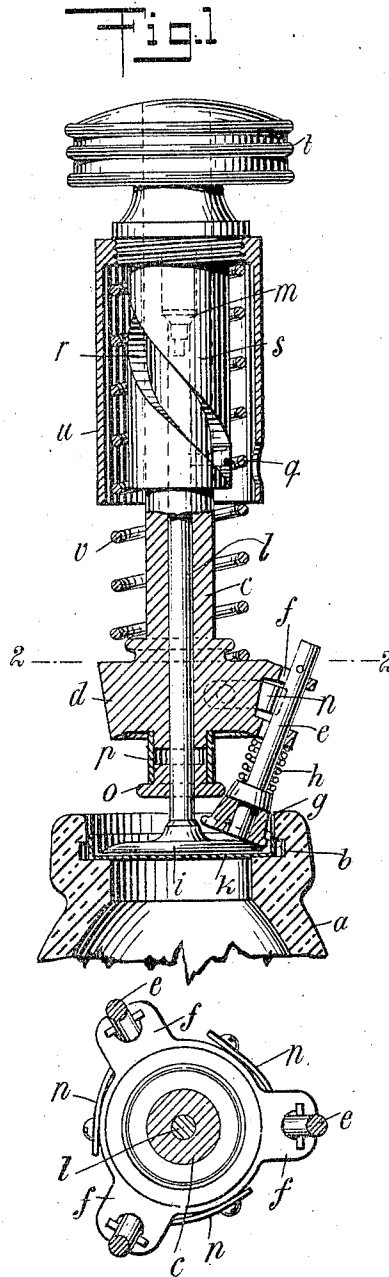


F. BAGAR.
BOTTLE CLOSING DEVICE.
APPLICATION FILED DEC. 16, 1911.

1,038,476.

Patented Sept. 10, 1912.

2 SHEETS—SHEET 1.



WITNESSES
Johnas Supton
W. S. Orton

Fig. 2

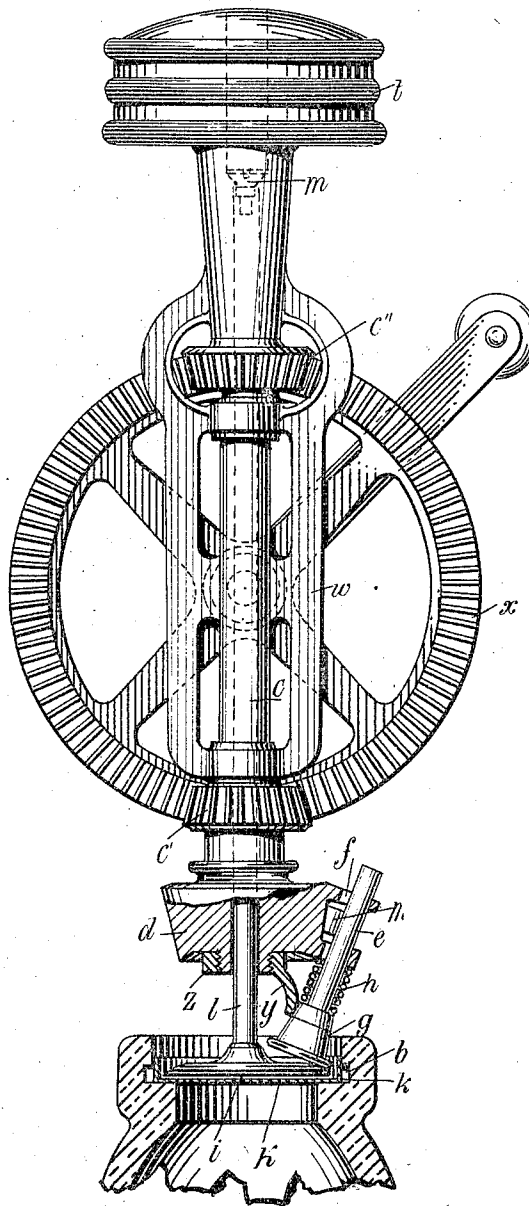
INVENTOR
Franz Bagar
BY *Mumco*
ATTORNEYS

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WITNESSES
John Bengstrom
W. S. Orton

Fig. 3

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UNITED STATES PATENT OFFICE.

FRANZ BAGAR, OF VIENNA, AUSTRIA-HUNGARY, ASSIGNOR TO JOSEF INWALD GLASS CO., OF NEW YORK, N. Y.

BOTTLE-CLOSING DEVICE.

1,038,476.

Specification of Letters Patent.

Patented Sept. 10, 1912.

Application filed December 16, 1911. Serial No. 666,100.

To all whom it may concern:

Be it known that I, FRANZ BAGAR, a subject of the Emperor of Austria-Hungary, and a resident of Vienna, Austria-Hungary, have invented a new and Improved Bottle-Closing Device; of which the following is a full, clear, and exact description.

My invention relates to a device for securing closing caps on bottles and other vessels, and an object of my invention is to provide a machine which will rapidly and firmly press the flange of the cap outward into engagement with an internal groove within the mouth of the bottle or other vessel.

I attain the above-outlined object by disposing on a shaft, a rotating member, the lower end of which carries a series of oscillating bearing members, which members are forced to swing outward, to firmly press the upturned flanges of the closing cover outward into engagement with the aligned internal rim of the vessel.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures, and in which—

Figure 1 is a vertical transverse sectional view taken through a preferred embodiment of my invention; Fig. 2 is a transverse sectional view taken on the line 2—2 of Fig. 1, and looking downward; and Fig. 3 is a view similar to Fig. 1, but showing a slightly modified form of construction.

Described more in detail, in the several figures, there is disposed in the head *a* of the vessel, an internal groove *b*, which groove is adapted to receive the closing plate *k*, the flange of which closing plate is flared over into the groove *b*. The tool for accomplishing this object, is preferably made with a vertical spindle *c*, rigidly mounted on the lower end of which and preferably forming an integral part thereof, is a head *d*, which head has mounted therein a plurality of oscillating spindles *e*, in the illustrations shown to be three in number. These oscillating spindles are mounted in suitable slotted bosses or eyes *f*, said eyes arranged symmetrically with and at an angle to the longitudinal axis of the hollow spindle *c*, so that the said oscillating spindles *e* can swing in the plane of their inclination. The spindles *e* are provided at their lower ends

with loose rotatable jaws *g*, and are normally pressed, by means of a helical spring *h*, against a disk *i* mounted on the lower end of a rod *l*, which rod passes through the hollow spindle *c*. The movement of the hollow spindle *c* relative to the rod *l*, is limited by a set screw *m*, shown in dotted lines in Figs. 1 and 3. Springs *n* have one end thereof fastened to the head *d* and the free end thereof bearing against the spindle *e*, intermediate its length, to determine the outermost inclined position of said spindle. A disk *o* surrounds the rod *l* below the head *d* and is held to said head by means of a sleeve *p*, said disk having a projecting portion adapted to contact with the jaws *g*, to force the same outward when the hollow spindle is depressed, so that these jaws force the edge of the closing plate *k* into the groove *b*.

In order to rotate the jaws *g* at the same time that they are pressed outward, the hollow spindle *c* is provided at its circumference with a roller *q*, projecting into the helical guide of a sleeve *s*, loosely mounted on the hollow spindle *c*, which sleeve is provided with a handle *t* at the top thereof, and is inclosed by a casing *u*. Disposed in said casing *w* and between the casing and the sleeve *s*, is a helical spring *v*, the upper end of which is adapted to be contacted by the handle *t* and the lower end of which bears on the head *d*. It will be noted that this spring tends to bring the roller into the lower portion of the helical guide after the handle *t* has been depressed, and, further, performs the function of transmitting to the tool head, the pressure exerted upon it. It will be noted from this construction, that the disk *i* is placed on the cap *k*, and that by depressing the handle *t*, the jaws *g* are pressed outward, and, at the same time, the head *d* carrying the spindles *e* is rotated.

Referring more particularly to the construction shown in Fig. 3, instead of depressing the handle *t*, as shown in Fig. 1, a toothed gear arrangement is substituted therefor. In this construction, the hollow spindle *c* passes through a frame *w*, rigidly mounted upon which spindle is a bevel wheel *c'*, which wheel engages a second larger vertically-disposed bevel wheel *x* mounted on the frame *w* and rotated by means of a suitable crank handle. The hollow spindle *c* is also provided with a bevel wheel *c''*, loosely

mounted upon the same and arranged to take up counter-pressure on the bevel wheel *c'*. Mounted upon a ring *z* screwed on a hub at the lower end of the head *d*, is a series of
 5 lugs *y*, each lug normally bearing upon the roller *g*. In this device, the disk *i* is placed on the plate *k* and the hollow spindle *c* is depressed against the action of the springs *h* and the tool head *d* rotated by rotating the
 10 bevel wheel *x*. This combined movement forces the rim of the plate *k* outward into the groove, as has been described in connection with Fig. 1.

Having thus described my invention, I claim as new and desire to secure by Letters
 15 Patent:

1. In a bottle-closing machine, a hollow spindle, a tool head rigidly mounted on said spindle, said tool head having a series of
 20 eyes symmetrically disposed about said head and at an angle to the longitudinal axis of the spindle, a series of oscillating spindles, one mounted in each of said eyes, a rotatable jaw mounted on the end of each of said os-
 25 cillating spindles, means normally pressing said oscillating spindles toward the axis of said hollow spindle, and means carried by said hollow spindle for forcing said oscillating spindles outward.

30 2. In a bottle-closing machine, a hollow spindle, a tool head rigidly mounted on said spindle, said tool head having a series of eyes symmetrically disposed about said head and at an angle to the longitudinal axis of
 35 the spindle, a series of oscillating spindles, one mounted in each of said eyes, a rotatable

jaw mounted on the end of each of said oscillating spindles, means normally pressing said oscillating spindles toward the axis of
 40 said hollow spindle, means carried by said hollow spindle for forcing said oscillating spindles outward, and means for rotating said hollow spindle.

3. In a bottle-closing machine, a rod, a disk carried by the lower end of said rod, 45 a hollow spindle encircling said rod above said disk, a tool head carried by said spindle, a series of rotatable jaws normally bearing on said disk, spindles carried by said head and having said jaws rotatably mount-
 50 ed upon the lower end thereof, and resilient means for maintaining said jaws in contact with said disk.

4. In a bottle-closing machine, a rod, a disk carried by the lower end of said rod, 55 a hollow spindle encircling said rod above said disk, a tool head carried by said spindle, a series of rotatable jaws normally bearing on said disk, spindles carried by said head and having said jaws rotatably mounted
 60 upon the lower end thereof, resilient means for maintaining said jaws in contact with said disk, and means rotating said tool head on said rod.

In testimony whereof I have signed my
 65 name to this specification in the presence of two subscribing witnesses.

FRANZ BAGAR.

Witnesses:

ALFRED JESSLER,
 ROBERT PEMATH.