 11 are vertical pins fitting slidably in the bores of the plugs and provided with heads 12 to bear against the upper ends of springs 10, the latter when unrestrained holding the heads 12 against the lower ends of the plugs and the upper ends of the pins projected

beyond the top of the wall as shown in Fig. 2.

In corking, sealing, crowning or capping bottles of the greatest capacity the rests are used in the usual way the spring-elevated pins and opening in the wall having no function. For operating upon bottles of different capacities and all of less capacity than that first referred to, it is necessary to equip the bottle rest or plunger with guides which are of different internal diameter but in other respects identical. Such guides are of semicircular contour in plan view and of right angle form in cross section, by preference, that is to say, each guide consists of a vertically arranged semi-circular portion 13, and a horizontal flange 14 projecting outward from the upper end of portion 13, the latter being adapted for arrangement within and concentrically of wall 3, while the horizontal flange is adapted to rest upon said wall and is equipped with vertical holes 15 to receive the upper ends of pins 11 and be prevented thereby from horizontal movement in any direction. The vertical portion 13 is provided with a projection shown as an outwardly-projecting pin 16 in Fig. 6, and a depending dove-tail lug 17 in Figs. 1, 2, 4, and 5, such projection in each case being riveted rigidly to the guide, the pin 16 being riveted to portion 13 and the lug to flange 14. In each case the guide must be arranged in or removed from position by moving it rearward or forward as the case may be but before it can be secured to the bottle rest or plunger or detached therefrom, the yieldingly-elevated pins 11 must be depressed until their upper ends are flush with the top of the wall 3. To effect the depression of these pins easily, quickly and conveniently, we provide a wrench or holder consisting of an arcuate head 18 to rest upon flange 14 of the guide, having a depending flange 19 to engage the outer edge of said flange, and pins 20 located for simultaneous engagement with pins 11 and depending to the plane of the bottom of the flange 19, the said wrench being preferably provided with a forwardly-projecting handle 21.

Assuming that it is desired to equip the bottle rest or plunger with a guide, the wrench is fitted down upon the guide with its pins 20 occupying the holes 15 in flange 14, the bottom of said flange of the guide lying flush with the lower ends of said pins. The wrench is then arranged with its flange 19 resting upon pins 11 and pressure is applied to depress the latter until their upper ends are flush with the top of wall 3. As this is accomplished the wrench is pushed forward so as to cause the projection 16 or projection 17 to enter opening 4 or 5 respectively, as the case may be and at the same time the flange 14 of the guide engages and slides upon the depressed pins 11. As

the rearward movement of the guide is arrested by contact of its portion 13 with wall 3, the holes in flange 14 are alined with the depressed pins so that as the wrench is lifted off the guide, said pins rise under the pressure of the springs 10 and enter the holes of flange 14 and thus lock the guide against horizontal movement in any direction, the projection of the guide engaging the opening of the wall to guard against upward movement of the guide. It will thus be seen that the guide is automatically interlocked with and temporarily forms a rigid part of the bottle rest or plunger, with its internal diameter less than the internal diameter of wall 3 so as to accommodate bottles of smaller size than said wall, which bottles are placed upright upon the cushion 2 and shoved rearwardly into the guide as far as possible so that they shall be centered properly with respect to the crowning head, not shown. When it is desired to change the guide, the wrench is arranged with its pins vertically above the pins 11. It is then pressed downward to cause its pins to force the yieldingly-elevated pins out of the holes of the guide and replace the former therein and thus interlock the wrench with the guide to permit the latter to be drawn forward from the bottle rest or plunger by a pull upon the handle of the wrench. After a short time the operator becomes sufficiently expert to perform the operation of placing a guide in or removing it from position without arresting the operation of the machine and without placing either hand in a position of danger, as will be readily understood.

From the above description it will be apparent that we have produced a bottle, corking, sealing, crowning and capping machine possessing the features of advantage enumerated and we wish it to be understood that we do not desire to be restricted to the exact details of construction shown and described as obvious modifications will suggest themselves to one skilled in the art.

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

1. The combination of a bottle rest with a bottle guide to fit upon said rest, means to secure said guide against independent vertical movement with respect to the rest, and yieldingly-actuated upright pins carried by one of said parts and engaging the other and preventing horizontal movement in any direction of the guide.

2. The combination of a bottle rest, and a bottle guide to fit upon said rest, one of said parts being equipped with substantially vertical holes and the other with substantially vertical pins, yielding means for causing said pins to engage said holes to prevent movement of the guide at right angles to

said pins, and means for interlocking the guide with the rest against independent vertical movement of either.

3. The combination with a bottle rest, pins carried thereby, yielding means for causing said pins to project beyond the upper end of said rest, a bottle guide to fit upon said rest and provided with holes to receive said yielding-elevated pins, and means for interlocking said rest and guide together as regards independent vertical movement.

4. The combination with a bottle rest, pins carried thereby, yielding means for causing said pins to project beyond the upper end of said rest, a bottle guide to fit upon said rest and provided with holes to receive said yielding-elevated pins; one of said parts having an opening and the other a projection to engage said opening and interlock said parts together as regards independent vertical movement.

5. The combination of a bottle rest, having an upwardly projecting wall provided with an opening and at opposite sides of the same, a pair of pins and springs for holding said pins yielding-projected above the top of said wall, and a bottle guide resting upon said wall and provided with a pair of openings receiving said pins and a projection engaging said opening of the wall and interlocking the rest and guide against independent vertical movement.

6. The combination with a bottle rest having an upwardly projecting curved wall provided with an opening and with a pair of spring-elevated pins, of a bottle guide having a projection to be slid horizontally into said opening to lock said guide against vertical movement independent of the bottle rest, and a pair of openings to receive the projecting ends of said pins to prevent horizontal movement of said bottle guide.

7. In a device of the character described, a bottle rest having an upwardly projecting curved wall provided with an opening and a pair of vertical pins, and means exerting a yielding upward pressure on said pins, to cause them to project upward beyond the top of said wall.

8. In a device of the character described, a curved bottle guide embodying a vertical portion and a horizontal flange projecting outward from the vertical portion and provided with a pair of openings, said bottle guide being also provided with a projection at the lower side of said flange and rear side of said vertical portion.

In testimony whereof we affix our signatures in the presence of two witnesses.

WILLIAM NOTTBERG.
WALTER LEHMANN.

Witnesses:

H. C. RODGERS,
G. Y. THORPE.