F. ALEXANDER.

BOTTLE CORKING MACHINE.

APPLICATION FILED JUNE 1, 1907.

907,672.

Patented Dec. 22, 1908.

Fig. 1.

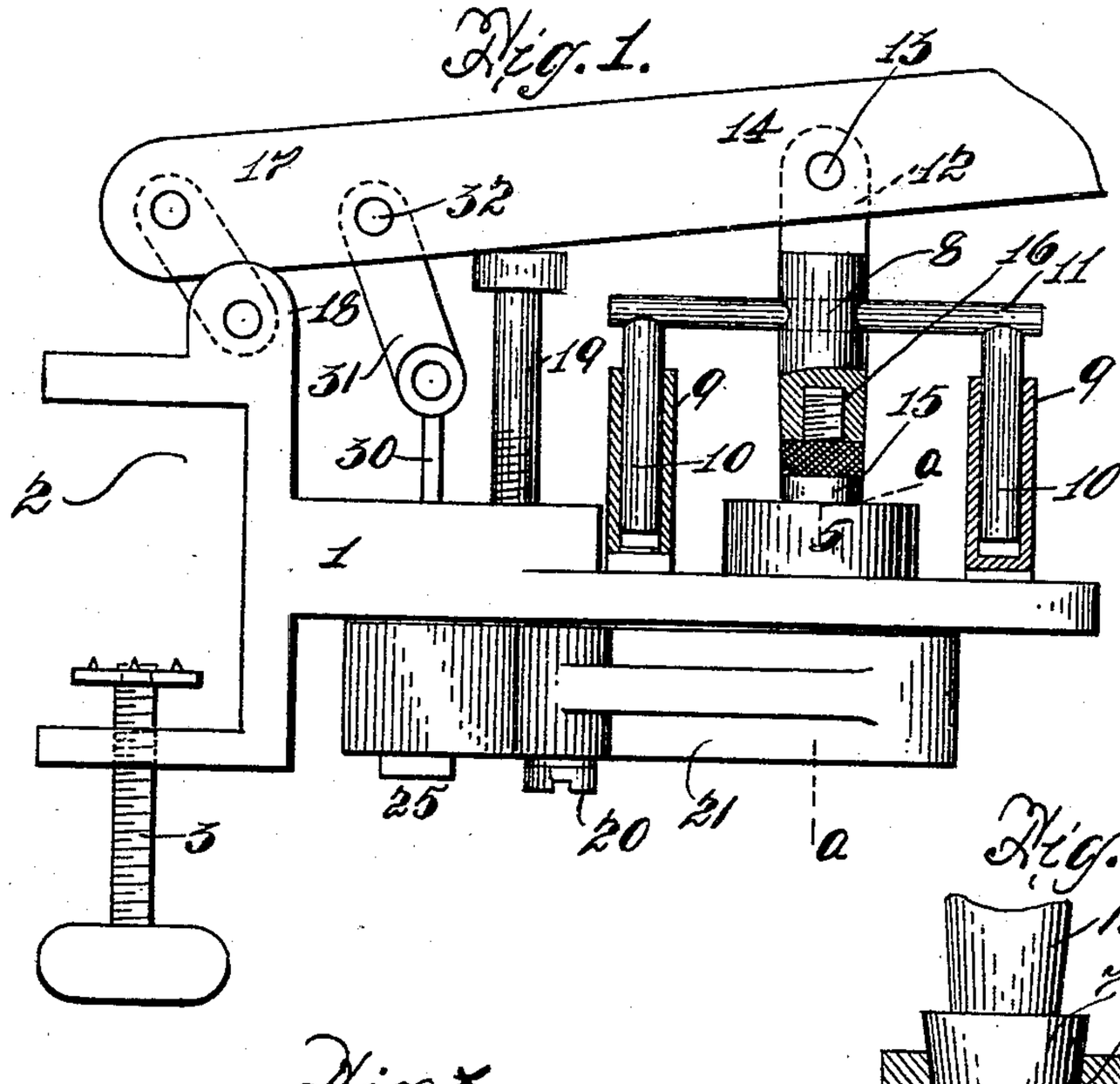


Fig. 2.

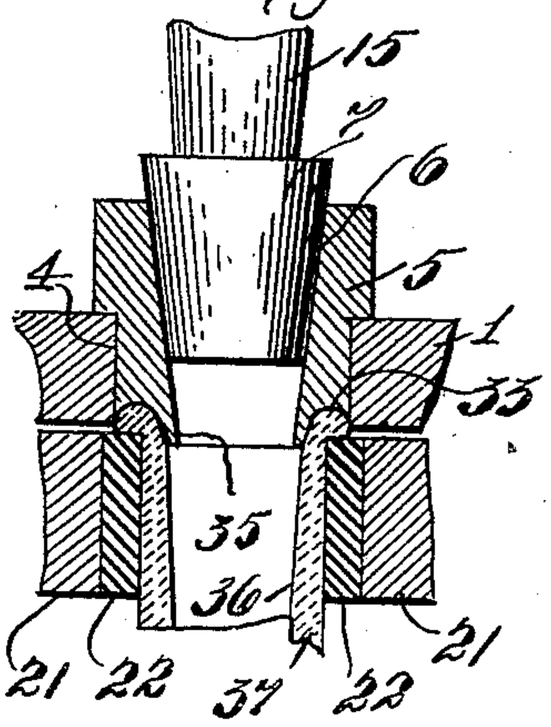


Fig. 3.

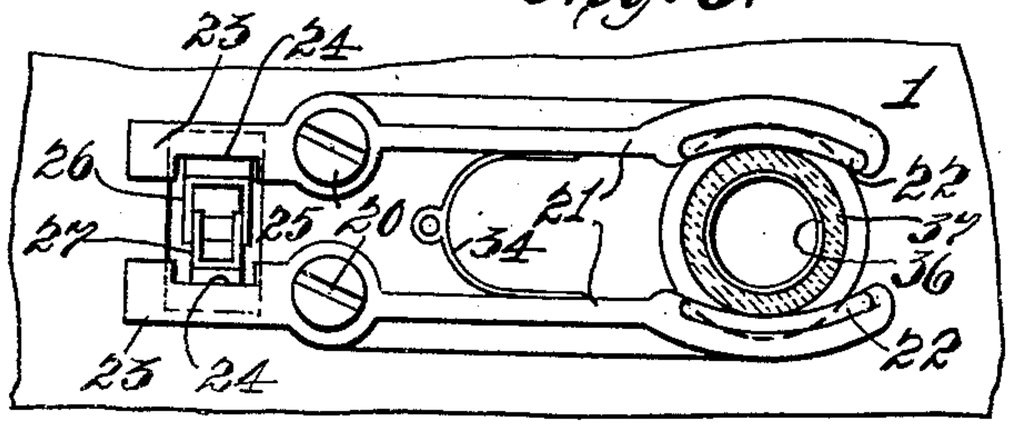


Fig. 4.

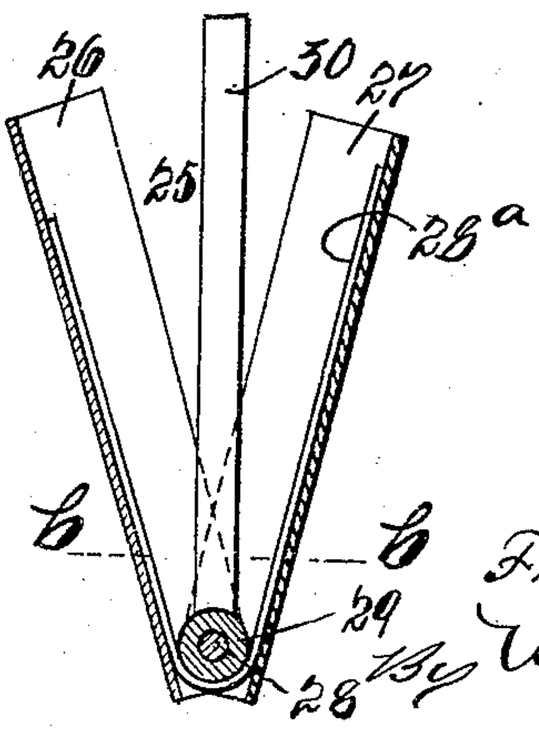
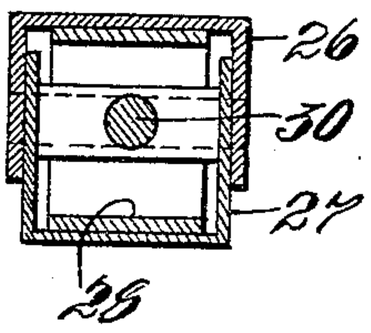


Fig. 5.



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UNITED STATES PATENT OFFICE.

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BOTTLE-CORKING MACHINE.

No. 907,672. Specification of Letters Patent. Patented Dec. 22, 1908.

Application filed June 1, 1907. Serial No. 376,795.

To all whom it may concern:

Be it known that I, FREDERICK ALEXANDER, a citizen of the United States, residing at New York city, Manhattan borough, county and State of New York, have invented certain new and useful Improvements in Bottle-Corking Machines, of which the following is a clear, full, and exact description.

This invention relates to bottle-corking machines, and has for its object to provide a simple and inexpensive device of this character adapted to receive and insert corks in bottles of different sizes and having different neck dimensions, self adjusting means being provided for grasping bottles of varying sizes.

To these and other ends which will hereinafter appear, my invention comprises the novel features of improvement, and combination and arrangement of parts which I will now proceed to describe and finally claim, reference being had to the accompanying drawing, forming part of this specification, wherein—

Figure 1 is a side elevation of a bottle corking machine, partly in section, embodying my improvements; Fig. 2 is an enlarged vertical sectional detail view of the cork compressing device, the section being taken on line *a*—*a* in Fig. 1; Fig. 3 is a bottom plan view of the clamping means, showing, in section, a bottle neck held thereby; Fig. 4 is a vertical sectional view of the yieldable wedge for operating the clamp; and Fig. 5 is a sectional plan view thereof, enlarged, the section being taken on line *b*—*b* in Fig. 4.

Like numerals of reference indicate corresponding parts in the several views.

In the drawing, the numeral 1 indicates a support, which is provided with a jaw 2 adapted to grasp a table or the like, the said support being held in position by an ordinary clamp screw 3. At the forward end of the support 1 an opening 4 is provided, into which a bushing 5 is removably placed. The said bushing has a tapered bore 6 adapted to receive a cork 7 (see Fig. 2). Above the bushing 5 a plunger 8 is mounted for vertical movement. In order to keep said plunger 8 in vertical position, I provide tubular supports 9, into which rods 10 are adapted to work, said rods 10 being attached to a cross-bar 11 held by the plunger 8, as shown in Fig. 1. The upper end 12 of the plunger 8 is pivotally secured, as at 13, to a lever 14. The plunger 8 is provided with a removable die 15, which is removably secured to the plunger 8, being preferably screw-threaded thereto, as at 16. The lever 14 is pivoted by means of the link 17 to the lug 18 on the support 1, as shown. To limit the downward movement of the lever 14, I have provided an adjusting screw 19, which may be raised or lowered to suit conditions.

On the underside of the support 1, I pivotally support, as at 20, two clamp-jaws 21, which at their forward ends are provided with cushions 22, preferably of rubber or the like. Rearwardly of the pivots 20 the clamp-jaws 21 are provided with extensions 23, which are recessed, as at 24, to receive the yieldable wedge 25. Said wedge is composed of the two members 26 and 27, one fitting within the other, as shown by Fig 5. At their lower ends the said members 26, 27 are pivotally connected, as at 28, the pivot 28 also holding the lower end 29 of the operating rod 30 therefor. In said members 26, 27 I have placed a spring 28ª, preferably of considerable power, the action of which will be to keep the members 26 and 27 apart, as shown in Fig. 4. The upper end of the rod 30 is pivotally connected to a link 31, which in turn is pivotally connected to the lever 14, as at 32.

The operation of the machine will now be described: It may here be stated that as the compressing bushing 5 is removable, I can at any time, to suit conditions, place in other bushings with bores 6 of greater or less dimensions. The operation of corking and gripping a bottle is substantially simultaneous. In order to cork a bottle, I place the neck of the bottle in the recess 33 in the under side of the bushing 5 and hold it there by hand. It will be understood that during the operation of placing the bottle in position as described the lever 14 will be raised and the plunger 8 and yieldable wedge 25 will be in the uppermost position, whereby the spring 34 will have forced the jaws 21 apart. After having placed the bottle in position, I place the cork, as 7, for instance, in the bore 6 of bushing 5. I then press the handle or lever 14 downwardly, whereby the die 15 is caused to contact the cork 7 and the yieldable wedge 25 is caused to impinge upon the projections

23 of the jaws 21, so that the said jaws are caused to grasp the bottle. A continued downward movement of the lever 14 will force the cork 7 through the tapered bore 6, the wedge 25 at the same time descending. Before the cork 7 has been pushed to the lower end of the bushing 5 the bottle will have been gripped, and a continued downward movement of the lever 14 will force the cork 7 through the small end of the bore 6 and into the neck of the bottle. During the passage of the cork 7 through the bore 6 it will have been compressed and will readily enter the neck of the bottle. Upon leaving the bore 6 the cork 7 will expand to fill up the bore of the bottle-neck. During the compressing action upon the cork, the yieldable wedge 25 will have also been traveling downwardly, but owing to the spring 28[a] the members 26 and 27 will yield, and at the same time a pressure upon the jaws 21 will be exerted to keep them closed.

Larger or smaller dies 15 may be employed to suit different sized corks. The bushing 5, at the bottom thereof, is provided with an annular flange 35, the purpose of which is to aline the neck 36 of the bottle 37 with the bore 6 of the bushing 5.

By providing the removable tapered cork holding bushing 5, a simple interchangeable device is provided, for the following reason: As the size of bottles and the corks therefor vary, and the centralizing of the corks is imperative, some sort of an adjustable cork holding device is necessary. In order to obviate the necessity of providing an adjustable cork holder that would take corks of any size, I have provided the removable bushing referred to. If a small cork is needed I simply insert a bushing having a tapered bore of the proper size.

Having now described my invention, what I claim and desire to secure by Letters Patent is:

1. In a bottle corking machine, a plunger, a cork holding device, a bottle clamp adjacent thereto and a yieldable wedge adapted to operate said clamp, said wedge comprising a plurality of members pivotally connected at the bottom thereof, a rod carried by the pivot of said pivotally connected members, a spring adapted to force said members apart, said members being in constant contact with said bottle clamp, and an operating lever adapted to operate said plunger and said clamp by means of the rod carried thereby.

2. In a bottle corking machine, a plunger, a cork holding device, a bottle clamp comprising a plurality of pivotal members and a yieldable wedge comprising a plurality of spring-opposed members in contact with the members of said clamp, said wedge being adapted to operate said clamp to grasp the neck of a bottle, and to yield thereafter by a continued downward movement.

Signed at New York city, N. Y., this 29 day of May, 1907.

FREDERICK ALEXANDER.

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