

No. 644,761.

Patented Mar. 6, 1900.

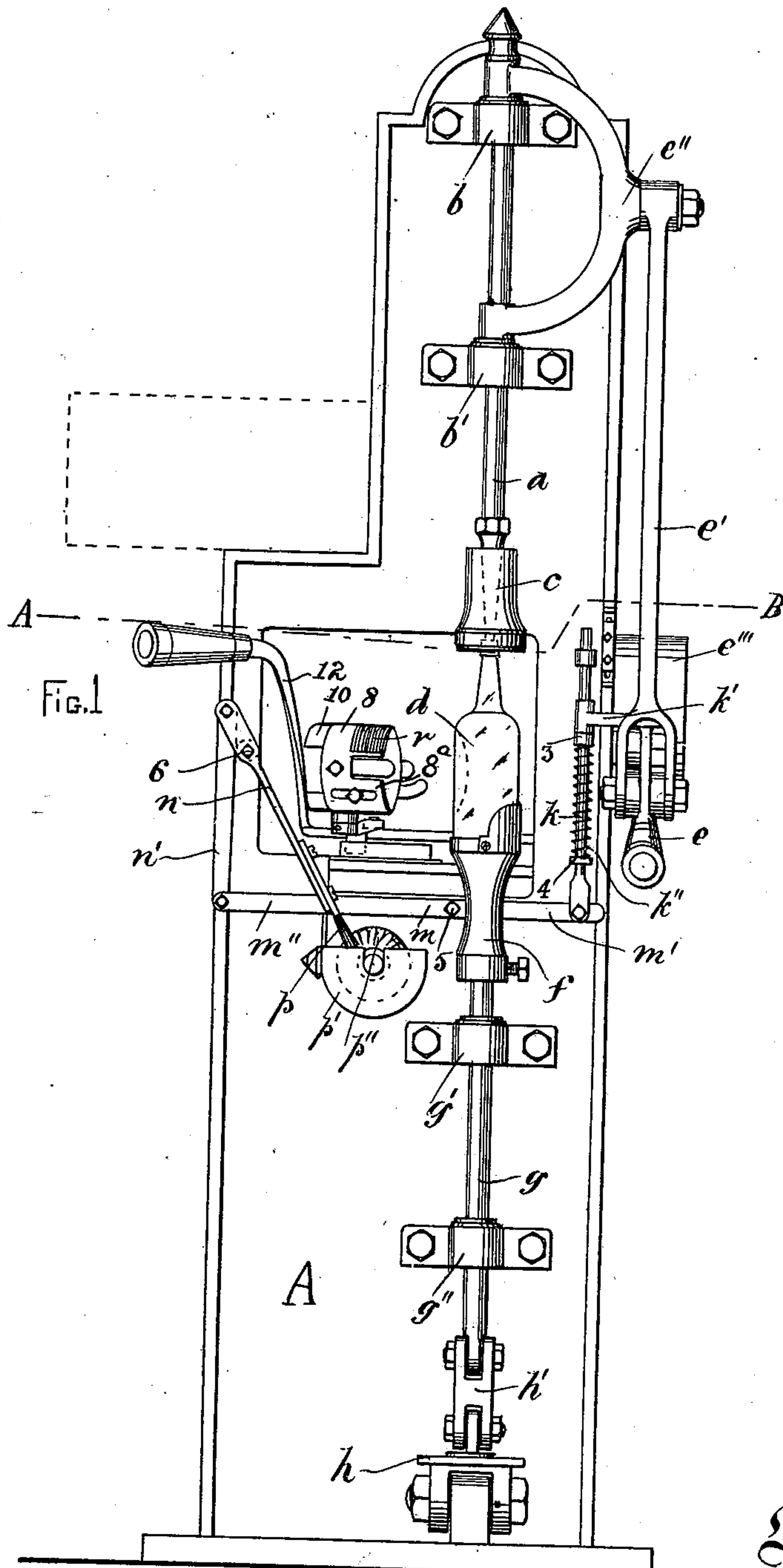
G. BOWEN.

MACHINE FOR CORKING AND LABELING BOTTLES.

(Application filed Jan. 19, 1899.)

(No Model.)

4 Sheets—Sheet 1



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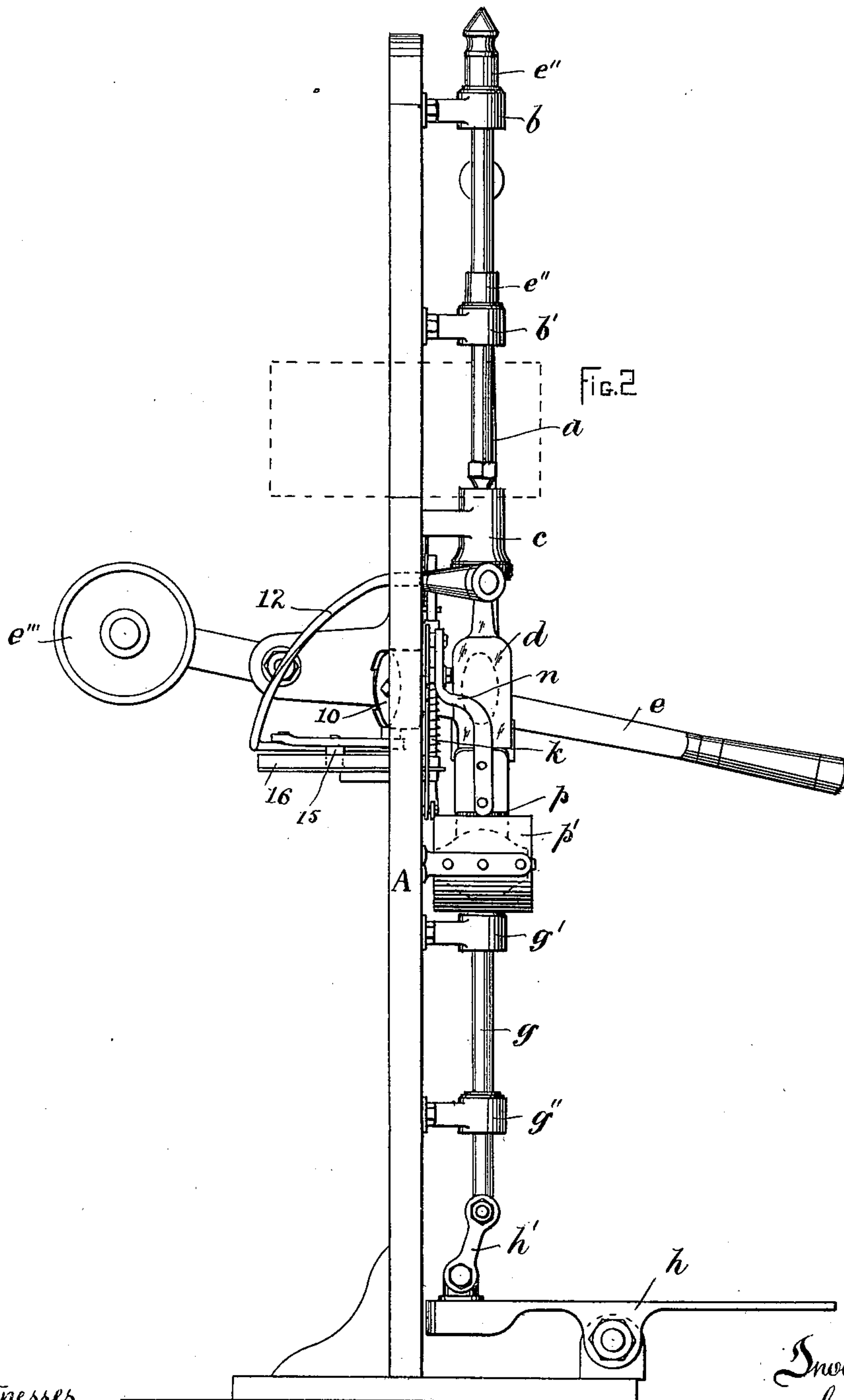
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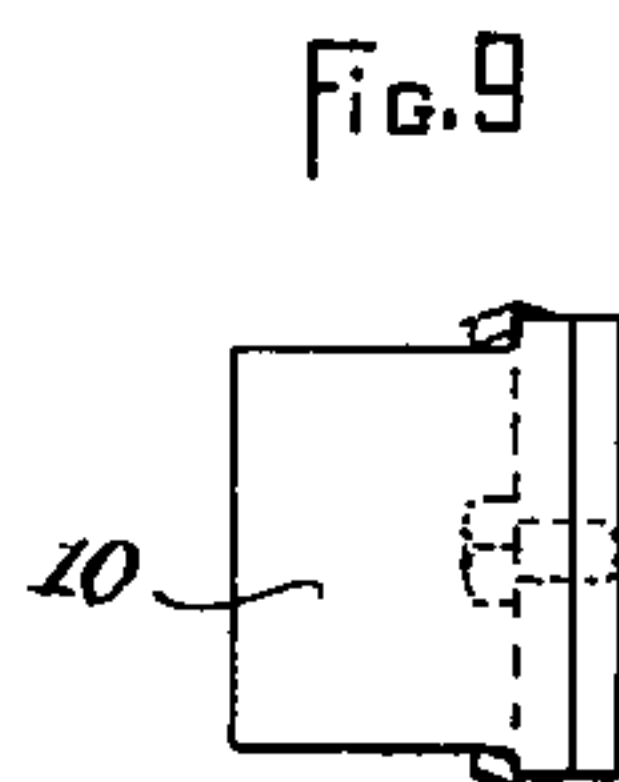
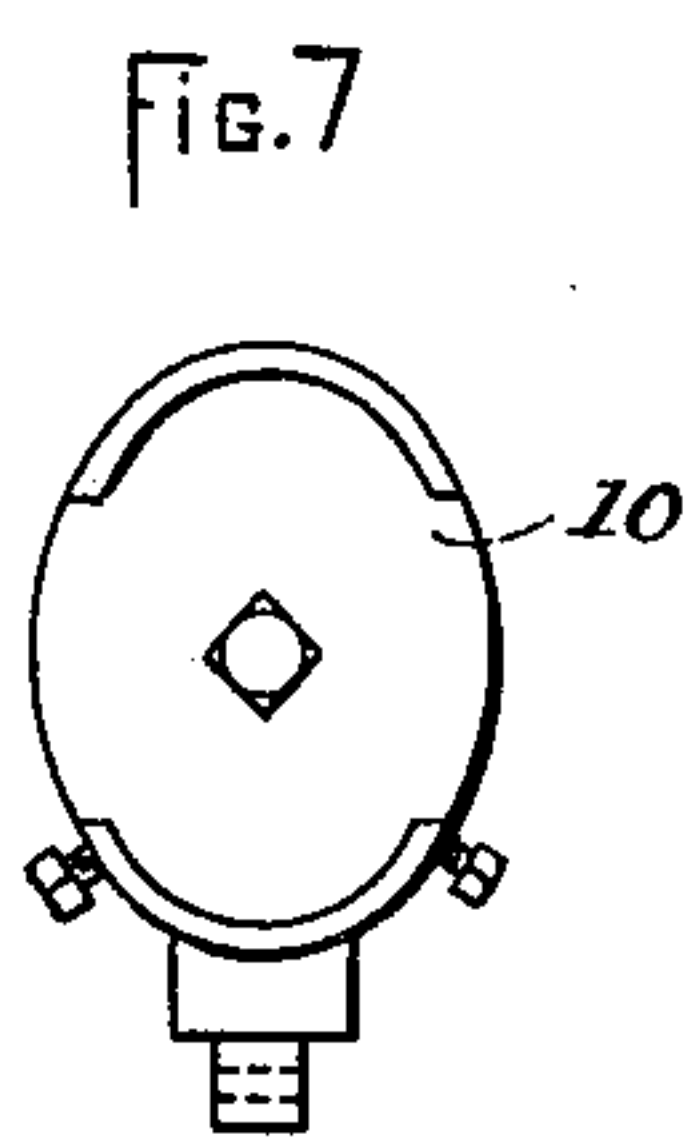
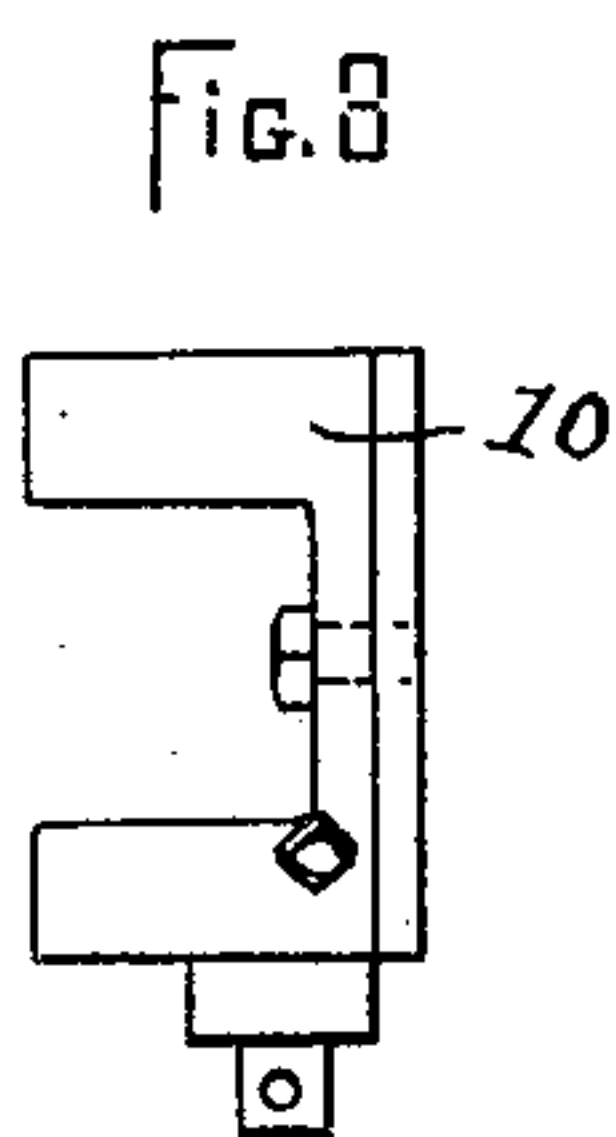
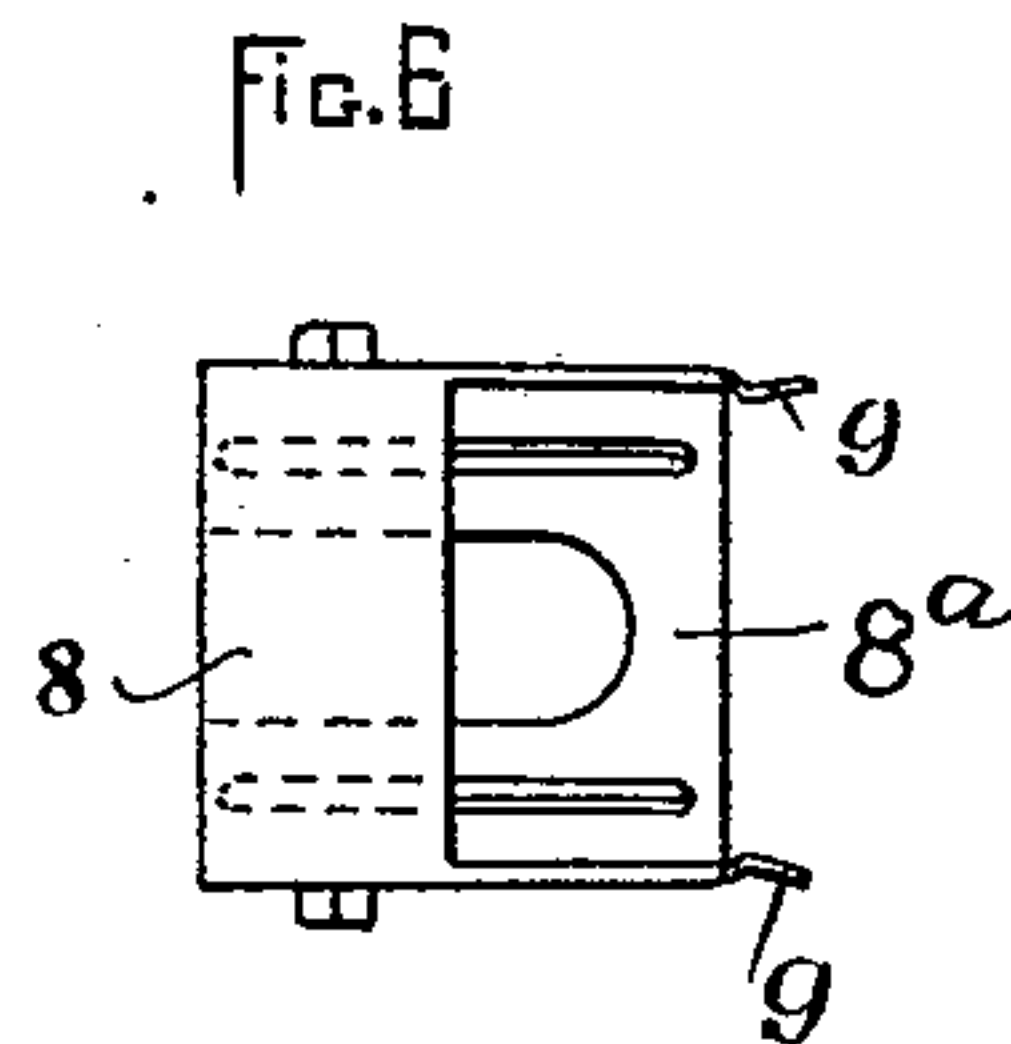
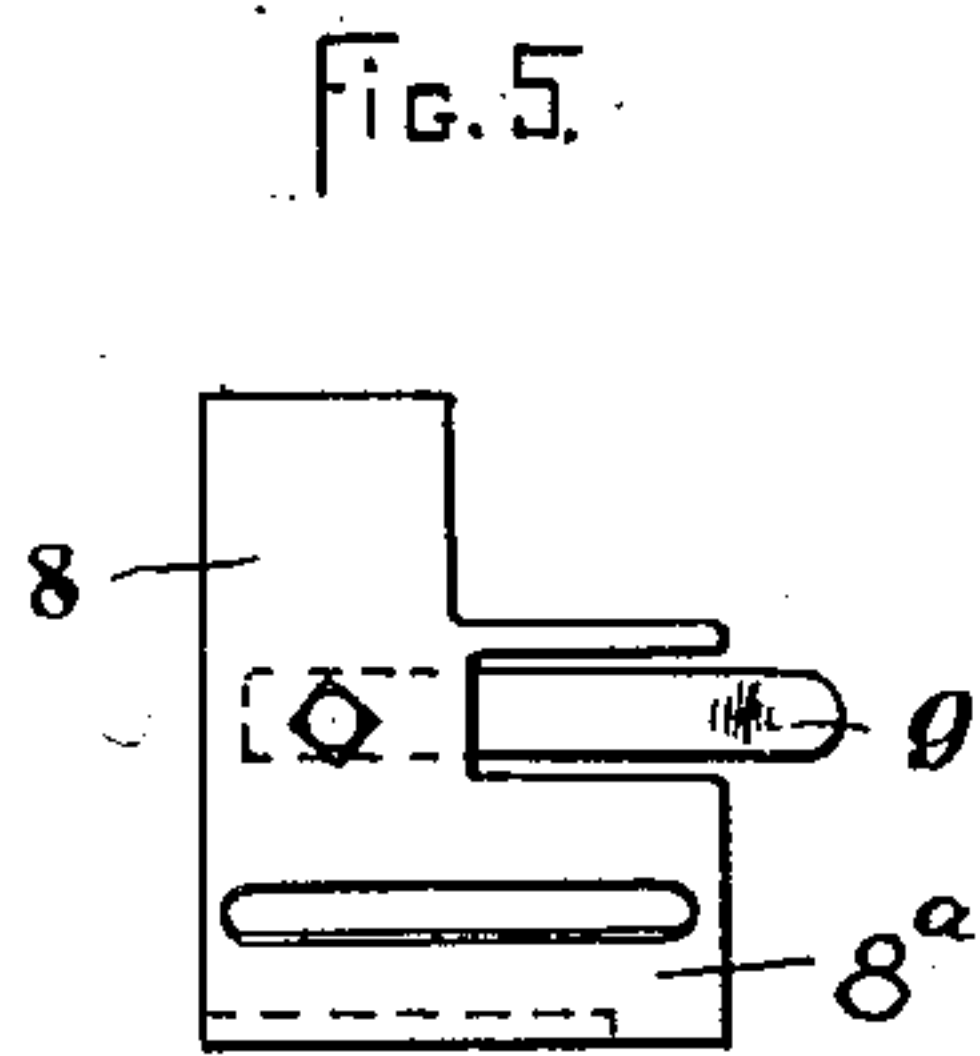
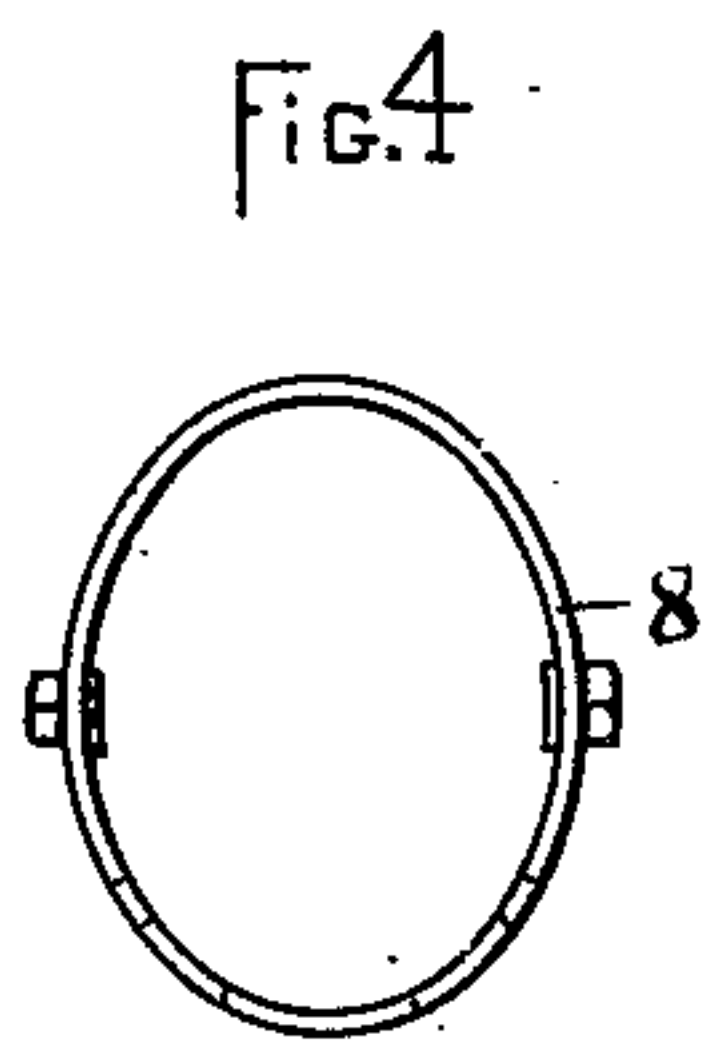
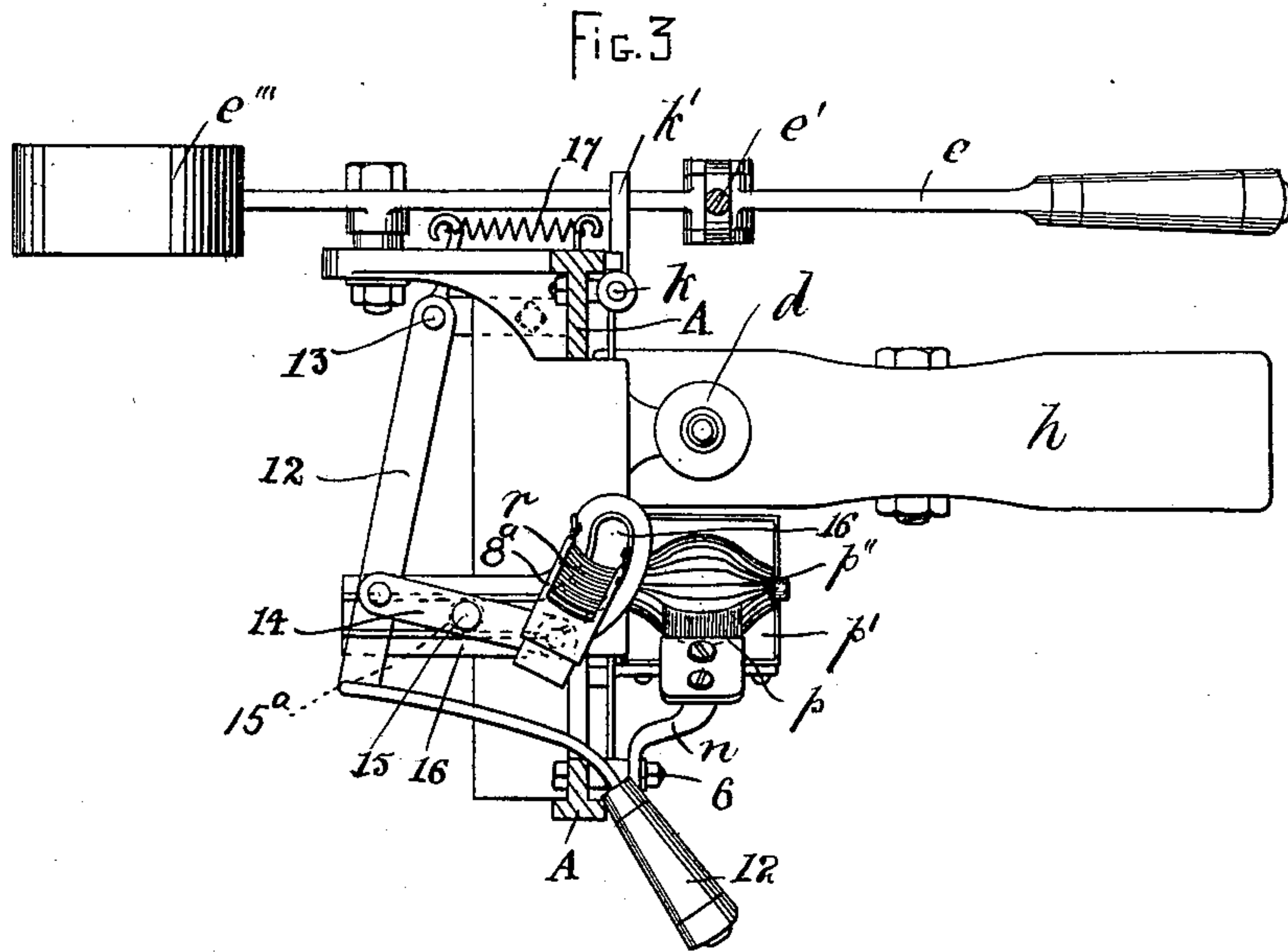
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4 Sheets—Sheet 3



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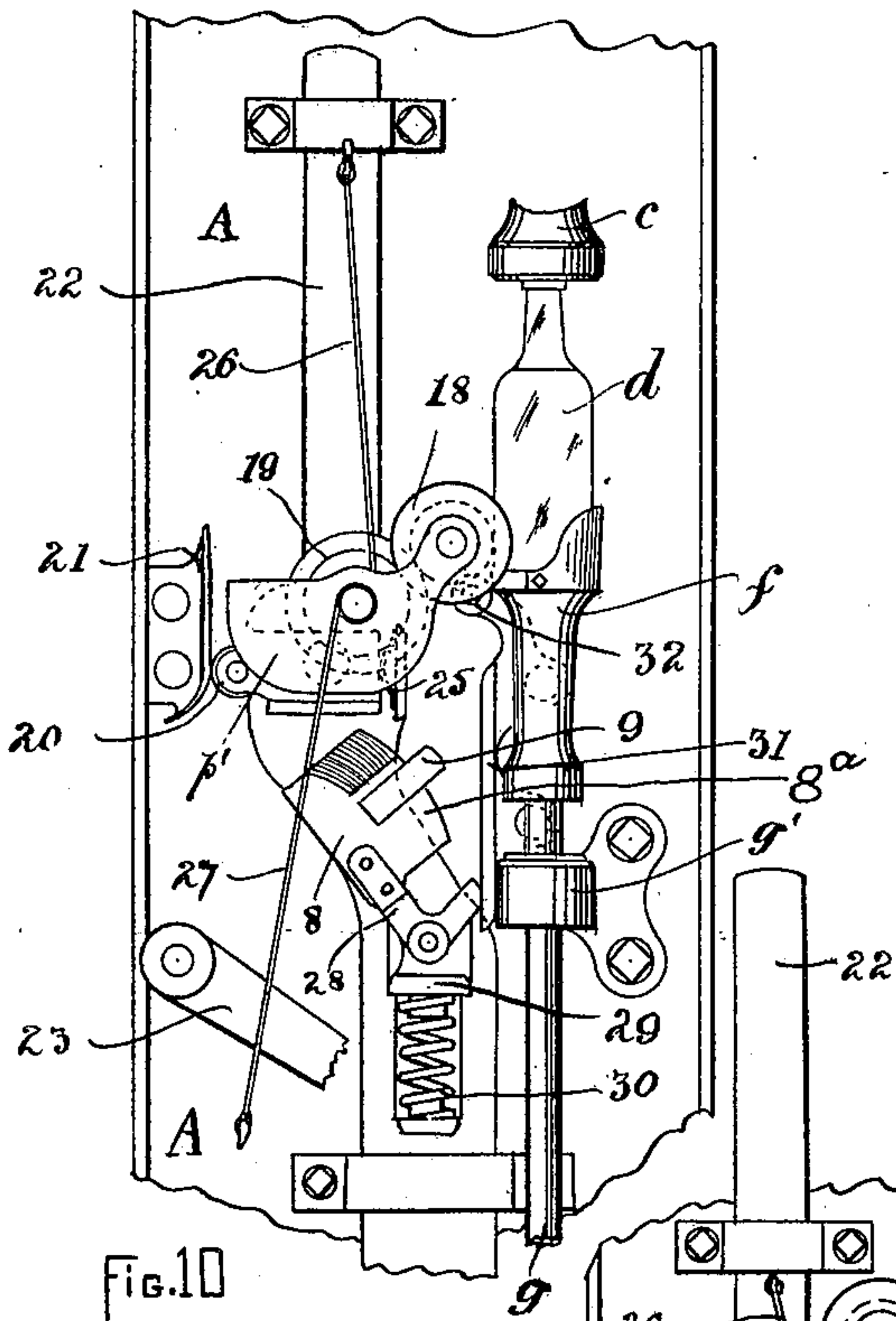


Fig. 10

Fig. 11

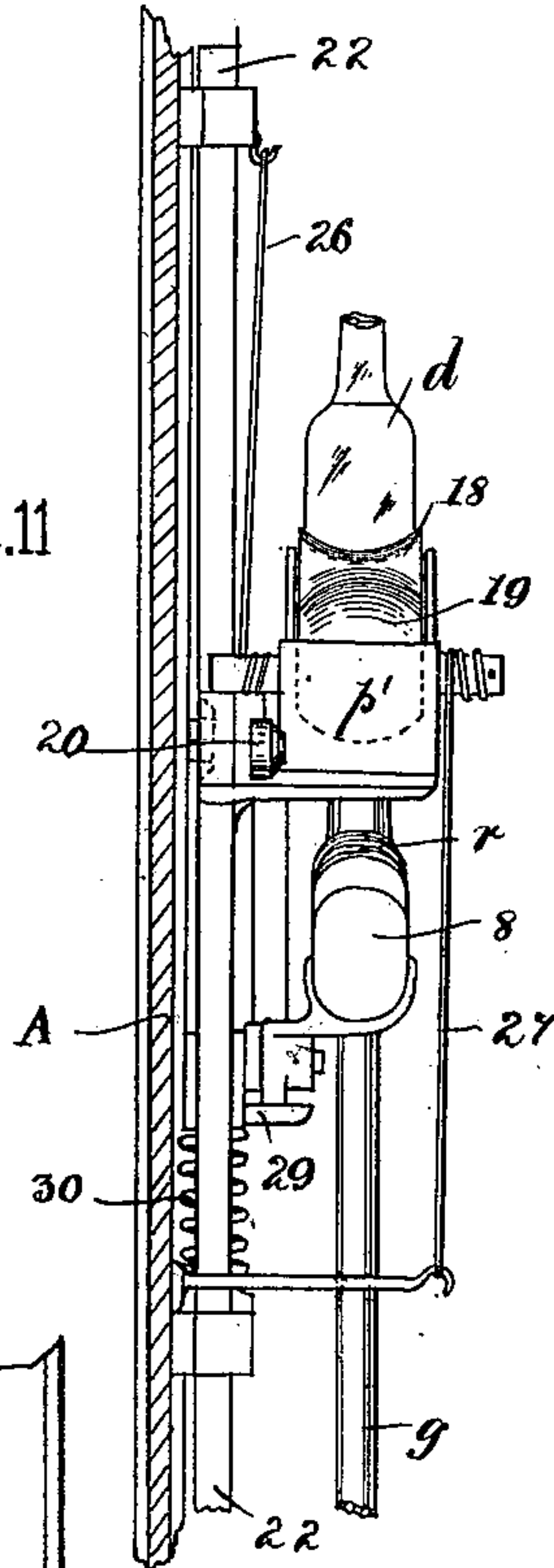
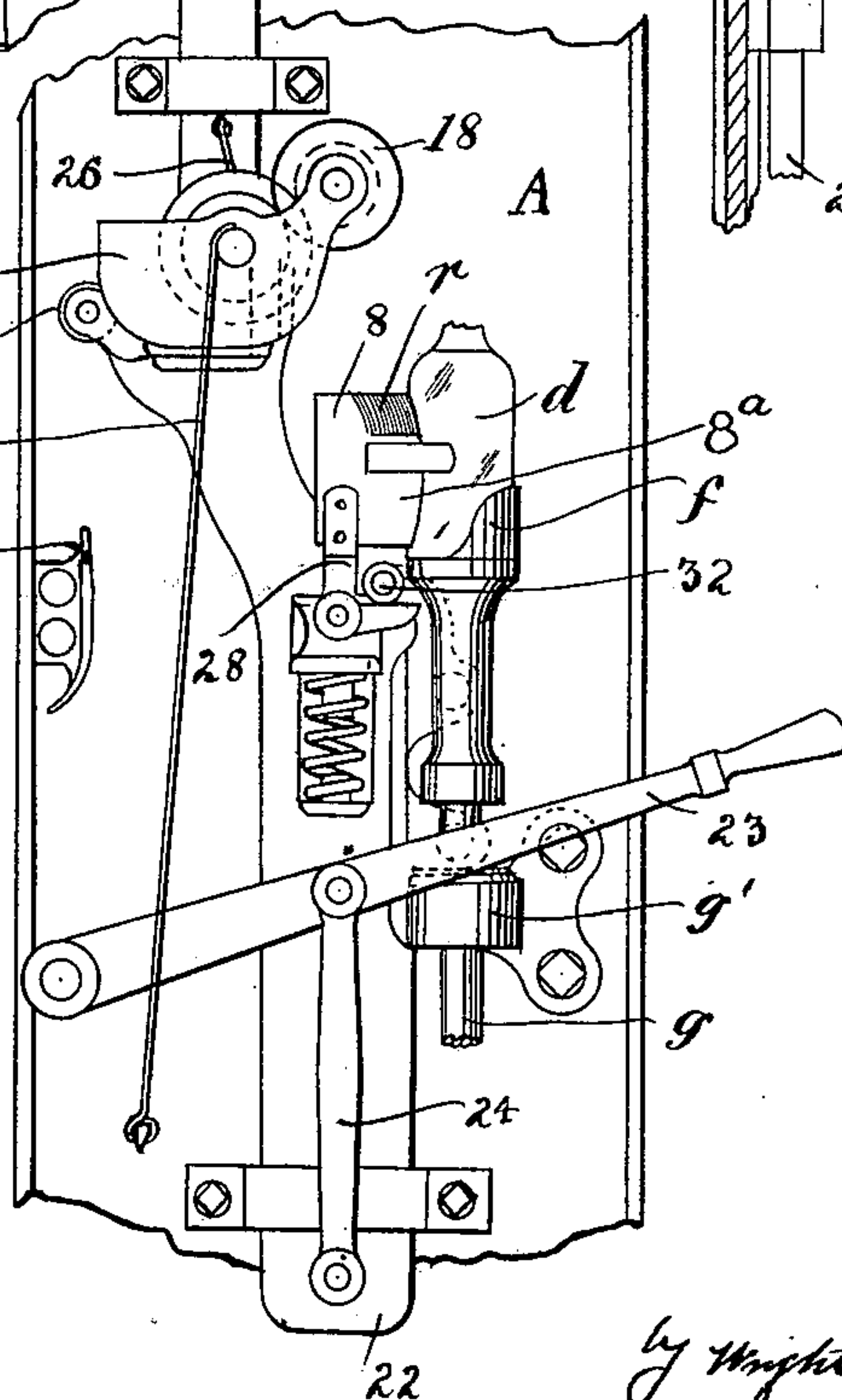


Fig. 12



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UNITED STATES PATENT OFFICE.

GEORGE BOWEN, OF BOLTON, ENGLAND.

MACHINE FOR CORKING AND LABELING BOTTLES.

SPECIFICATION forming part of Letters Patent No. 644,761, dated March 6, 1900.

Application filed January 19, 1899. Serial No. 702,616. (No model.)

To all whom it may concern:

Be it known that I, GEORGE BOWEN, engineer, a subject of the Queen of Great Britain, and a resident of 20 Lilly street, Bolton, in the county of Lancaster, England, have invented a new and useful Corking and Labeling Machine, of which the following description, together with the drawings appended thereto, is a specification.

When making use of devices for forcing corks into bottles, such bottles have to be placed in position thereon, as is well understood, and since the positions in which said bottles are held during the corking operations afford facilities for the attachment thereto of the labels attempts have been made to mount upon the same framework mechanism for attaching said labels. However, the results of such attempts have never heretofore been as satisfactory as could be desired, chiefly by reason of the devices either failing to fix the labels properly or, if succeeding in fixing same more or less effectively, then by reason of the devices being unable to retain or hold said labels, so that they have been allowed to fall away, to be damaged and lost, with a further hindrance to the operative and a consequent waste of his time. To avoid these disadvantages and produce mechanism that will perform all the functions desired of it efficiently is the object of my present invention, and this object I attain by the devices hereinafter described and as illustrated by the accompanying sheets of drawings, wherein—

Figure 1 is a front elevation of mechanism made in accordance with my invention. Fig. 2 is a side elevation of the machine shown by Fig. 1. Fig. 3 is a sectional view on line A B of the parts shown by Fig. 1 and as seen from above. Figs. 4, 5, and 6 are front, side, and top views, respectively, of the label-holding device hereinafter described, the same being drawn to an enlarged scale. Figs. 7, 8, and 9 are similar views to and drawn to same scale as Figs. 4, 5, and 6, respectively, illustrating the part over which that shown by Figs. 4, 5, and 6 takes. Fig. 10 is a front elevation showing an alternative arrangement and formation of parts to those illustrated by the preceding figures. Fig. 11 is a side view of the parts shown by Fig. 10, the

framework being shown in section. Fig. 12 is a similar view to Fig. 10, but illustrates certain of the parts in altered positions.

Respecting the corking device, I carry this into effect by arranging a plunger *a* to operate vertically through bearings or guides *b b'*, secured to the framework *A*, which keep it in its proper path of motion, while beneath this plunger *a* is a receptacle *c* for the cork, which has to be forced into the mouth of the bottle's neck *d* by the descent of said plunger *a*, which latter is illustrated in Figs. 1 and 2 as being in about its normal central position. Motion is transmitted to the plunger *a* by means of the handle-lever *e*, to which it is coupled by the rod *e'* and bracket *e''*, while the weight *e'''*, secured to said lever *e*, brings same back (when it is free to operate) into its said normal position.

The bottle *d* is mounted upon a platform or support *f*, carried by the vertical bar *g*, operating vertically through the guide-pieces *g' g''*, its lower extremity being coupled by the link *h'* to the foot-lever *h*, so that on this latter being free the weight of the former allows the platform *f* to descend sufficiently far to afford space for the bottle *d* to be placed thereon, after which by the operator placing his foot on the pedal *h* the neck of the bottle *d* is forced within the opening beneath the receptacle *c*, in which position it is properly held for the plunger *a* to force the cork home within the opening in said bottle's neck.

To enable the operator to place a cork within the receiver *c*, the plunger *a* has to be raised from its normal position to be sufficiently clear of the upper opening into this receiver *c*. On the handle *e* being lifted to perform this act it comes into contact with the projection *k'*, fixed on the rod *k*, raising same against the pressure of the spring *k''* (this latter abutting against the support 3 for the rod *k* on one side and against the hoop or collar 4, fixed to said rod, on the other) and so brings with it the arm *m'* of the lever *m*, (its fulcrum being at 5.) In this manner it depresses the arm *m''* of said lever *m*, thus causing this latter through its rod *n'* to operate the lever *n*, (pivoted at 6,) so as to bring the brush *p*, secured thereon, vertically into contact with the outer surface of the bottle *d*, at which time the paste, gum, or other adhesive

substance which said brush *p* has gathered from the receptacle *p'* will be spread over the part of the bottle *d* in contact with which the brush *p* has been thus brought. Any super-
 5 fluity or unevenness in the spreading of this adhesive substance on said bottle is rectified by the return of the brush *p* on its descent into the receptacle *p'*, which takes place when the plunger *a* is being caused to descend to
 10 force home the cork from the receiver *c* into the neck of the bottle *d*, the actions of the spring *k''* effecting the return motion of the brush *p*, as will be understood.

In order that the supply of the adhesive substance to the brush *p* may be properly regulated, a roller *p''* is mounted to revolve in the receptacle *p'* in contact with the contents of same, which it will thus bring upon its periphery in such quantities as may be desired
 20 to be applied to the brush when this latter descends into contact with it. Appropriate furrows or grooves are made in the roller *p''*, so that the brush *p* in coming into contact with it may cause it to revolve in order to present
 25 another part of its surface to said brush on its next descent. If desired, said roller *p''* may be covered with cloth, felt, or other absorbent material to enable the roller to carry a larger quantity of adhesive substance should
 30 this be found to be necessary.

Mounted in proximity with the bottle *d* is the holder or jaw into which the labels *r* to be attached are placed. This holder consists of the tubular member 8, provided with a forward tray-like portion 8^a, having spring-arms
 35 9 extending on each side thereof. The tubular portion 8 takes over a correspondingly-shaped block 10, upon which it may freely slide. By means of this arrangement the member 8 is caused to recede or move gradually
 40 backward upon block 10 as the labels are delivered from the tray-like portion 8^a by the pressure of said block in forcing the outermost label against the adhesive surface of the
 45 bottle. In this manner the labels are always presented under the same conditions as regards the forces which act upon them to the bottle *d*. Consequently when the several
 50 parts, as the springs 9 and the sliding part 8, have once been adjusted to act properly they are not very liable to derangement.

To force the holder and its labels against the bottle *d*, a hand-lever 12 is employed, this being fulcrumed at 13 and coupled by the rod
 55 14 to the holder's block 10 in such a manner that the member 15^a, (shown in dotted lines, Fig. 3,) to which said rod 14 is pivotally connected at 15, will slide in the cam-groove of the piece 16. The groove in this piece 16 has
 60 the effect of slightly increasing the speed of holder immediately preceding its contact with the bottle, as well as of guiding said holder so that at all times it will strike said bottle in the proper part. The return movement of the
 65 hand-lever 12, and consequently of the holder, is effected by the retracting-spring 17, mounted as shown by Fig. 3.

The actions of the machine are as follows: Taking it that all the parts are in their respective positions which they normally assume when free, a bottle *d* is placed upon the
 70 platform *f*, which is then caused to rise by the operator placing his foot upon the lever *h* to force the neck of said bottle into the receptacle *c*. The handle *e* is then raised so that a
 75 cork may be inserted into the upper opening in said receptacle *c*, and at such time the brush *p* is raised to cover the side of the bottle with the gum or paste, whereupon the lever *e* is made to descend, forcing the cork
 80 into the bottle, after which the operator with his other hand pulls the lever 12, and thus fixes the label as desired.

Instead of making use of the brush and its lever mechanism, as above described, I may
 85 employ a roller 18, (having its surface covered with felt or cloth,) rotating in bearings in contact with another roller 19, mounted to rotate within the gum or paste holding receptacle *p'*. Thus some of the adhesive substance that is
 90 gathered by the roller 19 is transferred to the roller 18, (the peripheral surface of which conforms to the cylindrical shape of the bottle *d*, as shown by Fig. 11, while that of the roller
 95 19 conforms to the shape of the roller 18,) and thence to the surface of the bottle *d*, by reason of said roller 18 (as is also the receptacle *p'* and roller 19) being pressed laterally against
 100 same by the runner 20 coming into contact with the fixed incline plate 32 during its vertical movements, which are effected through the vertical slide 22 being operated by the
 105 handle 23, which is coupled to it by the link 24. The return movement of the roller 18 in the lateral direction is effected by the flat spring 25, while rotary motion in both directions is transmitted to the rollers 19 and 18
 110 by means of the strings 26 and 27, encircling the axles of said roller 19, one of them unwinding therefrom as the roller is being raised, while the other is at such time being wound thereon, the reverse of these actions being produced on the descent of said roller 19. The label-holder is also mounted upon
 115 this vertical slide 22, and that by means of an elbow-lever 28, pivoted on a sliding piece 29, being mounted upon the part 22 and held in its normal position by the spring 30. This lever 28 has its arms resting against the guide-plate 31 on one side and an abutting piece
 120 projecting from the piece 29 on the other side, by which means when the label-holder is not in position for striking against the bottle *d* it is caused to fall back into the position that is shown by Fig. 10, so that the labels therein
 125 are assisted by gravity to remain in their proper positions. As the slide 22 is caused to rise after the roller has finished gumming or pasting the bottle *d*, the extending arm of the lever 28 comes into contact with the anti-
 130 friction-bowl 32, mounted to rotate on fixed bearings, by which means and by the slide 22 continuing to rise the label-holder is forced into contact with the bottle *d*, as shown by

Fig. 12, and the label attached thereon as desired.

Although I have described the movements of the plunger *a* and that of the label-applying devices as being effected by separate hand-levers, I am aware that they may be joined together so as to be operated by one and the same handle, but by so doing the varied movements are not so uniformly effected, and therefore I prefer the arrangement I herein describe.

Such being the nature and object of my invention, what I claim is—

1. In mechanism of the class described, the combination with a frame having a support designed to receive and hold a bottle, a plunger designed to force corks into said bottle, and an arm or lever designed to operate said plunger, of a pivotally-mounted brush adapted to contact with said bottle, a lever connected thereto and having an arm designed to be engaged by said former arm or lever, a label-carrier, and means for causing said label-carrier to contact with said bottle, substantially as set forth.

2. In mechanism of the class described, the combination with a frame having a support designed to receive and hold a bottle, a plunger designed to force corks into said bottle, and an arm or lever designed to operate said plunger, of a pivotally-mounted brush adapted to contact with said bottle, a lever connected thereto having a spring-pressed vertical arm provided with a lateral projection designed to engage the operating-lever of said plunger, a label-carrier, and means for causing said label-carrier to contact with said bottle, substantially as set forth.

3. In mechanism of the class described, the combination with a frame having a support designed to receive and hold a bottle, a plunger designed to force corks into said bottle, and an arm or lever designed to operate said plunger, of a pivotally-mounted brush adapted to contact with said bottle, a lever connected thereto and operated by said former arm or lever, a receptacle for an adhesive substance, a grooved or furrowed roller mounted in said receptacle and designed to contact with said brush, a label-carrier, and means for causing said label-carrier to contact with said bottle, substantially as set forth.

4. The herein-described label-affixing mechanism, comprising a frame having a support designed to receive and hold a bottle, means for applying paste to said bottle, a tubular

holder having a forward tray-like portion designed to carry the labels, a carrier for said holder comprising a block or member fitting within the tubular portion thereof and supporting the same, and means for causing said carrier to move horizontally into engagement with said bottle, whereby the former is caused to gradually move backward upon said block or member, substantially as set forth.

5. The herein-described label-affixing mechanism, comprising a frame having a support designed to receive and hold a bottle, means for applying paste to said bottle, a tubular holder designed to carry the labels to be applied to said bottle and provided with forwardly-projecting spring retaining-arms, a carrier for said holder, a lever pivoted to said frame and designed to force said holder against said bottle, whereby said holder is moved slightly backward upon said carrier, and means for increasing the speed of said carrier as it approaches said bottle, substantially as set forth.

6. The herein-described label-affixing mechanism, comprising a frame having a support designed to receive and hold a bottle, means for applying paste to said bottle, a tubular holder designed to carry the labels to be applied to said bottle, a carrier for said holder having a member fitting within the latter, an arm or member carried by said frame and having a cam-groove therein in which said carrier is mounted, and a lever designed to move said carrier, whereby said holder is caused to contact with said bottle and simultaneously move slightly backward upon said carrier, substantially as set forth.

7. The herein-described label-affixing mechanism, comprising a frame having a support designed to receive and hold a bottle, means for applying paste to said bottle, a tubular holder designed to carry the labels to be applied to said bottle, a carrier for said holder having a member fitting within the latter, an arm or member carried by said frame and having a curved cam-groove therein, a lever pivoted to said frame and having pivotal connection with an arm of said carrier, and a lug or projection secured to said latter arm and fitting in said cam-groove, substantially as set forth.

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Witnesses:

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