

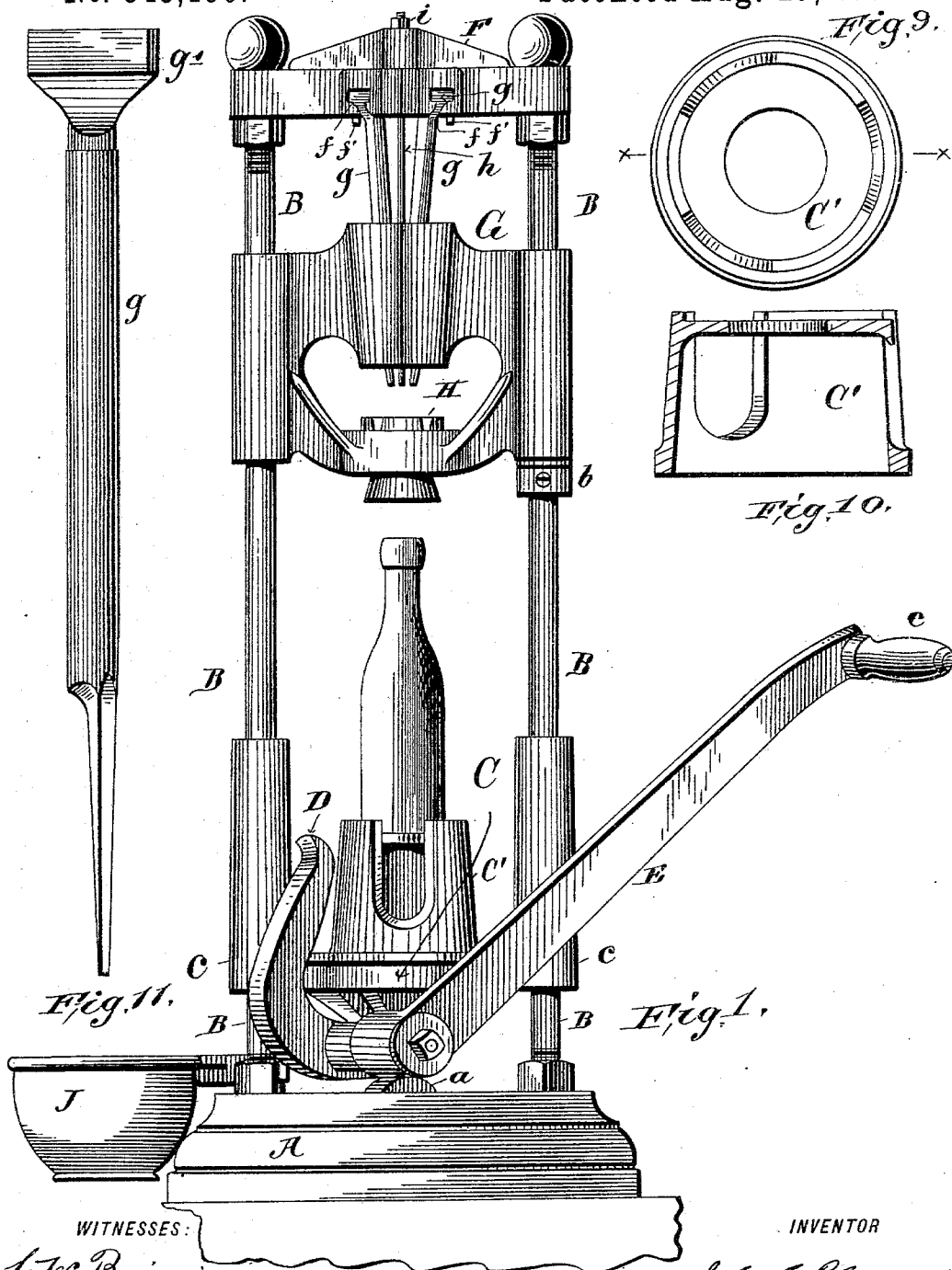
(No Model.)

3 Sheets—Sheet 1.

J. C. BLEVNEY.
CORKING MACHINE.

No. 545,190.

Patented Aug. 27, 1895.



WITNESSES:

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Geo Richmond

INVENTOR

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(No Model.)

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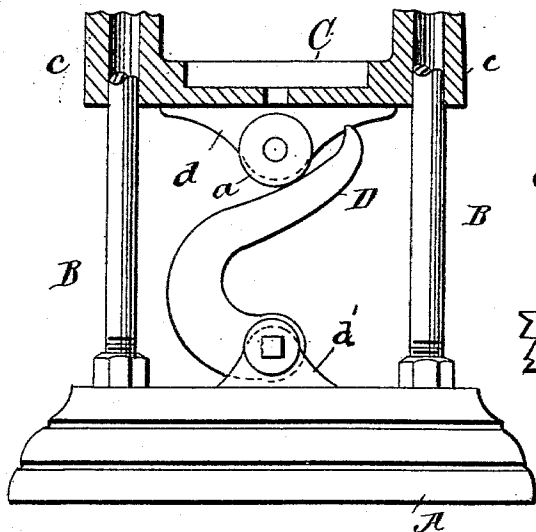
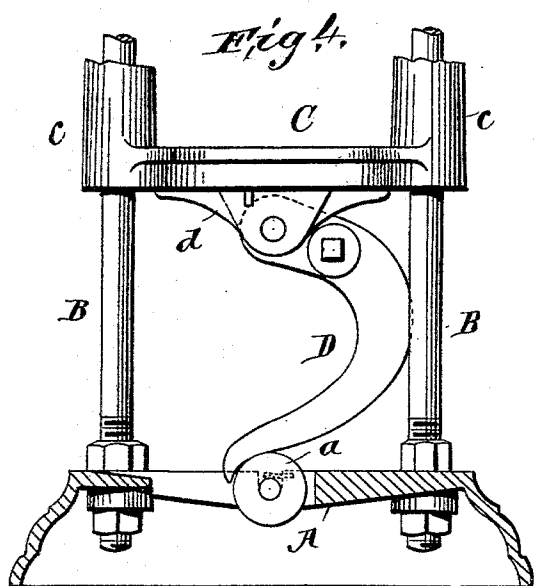


Fig. 12.

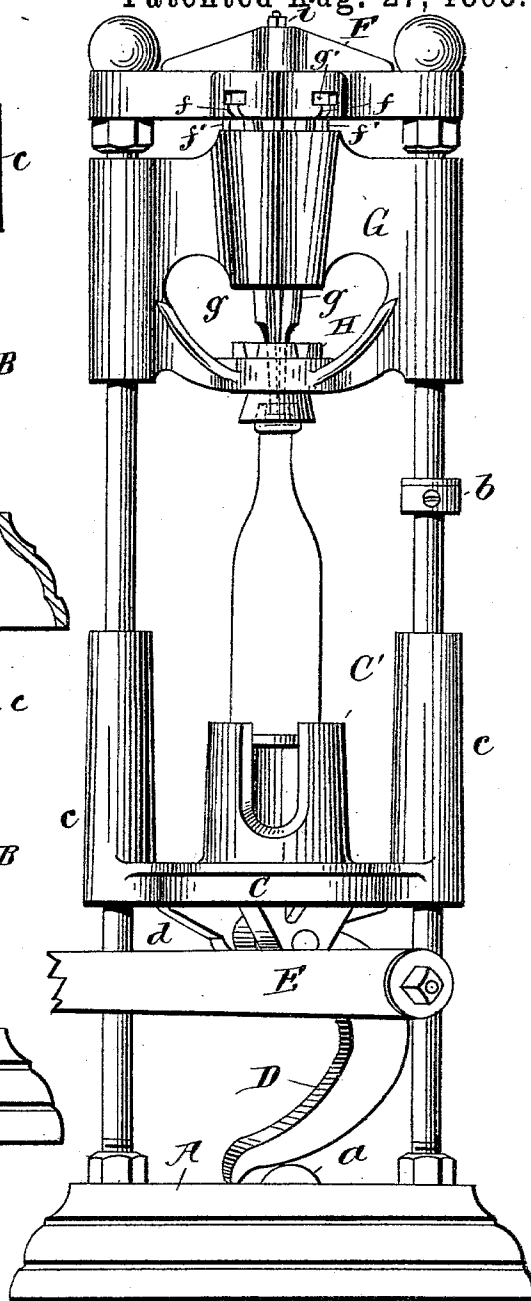


Fig. 2.

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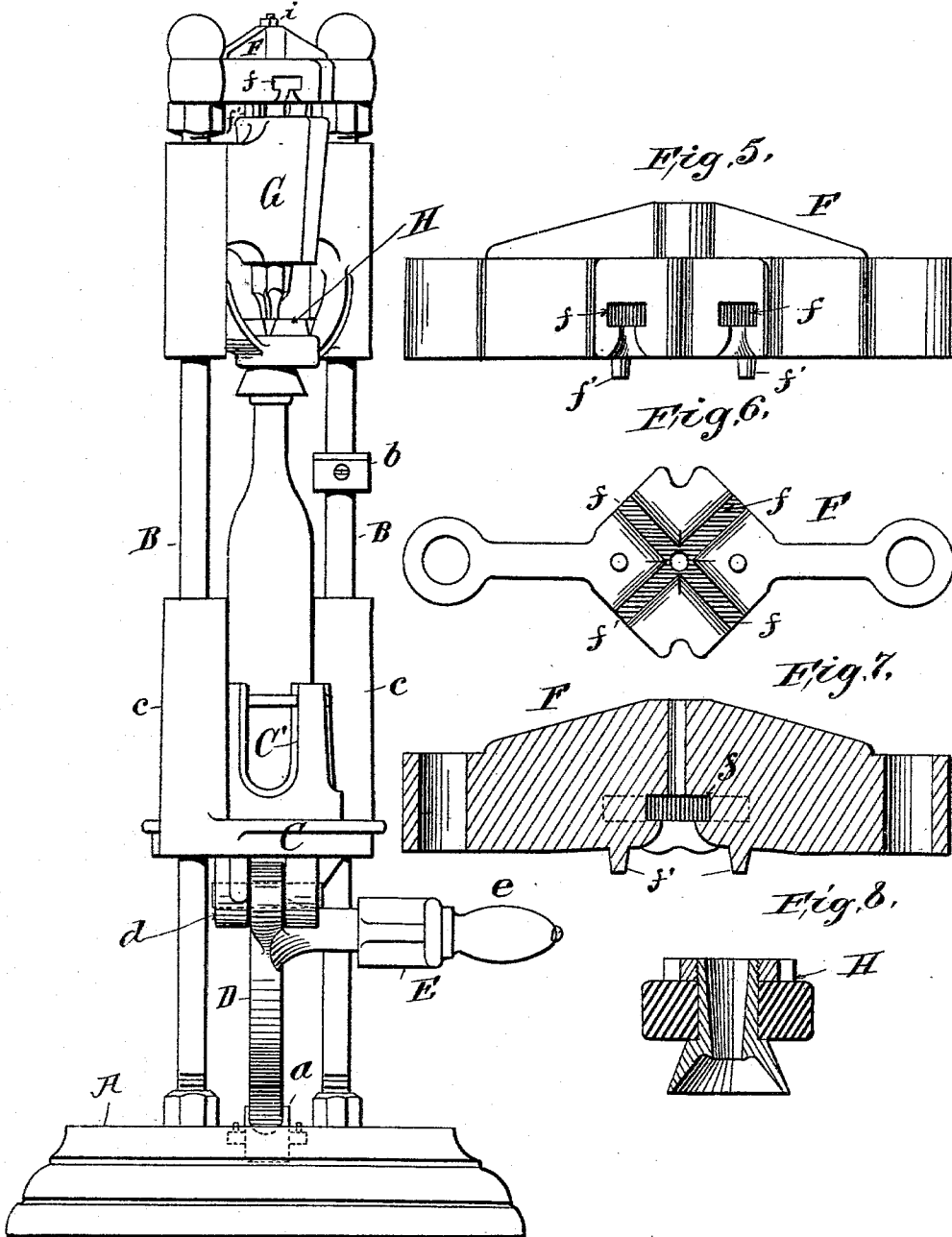
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Fig. 3.

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UNITED STATES PATENT OFFICE.

JOHN C. BLEVNEY, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE DE LA VERGNE BOTTLE AND SEAL COMPANY, OF NEW JERSEY.

CORKING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 545,190, dated August 27, 1895.

Application filed January 7, 1895. Serial No. 534,073. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. BLEVNEY, a citizen of the United States, and a resident of the city of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Corking-Machines, of which the following is such a full, clear, concise, and exact description as will enable others skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

Corking-machines of various constructions have heretofore been extensively used for insertion of corks and seal-stoppers into the bottles containing beverages under pressure or beverages which subsequent to the bottling develop a pressure, and the plungers of such machines were actuated by hand-lever, a foot-pedal, or mechanism operated by steam-power. In all such machines a reciprocating motion was imparted to the plunger or plungers, but, so far as I am aware, no corking-machine has heretofore been constructed with the plunger secured to a stationary head-piece, either in the form of a cross-head, a bracket, an arm, or other equivalent structure. Usually the machines as constructed required the cross-head, bracket, arm, or other equivalent part (which for convenience I include under the term "head-piece") to be reciprocated by a lever or other connections, and its reciprocation imparted a like motion to the plunger or plungers.

The object of the present improvement, broadly considered, is to construct a corking-machine which, without requiring the plunger to be reciprocated, is adapted to the insertion of seals, corks, and other compressible stoppers, and more specifically considered to construct a corking-machine having a stationary head-piece and two or more convergent plungers with adaptations for a lateral, though not a reciprocating, motion, such as has heretofore been required.

To these ends the invention consists in the construction of a corking-machine in which the plunger is secured to a stationary head-piece and in which the bottle is lifted up along with the throat or part which receives the stopper, so as to force the same against the

plunger and thereby cause the bottle to receive the stopper by virtue of its own motion, as hereinafter more fully described, and pointed out in the claims.

In the drawings the improvement is shown as applied to a hand corking-machine, but may be used on either a foot or power machine, and it is shown as having convergent plungers, but is equally applicable to machines in which plain or other styles of plungers are used.

Figure 1 is a side elevation of a sealing-machine embodying my improvements, the position of the hand-lever and the position of the plungers in this figure being such as are assumed when the machine is at rest. Fig. 2 is a side elevation of the same, a portion of the hand-lever being broken away and the parts being in the position assumed at the time the seal or cork is fully inserted in a bottle. Fig. 3 is a front elevation slightly perspective and shows the machine in the same position as in Fig. 2. Fig. 4 is a detail view of the cam connections with the base, partly in section, to show the roller over which the cam travels. Fig. 5 is a front elevation of the head-piece at the top of the machine. Fig. 6 is a bottom view of the same, and Fig. 7 a vertical section thereof. Fig. 8 is a sectional view of the throat which comes over the bottle and receives the stoppers to be compressed and inserted. Fig. 9 is a plan view of a removable bottle-rest, and Fig. 10 a vertical section thereof taken on the line *xx* of Fig. 9. Fig. 11 shows one of the plungers detached from the machine and enlarged. Fig. 12 is a modification showing a different method of attaching the cam and the roller over which it moves.

In the drawings, A represents the base of the machine, which may be cast in one piece, and is preferably provided with a roller *a* near the center thereof and about equidistant from the two posts B B, which are secured in the base and project upward therefrom. These posts support a movable cross-piece C having collars *c c*, which slip over the posts to permit an up-and-down sliding movement of the cross-piece guided by the posts. This cross-piece acts as the bottle-rest for the larger-sized bottle, and in case of smaller ones

it supports movable and changeable bottle-rests used to regulate the machine to the varying standard bottles. A cam D is hinged to a lug *d*, projecting from the under side of the cross-piece C, or it may be otherwise secured—as, for example, by being hinged to a lug *d'* projecting up from the base A, as shown in Fig. 12, in which case the roller *a* may be secured to the under side of the cross-piece or bottle-rest C. To this cam, when used in hand-machines, as shown, a lever-arm E is secured and provided with a handle *e*, by means of which the cam is operated. The cam D is placed directly over and so as to come in contact with the roller *a*, when in the base of the machine or under it when the roller is on the bottle-rest and the cam is curved or shaped so that when operated it will travel on the roller and thereby raise the cross-piece or bottle-rest C upon the posts B B, the height to which it may be raised being regulated by the length of the cam and the curvature given to it.

On the upper end of the posts B B there is a stationary cross-head or head-piece F, which, as shown in Figs. 5, 6, and 7, is provided with T-slots or dovetail grooves *f*, for receiving the T-heads or dovetailed tongue ends *g'* of the plungers *g g*, when the machine is provided with several convergent plungers for inserting seal-stoppers. In such case there is also a center plunger *h*, which passes through the head-piece F and is secured from above by a nut *z*. The head-piece F is shown as secured to the posts B B by screw-threads, but it may be in any other form and secured in any other desired manner so long as it is rendered stationary, by which I do not mean to preclude a mere cushioning either of the head-piece itself or of the plunger or plungers. Beneath the head-piece there is a plunger-guide G, through which the several converging plungers shown in the drawings are made to pass on an incline at such an angle as will bring them within the throat-piece H for the stopper, which is preferably secured within a portion of the plunger-guide below the openings through which the plungers pass and are guided, as already stated. In such case the plunger-guide and throat-piece may be formed or secured in the same casting and operate by a single movement. This casting is also provided with openings or collars which surround the posts B B, and is adapted to have an up-and-down movement thereon, such movement being limited in its lowest position by an adjusting-collar *b*. The head-piece F may also be provided with lugs *f'* to limit the upward movement of the plunger-guide and throat for the stopper which is to be compressed and inserted in the bottle. The bottle rests upon the cross-piece C or upon a removable base or bottle-rest C', which can be placed upon the cross-piece C, and usually the machine is provided with two or more sizes or heights of removable bases or rests for the bottles, so that the machine can be

regulated to the various standard heights of bottles.

In a hand-machine, when the bottle is upon the rest, as shown in the drawings, and the lever E is in its normal position, as shown in Fig. 1, the seal or stopper is placed in the throat beneath the plunger or plungers and the lever pulled forward by hand, which actuates the cam, causing it to travel over the roller *a* and lift the bottle-rest with the bottle thereon upward till it comes in contact with the throat H, which, together with the plunger-guide G, is lifted or moved toward the head-piece F, so that the relative position of the bottle, the throat, the stopper, and the plungers are changed and the bottle is caused to receive the compressed stopper by virtue of its own motion and not by reciprocation of the plungers. In moving upward the convergent plungers shown in the illustrations given are actuated so as to have a lateral motion, the tongues by which they are secured to the head-piece being made to move within the grooves *f*, thus forcing the plungers toward each other until the stopper is carried through the throat and into the bottle. If the extreme movement of the cam be required, as in the case of small bottles, the guide will touch the lugs *f' f'* at the top and limit the movement. This position is shown in Fig. 2, and the lever, which, however, is broken away, is practically at right angles to the posts B B. In Fig. 3 the same position is shown from another point of view, and in each of these it will be seen that the cam has traveled almost to its entire limit. In case, however, a larger bottle than that shown is placed in the machine, or in case of variations which change the relative position of the lift required, then the cam is enabled to perform the operation of lifting the bottle and throat to compress the stopper and insert it in the bottle by traveling only a portion of its length. In practice it is customary to put the seals or stoppers in a cup J, which is simply placed on the machine, as shown in Fig. 1, at the base of the posts.

From the foregoing it will be seen that the machine is simple in construction, and by lifting the bottle in the manner described instead of reciprocating the plungers as heretofore all the power which is necessary for compressing and inserting the stopper is obtained in a manner which imposes but a comparatively small amount of work, whether the machine be operated by hand, by foot, or by power. In case of foot or power machines the connections will of course be different from those shown, but it is not deemed necessary they should either be shown or described in detail.

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

1. In a corking-machine, the combination of a stationary head-piece, a plunger secured thereto, a sliding throat for a stopper beneath

said plunger, a bottle rest and means for raising the same with a bottle thereon, whereby the bottle may be moved against said throat and force the same up to the plunger and insert a stopper, substantially as described.

2. In a corking-machine, the combination of a stationary head-piece, a plunger secured thereto, a sliding throat for a stopper beneath said plunger, a bottle-rest, a cam below the same, and means for operating said cam, whereby a bottle may be raised to said throat-piece and press the same up over said plunger and insert a stopper, substantially as described.

3. In a corking-machine, the combination of a stationary head-piece provided with radiating grooves, two or more convergent plungers secured thereto, and adapted to have a lateral motion within said grooves, a throat for a stopper beneath said plungers, a bottle-rest and means for raising the same with a bottle thereon, whereby the bottle may be brought against said throat and force the same over the plungers and insert a stopper, substantially as described.

4. In a corking-machine, the combination of a stationary head-piece provided with radiat-

ing grooves, two or more convergent plungers secured thereto and adapted to have a lateral motion along said grooves, a movable guide-piece having oblique openings for receiving and guiding said plungers, a throat for a stopper beneath said guide-piece, a bottle-rest and means for raising the same with a bottle thereon up to the plungers, whereby the bottle may be made to receive a stopper, substantially as described.

5. In a corking-machine, the combination of a stationary head-piece having radiating grooves, two or more convergent plungers adapted to have a lateral motion along said grooves, a bottle-rest, a cam beneath the same and a base provided with a roller beneath said cam, said roller being adapted to permit the cam to travel thereon, and means for operating the same, whereby the bottle may be lifted up to said plungers and cause the same to insert a stopper, substantially as described.

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Witnesses:

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