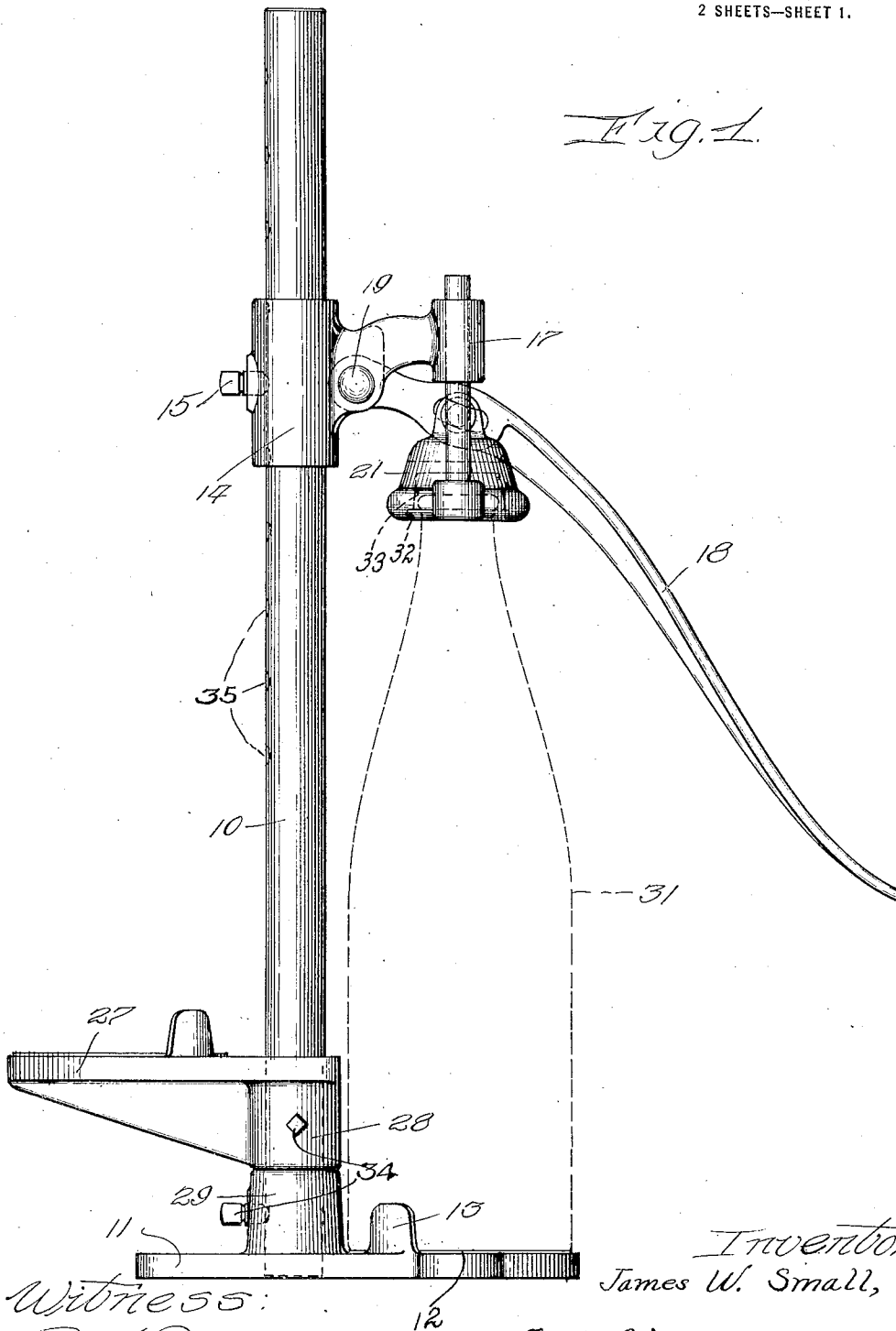


J. W. SMALL.
BOTTLE CAPPER.
APPLICATION FILED APR. 12, 1920.

1,350,477.

Patented Aug. 24, 1920.
2 SHEETS—SHEET 1.

Fig. 1.



Witness:
R. L. Darrington

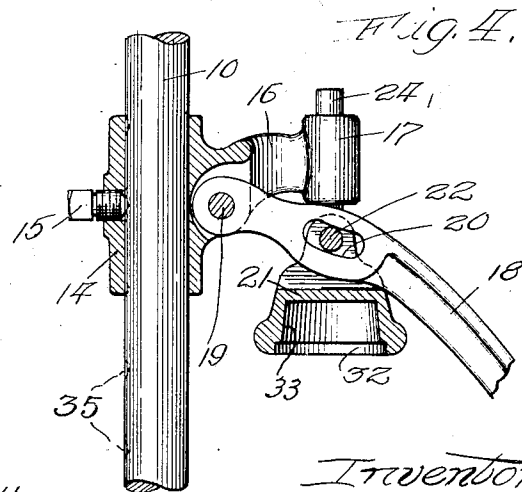
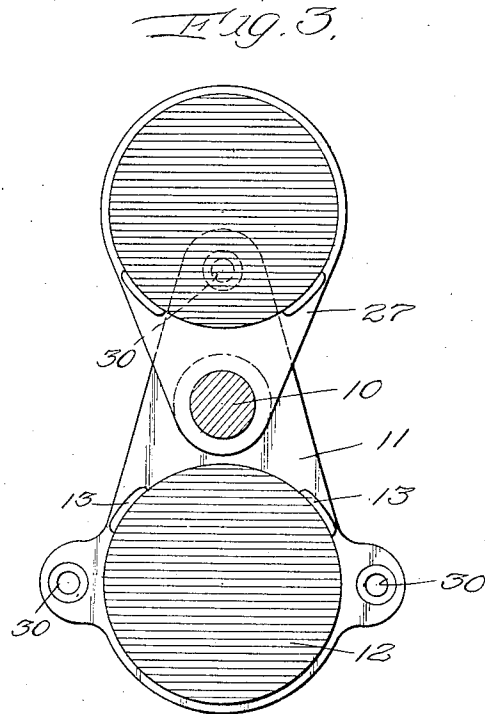
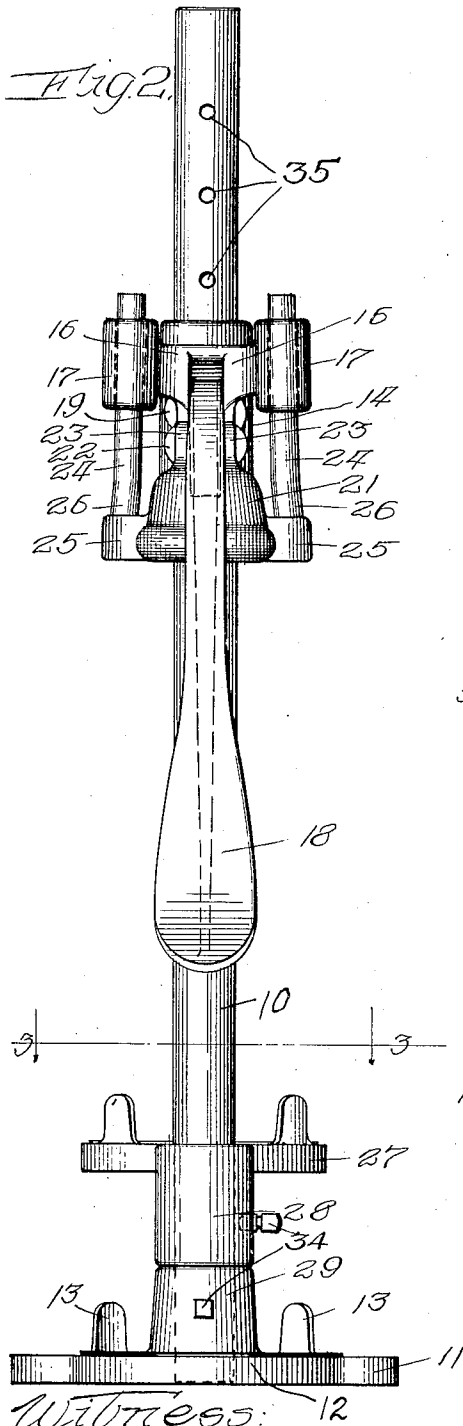
Inventor,
James W. Small,

By Charles M. Nissen, Attorney.

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UNITED STATES PATENT OFFICE.

JAMES W. SMALL, OF CHICAGO, ILLINOIS.

BOTTLE-CAPPER.

1,350,477.

Specification of Letters Patent. Patented Aug. 24, 1920.

Application filed April 12, 1920. Serial No. 373,074.

To all whom it may concern:

Be it known that I, JAMES W. SMALL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Bottle-Cappers, of which the following is a specification.

This invention has for its object the provision of a device of the class named which shall be of improved construction and operation.

The invention is exemplified in the combination and arrangement of parts shown in the accompanying drawings and described in the following specification, and it is more particularly pointed out in the appended claims.

In the drawings—

Figure 1 is a side elevation of a bottle capper embodying the present invention;

Fig. 2 is a view looking from the right of Fig. 1;

Fig. 3 is a horizontal section on line 3—3 of Fig. 2; and

Fig. 4 is a fragmentary vertical sectional view showing details of construction.

A well-known form of closure for bottles comprises a metal cap, usually provided with a layer of cork or other material, which is forced over a bead at the mouth of the bottle and the edges of the cap are crimped to tightly engage the bead so that the cork forms an air-tight seal with the mouth of the bottle.

The device shown in the accompanying drawings performs the operation of pressing the caps into place over the mouths of the bottles so that the crimped edges will hold them permanently.

Referring to the drawings, the numeral 10 designates an upright support or standard which has a footpiece 11 which is provided with a seat 12 on which the bottles rest during the capping operations. Centering pieces 13 project upwardly from the bottle support to hold the bottles in proper position while they are being capped. A sleeve 14 is adjustably mounted on the standard 10 and may be held in various positions of adjustment by a cup set screw 15. Projecting outwardly from the sleeve 14 is a pair of arms 16 each of which carries a guide sleeve 17 having upright openings therethrough. A lever 18 is pivoted at 19 to the sleeve 14 adjacent the base of the arms 16 and is provided with a curved slot 20, as shown in

Fig. 4. A capping head 21 is supported by a pivot pin 22 which extends through the slot 20 and connects upwardly extending ears 23 on the capping head 21. A pair of guide rods 24 are connected to laterally extending lugs 25 on opposite sides of the capper head 21 and the rods 24 extend through the openings in the guide sleeves 17 to cause the head 21 to move upwardly and downwardly in a vertical direction when the lever 18 is swung upon its pivot 19. The rods 24 are slightly curved outwardly at the lower ends, as shown at 26, so that when the lever 18 is raised to its extreme uppermost position the outer sides of the rods 24 will have a wedging engagement with the openings in the guide sleeves 17 to produce sufficient friction to retain the lever 18 in its raised position. It will be seen that the slot 20 is slightly curved so that when the handle is swung downwardly the curved slot will produce a cam action between the pin 22 and the upper face of the slot which produces an increased pressure downwardly on the capper head 21 so that the operator is enabled to perform a capping operation by exerting a comparatively light pressure on the lever 18. It will be observed that the lever 18 engages the capper head 21 directly so that it is able to exert direct pressure on the part performing the capping operation and that the two guide rods 24 are spaced laterally from the capper head and occupy substantially the same position vertically as the capper head so that the height of the device is kept down to the smallest possible limit. An additional bottle support 27 is carried by a sleeve 28 which surrounds the standard 10 and rests upon an upwardly extending pedestal 29 on the main footpiece 11. The support 27 may be swung about the standard 10 into and out of operative position, and when in operative position it is used for holding smaller bottles than those placed upon the support 12 of the footpiece 11. The footpiece 11 may be provided with openings 30 for receiving screws to hold the device permanently in position.

The bottles to be capped are placed on the footpiece 12, as shown in broken lines at 31 in Fig. 1, and the sleeve 14 is adjusted to bring the capper head 21 to the proper height so that when the lever 18 is raised the bottles will move freely into and out of position beneath the capper head. When a bottle is being placed into position the lever

18 is raised to its upper limit so that it is held in place by the lower portions 26 of the guides 24, thus leaving the hands of the operator free to place the cap in position on the mouth of the bottle. The lever is then moved downwardly so that the recess 32 in the capper head 21 engages the cap and forces it firmly over the bead around the mouth of the bottle. The device is usually made of proper proportions so that when the sleeve 14 is adjusted to operate properly upon quart bottles the support 27 will be of proper height to hold pint bottles in position to be capped. It will be seen that the total height of the capper is only slightly greater than that of the bottle with which it is operated and it has been found by trial that comparatively slight pressure is all that is necessary to force the caps firmly into position upon the mouth of the bottle.

The recess 32 is preferably formed with its upper portion 33 tapering, see Figs. 1 and 4. This provides a means for insuring that the cap is closed in tightly on the bottle bead. The head 21 will be pressed down in the capping operation until the tapering portion 33 closes the cap onto the bottle bead and stops further movement of said head. This, of course, provides means for securely fastening the caps even though the heads of the bottles vary slightly in size.

I have indicated set screws 34 in the members 28 and 29 so that the standard 10 may be taken out of the parts 28 and 29 for packing in a small space, or, any other purpose. Furthermore, I find it desirable to provide recesses 35 in the standard 10 so that the set screw 15 can be set at predetermined positions along on the standard 10. It will be apparent that the screw 15 can be tightened up against the standard 10 at other places than the recesses 35 when so desired, but the recesses provide means for easily setting the head 14 at predetermined heights.

I claim:—

1. A bottle capper comprising a cap-engaging member, a pair of guide rods connected with said member and arranged at the side thereof, sleeves for receiving said guide rods, and a lever for moving said cap-engaging member, said rods having portions thereon arranged to bind slightly in said sleeves when said lever is moved to its inoperative position to retain said lever in said position.

2. A bottle capper comprising a stand having a bottle support connected therewith, an upright standard, a sleeve adjustably mounted on said standard, a lever pivotally carried by said sleeve and having a cam slot therein, a cap-engaging member connected with said sleeve and a pivot pin extending through said cam slot, upright guide rods arranged at opposite sides of said cap-engaging member, and a pair of guide sleeves for said upright rods, said rods being slightly offset to produce a binding friction between said rods and guide sleeves when said lever is in its uppermost position to retain said lever in said position.

3. A bottle capper comprising a standard having a supporting bracket adjustably mounted thereon, a lever pivotally carried by said supporting bracket and having a cam slot therein, a cap-engaging member having a pivot pin projecting through said cam slot, a pair of upright guide rods secured to said cap-engaging member at opposite sides of said lever, and guide sleeves connected with said bracket and having openings therein for receiving said guide rods, said guide rods and sleeves being arranged to frictionally engage one another when said lever is in its uppermost position to retain said lever in said position.

In testimony whereof I have signed my name to this specification on this 10th day of April, A. D. 1920.

JAMES W. SMALL.