

No. 606,745.

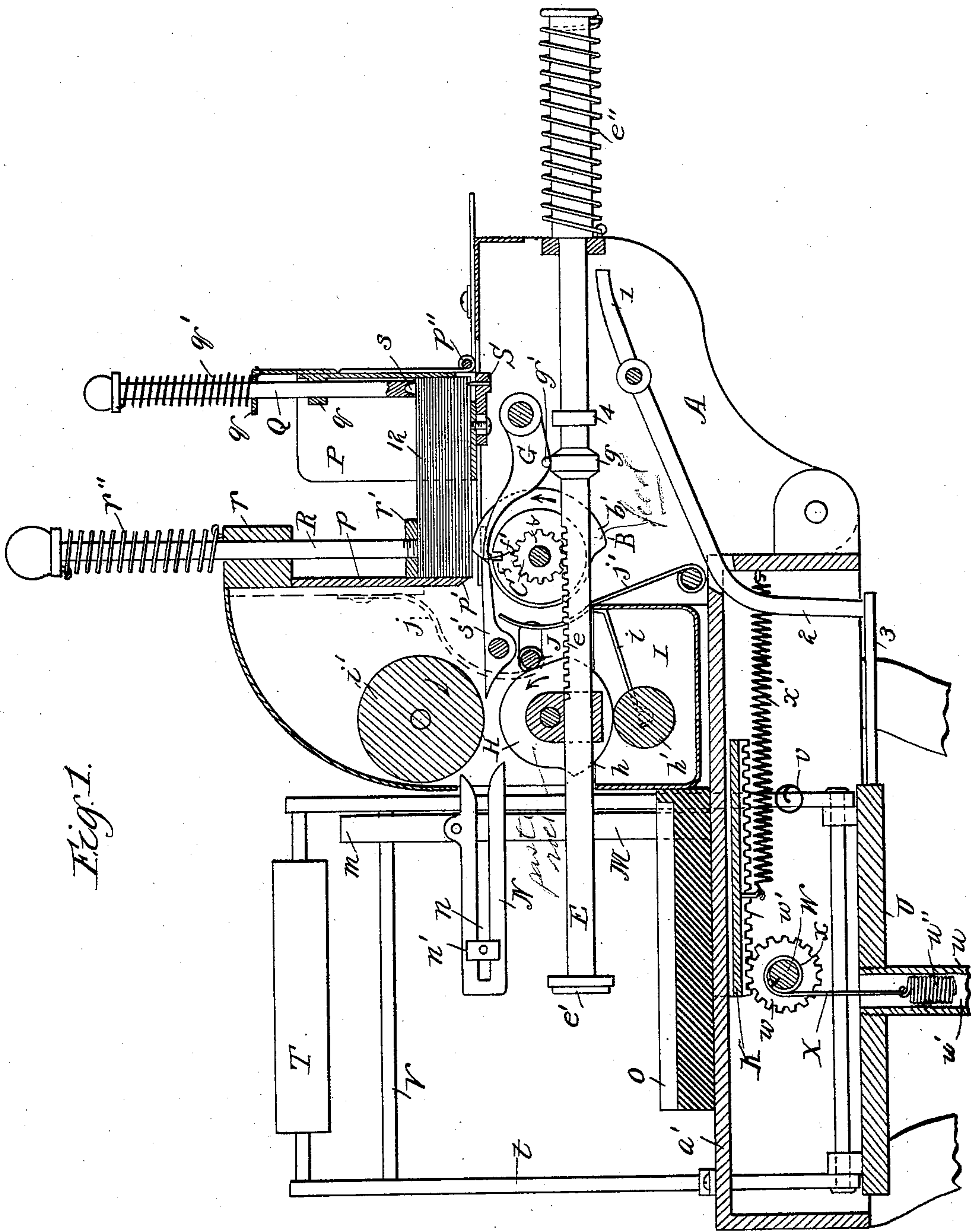
Patented July 5, 1898.

F. C. H. STRASBURGER.
BOTTLE LABELING MACHINE.

(Application filed May 19, 1896.)

(No Model.)

5 Sheets—Sheet 1.



Witnesses.
S^m M. Rheem.
Wm. O. Belt.

Inventor:
F. C. H. Strasburger
by Raymond S. Amundson
Att'y's

No. 606,745.

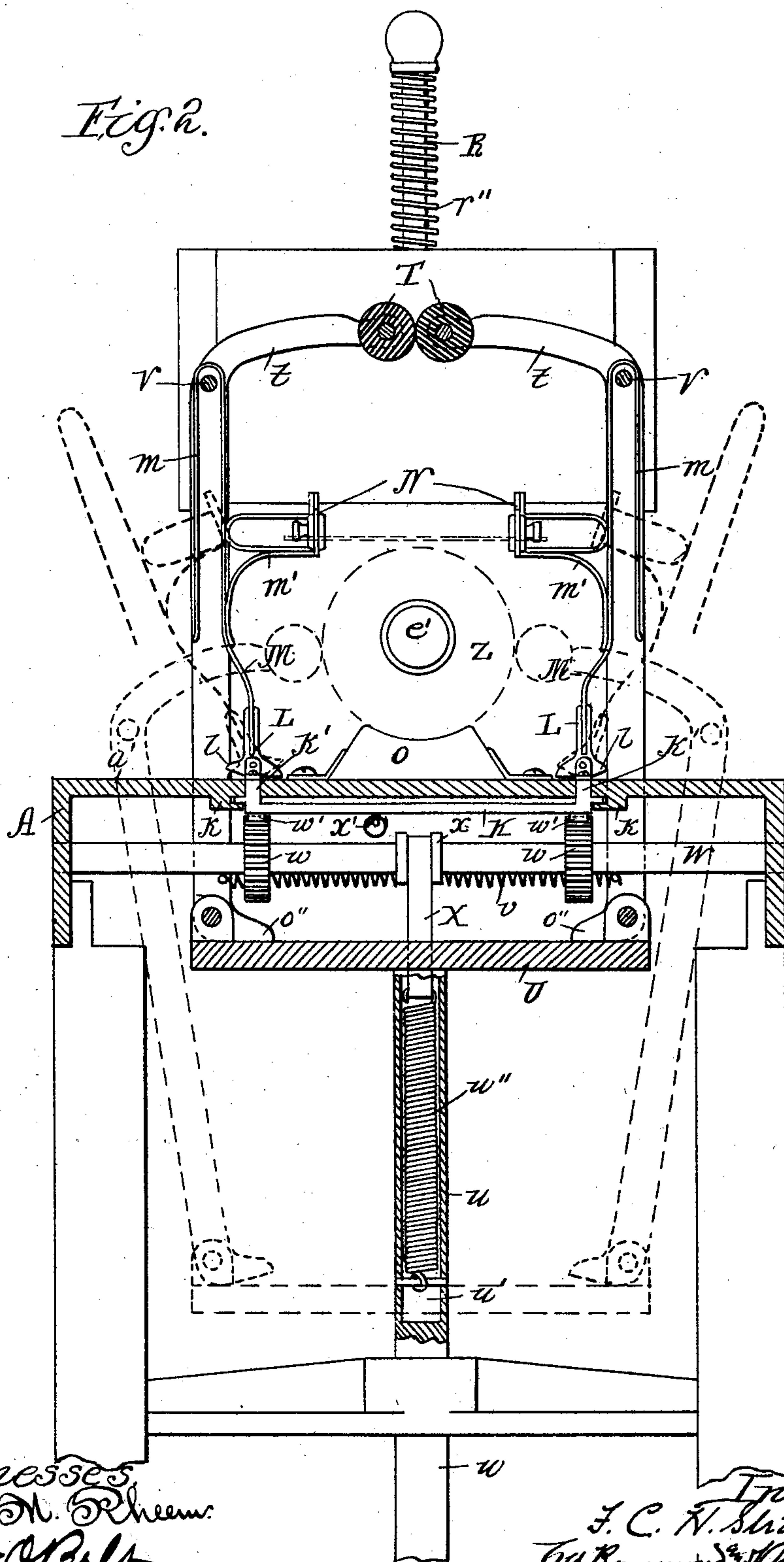
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5 Sheets—Sheet 2.



Witnesses
~~Wm. M. Rhems~~
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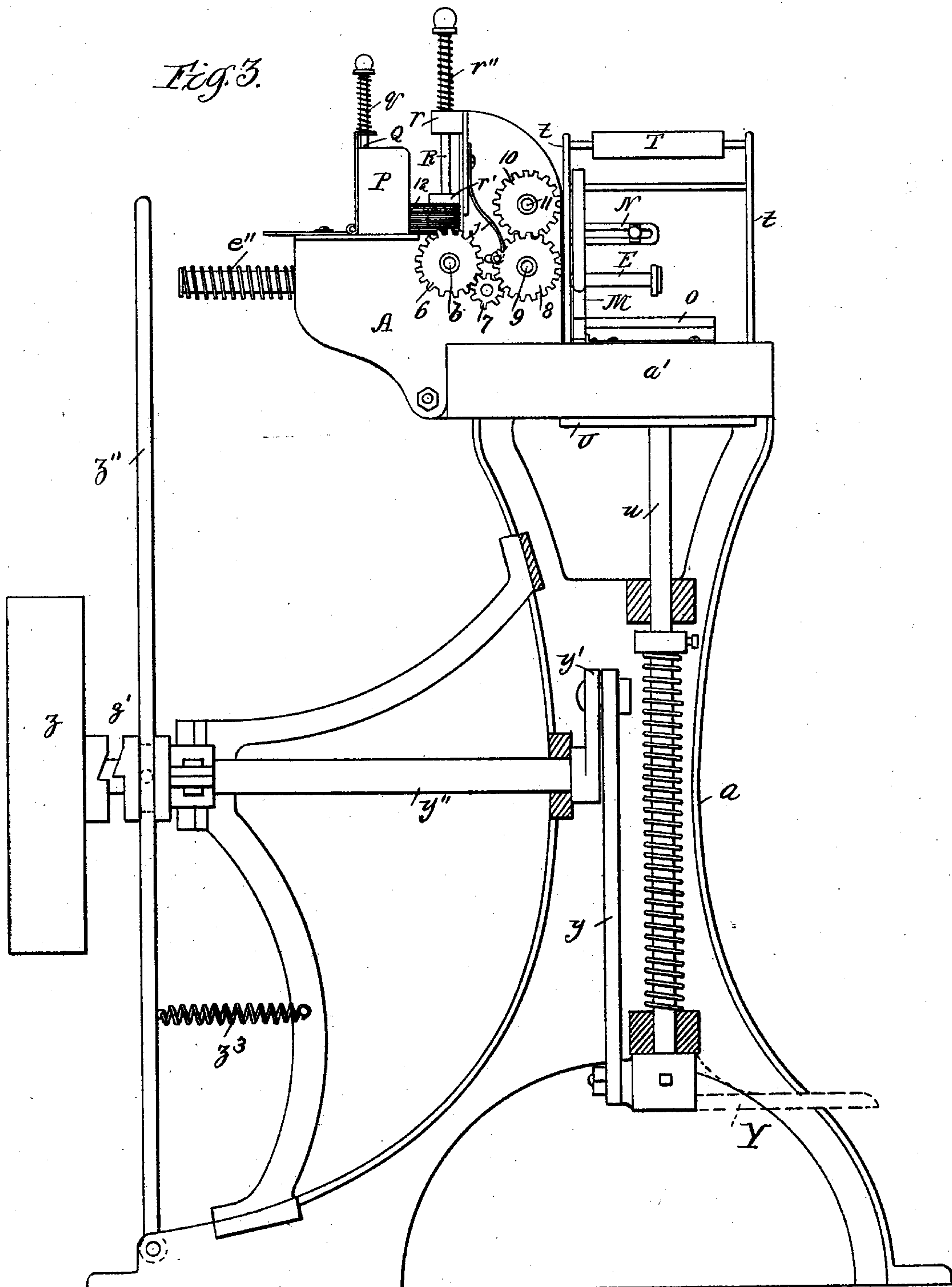
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(No Model.)

5 Sheets—Sheet 3.



Witnesses.
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No. 606,745.

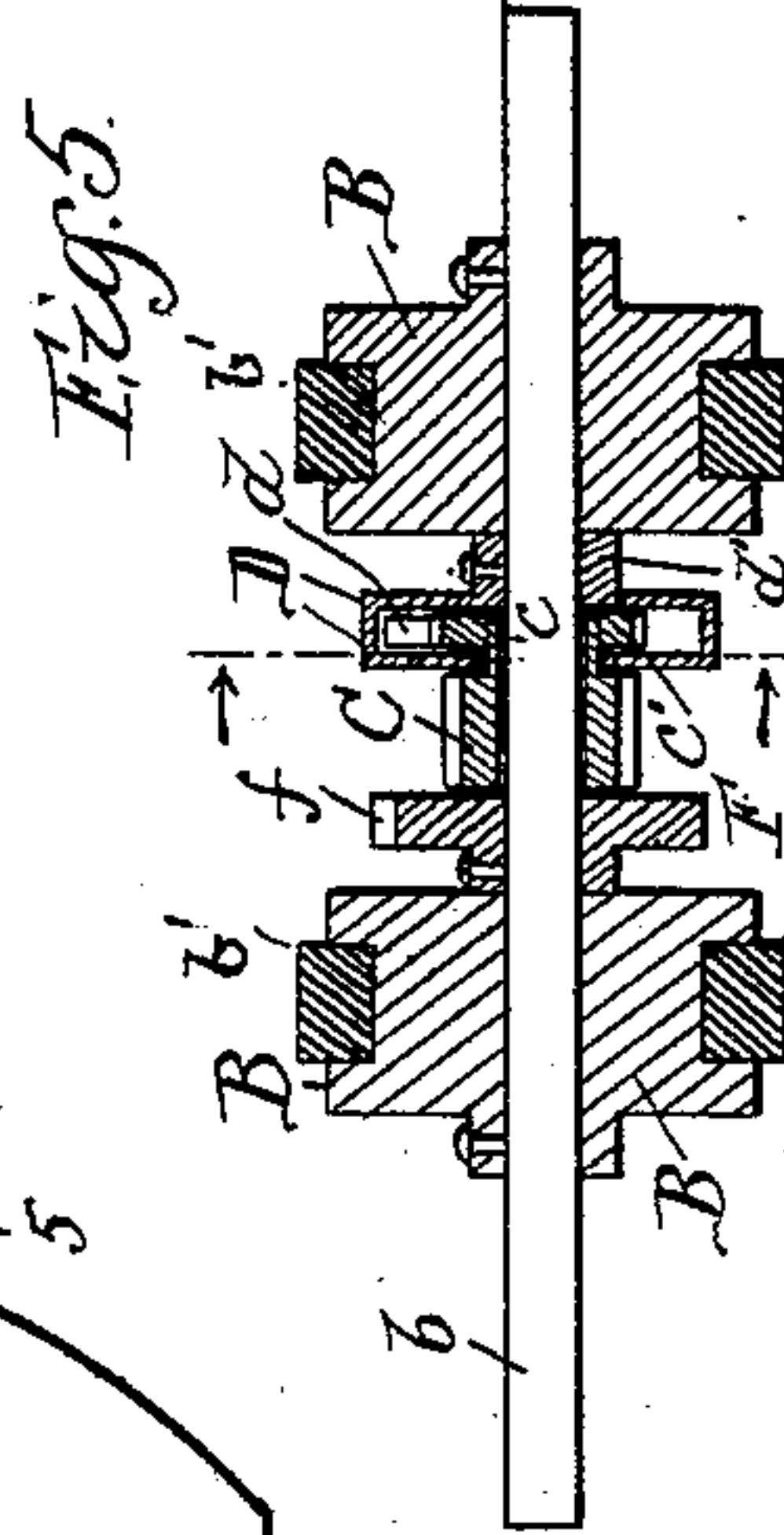
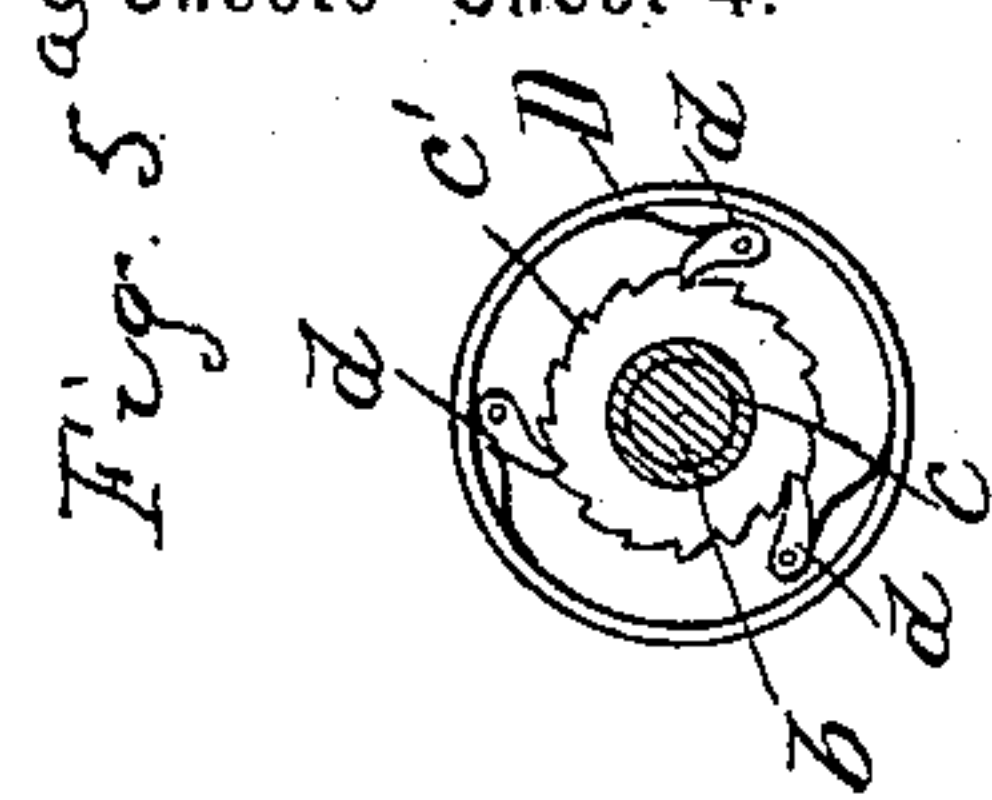
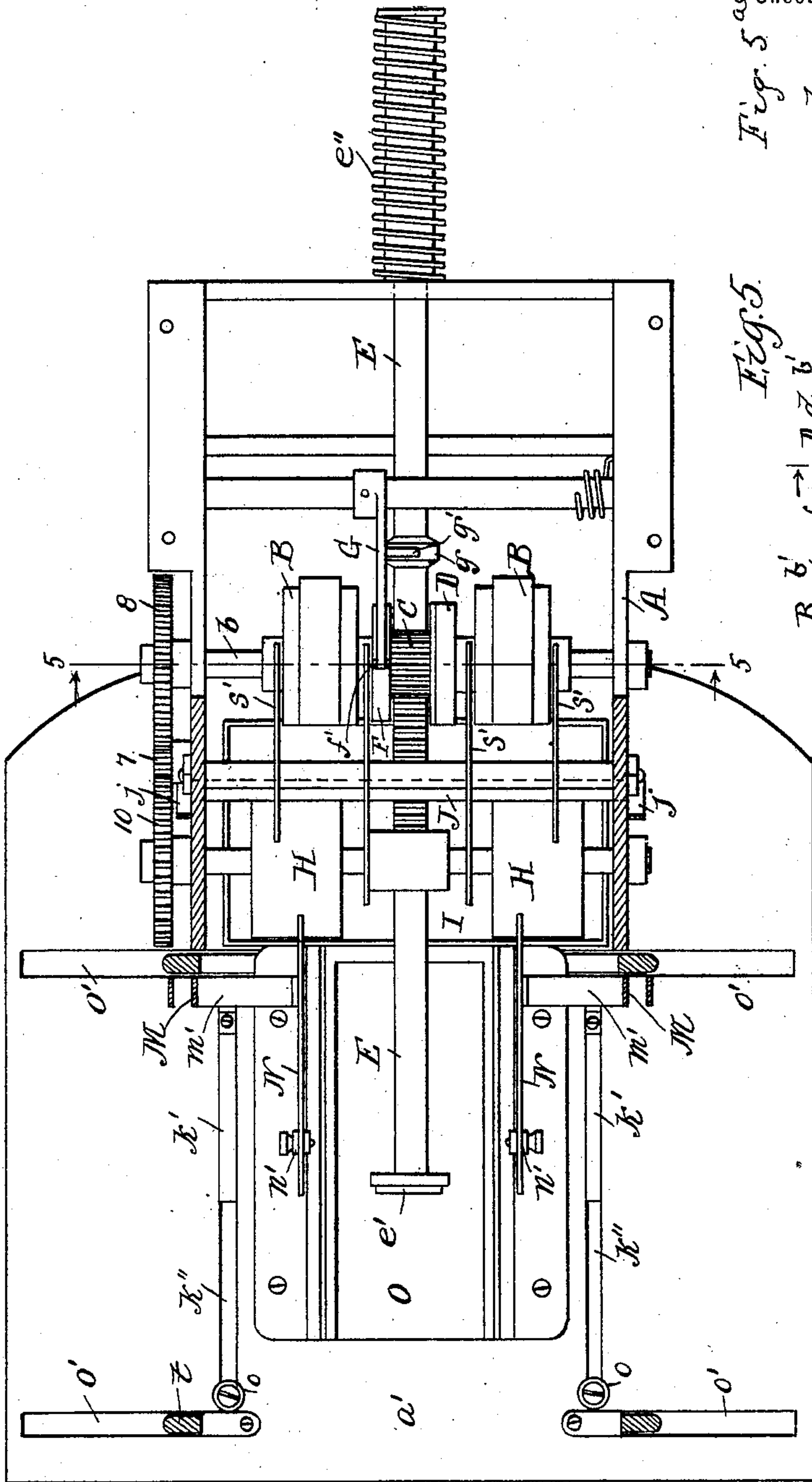
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(Application filed May 19, 1896.)

(No Model.)

5 Sheets—Sheet 4.



Witnesses
 Wm. M. Phelps
 Wm. O. Bell

Inventor
F. C. H. Straubinger
by Raymond & Ormstrong
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No. 606,745.

Patented July 5, 1898.

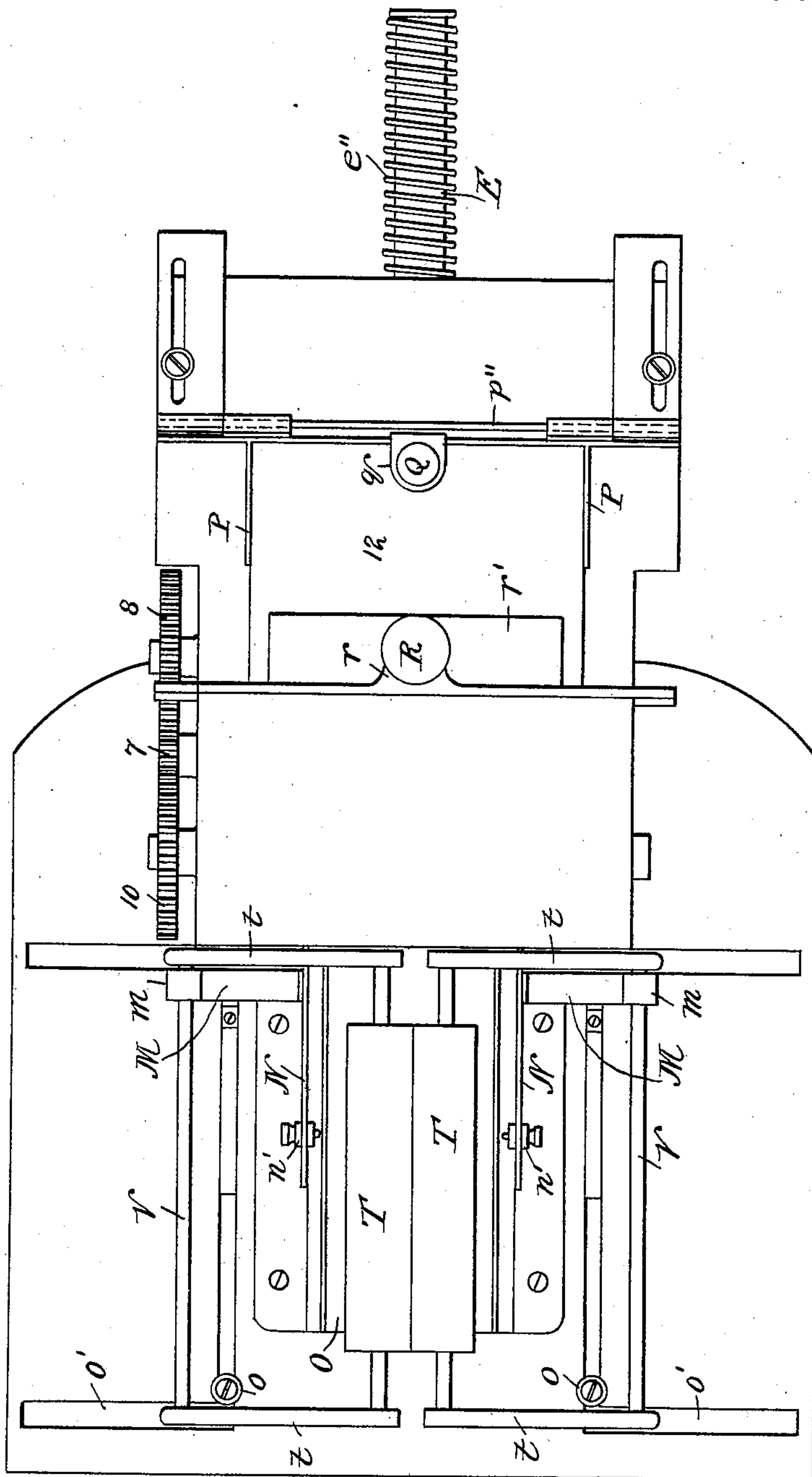
F. C. H. STRASBURGER.
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(No Model.)

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5 Sheets—Sheet 5.

Fig. 6.



Witnesses.
Wm. M. Rheem.
Wm. O. Belt.

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F. C. H. Strasburger
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Att'y's.

UNITED STATES PATENT OFFICE.

FRANK C. H. STRASBURGER, OF CHICAGO, ILLINOIS.

BOTTLE-LABELING MACHINE.

SPECIFICATION forming part of Letters Patent No. 606,745, dated July 5, 1898.

Application filed May 19, 1896. Serial No. 592,122. (No model.)

To all whom it may concern:

Be it known that I, FRANK C. H. STRASBURGER, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Labeling-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to certain new and useful improvements in labeling-machines, and more particularly to that type which are used in affixing labels to bottles and articles of a similar nature.

The primary object of my invention is to provide a machine of simple construction which can be easily operated to feed a single label from a pile, apply a suitable amount of paste thereto, and affix the label in its proper position on a bottle.

Another object of the invention is to provide suitable means for insuring the feed of but a single label during each complete operation of the machine.

A further object of the invention is to provide means for affixing the label to the bottle which are adapted to be operated in such a way that the bottle is immediately released after the label has been affixed, whereby the affixing means are prevented from disturbing the label after it has been placed upon the bottle.

Further objects of the invention are to provide carriers which receive the label after it has been supplied with paste and arrange it in position on the bottle to be operated upon by the affixing-rolls, means for stopping the feeding operations while the label is being affixed to the bottle, means for holding the labels in position where they may be easily and readily operated upon by the feeding devices, so that the latter will feed only a single label during each operation, and means for throwing the carriers to each side after the label has been affixed to the bottle.

My invention also has for its object to simplify the construction of machines of this character and provide means for operating the same, so that the mechanism will be placed in operation when the bottle is arranged in the machine.

With these and other ends in view the invention consists in the construction, combination, and arrangement of parts hereinafter described, and shown in the accompanying drawings, referring to which—

Figure 1 is a vertical sectional side view of my improved machine, showing the arrangement of the different mechanisms therein. Fig. 2 is a front view of the machine, partly in section. Fig. 3 is a side elevation of the machine. Fig. 4 is a horizontal sectional view on the line 4 4 of Fig. 1 and showing the interior mechanism of the machine in plan. Fig. 5 is a sectional view on the line 5 5 of Fig. 4. Fig. 5^a is a sectional view through Fig. 5, and Fig. 6 is a top plan view of the machine.

Referring to the drawings, in which like letters and numerals of reference denote corresponding parts in all the figures, A designates a suitable frame, which is mounted, preferably, on a stand *a*, a table, or in any other manner. The frame is provided with a bed-plate *a'*, which may be of any desired shape and size.

The feed-rolls B are mounted on a shaft *b*, which is journaled in suitable bearings in the frame, and these rolls are provided with the cam-faces *b'*, which are adapted to engage the pile of labels and remove the label on the bottom from the pile in a manner hereinafter described. A gear-wheel C is mounted on the shaft *b* between the two feed-rolls B, and it is provided with a sleeve *c*, which extends from one end thereof and on which is mounted a ratchet-wheel *c'*. This ratchet-wheel is inclosed within a box D, and spring-pressed pawls *d* are pivotally secured within the said box and arranged to engage the ratchet-wheel *c'*. The box D is rigid with a collar *d'*, which is secured on the shaft *b*, whereby when the gear-wheel C is revolved in one direction the ratchet-wheel *c'* will operate against the pawls and through the medium of the box D and collar *d'* cause the shaft *b* and the feed-rolls to turn. This gear-wheel is operated by means of a push-bar E, provided with a rack *e*, located adjacent to the gear-wheels, said push-bar being mounted in the frame and adapted to be thrust forward when the bottle is arranged in position, the bottle having its bottom forced against the head *e'* on the push-bar, whereby the tension of the spring

5 e'' is overcome. The rack on the push-bar is normally engaged with the gear-wheel C, and when the push-bar is thrust forward the gear-wheel and feed-rolls are revolved a full turn, and in order to stop the revolution of the feed-rolls at the proper time a disk F is secured on the shaft b and provided with a slot f , in which the downturned end f' of a pivoted arm G is adapted to drop and hold the feed-rolls in a stationary position after they have completed a full turn. In order to disengage the said arm from the disk, I provide an adjustable collar g on the push-bar E, which engages a cam-face g' on the under side of the arm and operates to raise the end of said arm out of the slot when the push-bar is in its normal position. When the push-bar E is in its normal position, the collar g supports the arm out of engagement with the disk; but when the push-bar is thrust forward the collar, being rigidly secured thereon, is carried from beneath the pivoted arm, whereupon the end of the latter rests upon the disk F until the latter and the feed-rolls have made a complete turn, at which time it will engage the slot f and hold the feed-rolls, the shaft, and the disk in position against rotation until the push-bar has been released and caused to assume its normal position by the operation of the spring e'' , as shown in Fig. 1, when the collar will again assume its position under the pivoted arm and disengage it from the disk. The paste-rolls II are mounted in front of the feed-rolls B, and they are also provided with cam-faces h , which cam-faces are adapted to receive paste from the paste-feed roll h' , yieldingly supported in a vat I, containing paste or other adhesive material, by means of the spring-arms i . The paste-feed roll is adapted to engage the cam-faces h on the paste-rolls and supply said faces with an amount of paste which is subsequently applied to the under side of the label while the label is being fed from the pile to the carriers, the said cam-faces of the paste-rolls being of such a size that they will apply the paste to the label in a manner best calculated to secure the results sought for, it being unnecessary to cover the entire under surface of the label with paste and desirable that the paste should be applied to the label without extending to the extreme edges thereof, so that it will not be spread beyond the label when the latter is affixed to the bottle. An idle-roller i' is suitably mounted above the paste-rolls II and adapted to operate to hold the label in contact with the paste-rolls while the label is passing through the machine to the carriers. A scraper J is supported by the spring-arms j and adapted to bear yieldingly against the paste-rolls for the purpose of removing therefrom surplus amounts of paste which may have adhered thereto, and a guard j' is arranged between the paste-rolls and the feed-rolls to prevent paste from being spattered or otherwise applied to the feeding mechanisms.

The carriers are mounted on a plate K, which is arranged to reciprocate back and forth in guides k on the under side of the bed-plate a' . This reciprocating plate is provided with lugs k' , which extend upwardly through slots k'' in the bed-plate, and to which the bases L of the carriers are pivotally secured. These bases L are broad at their bottom, so that they will contact with the upper face of bed-plate, and the outer edge thereof is cut away, as shown at l , so that the carriers may be thrown outward at a certain point in their operation to take them out of the way of the bottle which is being operated upon.

The carriers comprise the upwardly-extending guide-arms M, which are bent to form the loop m , and the supporting-arms m' for the holders N, said holders being supported in a horizontal position on the supporting-arms m' and provided with slots n to receive the label, a stop n' being secured on each holder and adapted to be adjusted thereon for labels of different sizes.

There is a threefold object in providing the lower end of the holding-rod Q with a socket s to receive the engaging device or in making this holding-rod hollow or concave for the same purpose, to wit: first, to prevent the holding-rod from dulling and otherwise injuring the pin or other engaging device which would occur if the lower end of the holding-rod were solid, so that the same would engage the pin when the pile of labels is almost exhausted and dull the point or edge of the engaging device or bend it or otherwise injure the same to render it inoperative for the purposes intended and necessitating frequent renewal of the same and resulting in corresponding loss of use of the machine as well as the loss of labor and material; second, the pressure of the holding-rod on the paper is maintained and continued until the last label has been used, as the engaging device is permitted to enter the lower end of the rod, and if the lower end of the rod were solid it would rest upon the engaging device, and there being no pressure upon the labels below the upper end of the engaging device there would be nothing to prevent the feed-rolls feeding two or more labels at a time, or, indeed, the entire remaining pile, and, third, when the pile of labels is almost exhausted the continued pressure of the holding-rod on the few remaining labels, especially when there is a space around the engaging device into which the rear edges of the labels may be forced, causes the engaging device to slightly tear the labels and render the individual freeing thereof from the device easy and certain and without any more liability of feeding a plurality of labels at this time than at any other time during the operation of the machine.

The carriers receive the labels in the holders N after the paste has been applied thereto, and these carriers are adapted to carry the label into a position upon the bottle where

it can be operated upon by the affixing-rolls and secured permanently to the bottle, the bottle itself resting upon a cushion O, and in order to prevent the carriers from receiving a shock as the plate K is reciprocated cushions *o* are secured in the slots *k''* on the bed-plate, against which the lugs *k'* will engage when the plate K is at that end of its movement.

The labels are arranged in a pile and supported in the frame of the machine above the feed-rolls, the pile being held in a label-holder P and the front edge of the pile being arranged against a front plate *p*, the lower end of which is beveled away, as at *p'*, to permit a single label from the bottom of the pile to be fed from the pile by the feed-rolls. The label-holder P is pivoted on the frame at *p''*, and a holding-rod Q operates in the keepers *q* within the label-holder and is adapted to be normally pressed upon the pile of labels by a spring *q'* to hold the labels in a compact pile and in their proper position in the label-holder. Another holding-rod R is guided in a tubular guide *r* on the front plate *p* and provided with a bearing-plate *r'*, which is normally held in engagement with the top of the pile of labels close to the front plate by the spring *r''*, arranged upon the holding-rod above the tubular guide *r*. These holding-rods Q R maintain the pile of labels compact and closely pressed together, so that they will not become disarranged during the various operations of the machine, and in order to more surely provide against feeding more than a single label from the pile during each operation I provide a device adapted to engage two or more of the bottom labels in the pile near the edge thereof and preferably beneath the holding-rod Q. This engaging device may be of various forms; but in the drawings I have shown a pin S, which is secured in the bottom of the label-holder P and projected up sufficiently to engage two or more of the labels in the pile, at the rear edge of the pile, the lower end of the rod Q being provided with a socket *s* to receive the pin S when the machine is not in use and the label-holder is empty. Instead of the pin S, I may use other forms of engaging devices, such as a sharpened blade or other devices of a similar nature which will operate to engage two or more of the bottom labels in the pile.

The front edge of the bottom label in the practical operation of the machine will rest below the front plate *p*, so that it can be readily and easily advanced or fed by the feed-rollers B when the latter are operated, said label passing over the supporting-bars *s'* to the carriers. If no engaging device similar to the pin S were used, there would be danger of feeding more than one label from the pile at each operation of the machine; but by the use of this device, which engages two or more of the bottom labels in the pile, the feeding of but a single label from the pile is insured, as the power of the feed-rolls will be exerted altogether upon the bottom

label, the restraining influence of the engaging device on the labels above the bottom label being sufficient to overcome the usual friction and cohesion between the bottom label and the label next above.

The affixing-rolls T are mounted on the curved spring-arms *t*, said arms being of such form that when the machine is at rest or in its normal position before being placed in operation the rolls will be substantially in contact above the carriers, as shown in Fig. 2. These spring-arms are pivotally mounted in a plate U, which is arranged beneath the bed-plate *a'* and supported on a vertically-operating bar *u*, provided with a socket *u'* in its upper end to receive a spring *u''*. The spring-arms *t* operate in slots *o'* in the bed-plate *a'*, and they are provided with lateral extensions *o''* at their pivots, which are arranged to bear upon the top of the plate U to limit the inward movement of the arms, the outward movement of said arms being limited by the end walls of the slots *o'* and also in a measure by reason of the fact that the loops *m* operate upon cross-bars V on the spring-arms. However, when the spring-arms are in their lowest position the cross-bars V will be below the loops *m*, so that the carriers will be free from said cross-bars, the operation of the arms *t* being such that when the rolls T engage the bottle Z the arms are spread outwardly, thereby carrying with them the carriers, which at this time have performed their part of the operation in supporting and holding the label and are of no further practical use while that label is being affixed to the bottle. A spring *v* connects the spring-arms *t* and returns them to their normal position, in which the rollers T are closely adjacent to each other, immediately after the label has been affixed to the bottle, and the action of the spring may be strong enough to press the rolls T against the bottle with such force as to raise the bottle from its cushion O; but this operation is not absolutely necessary, and the strength of the spring need only be sufficient to return the arms to their proper position ready to affix another label to another bottle. A shaft W is journaled in bearings in the frame, and it carries pinions *w*, which engage racks *w'* on the under side of the plate K. A strap X is attached to the spring *u''* and to a roller *x* on the shaft W, and when the bar *u* is operated vertically the shaft W is rotated, through the medium of the strap connection X and the pinions *w*, engaging the racks *w'*, to cause the table K to be advanced to the front of the machine and the carriers to advance the label into its proper position with relation to the bottle. When the pressure upon the bar *u* is released, a spring *x'*, connected to the rear portion of the frame and to the plate K, causes the said plate to resume its normal position, in which the carriers are arranged in front of the paste-rolls to receive another label.

The machine may be operated by a treadle

Y, attached to the lower end of the vertical bar *u*, or, in the preferred construction, a link *y* is connected to the lower end of the bar *u* and to the crank-arm *y'* of a shaft *y''*, said shaft being journaled in bearings in the stand *a*, upon which the frame is mounted. This shaft is provided with a belt-pulley *z* and a clutch *z'*, the clutch being closed by a pivoted rod *z''*, which extends upward and in line with the push-bar E, so that the push-bar will strike the rod *z''* when a bottle is placed in the machine and throw the clutch into engagement, so that the shaft *y''* will be placed in operation. A spring *z³* returns the rod *z''* to its normal position and disengages the clutch, when the push-bar resumes its normal position.

An arm 1 is pivotally secured in the rear portion of the frame beneath the push-bar E, and when the machine is at rest and while the affixing-rolls are in their normal position the rear end 2 of said arm rests upon a supporting-rod 3, projecting rearward from the plate U. When the push-bar E is thrust rearwardly, the collar 4 passes beyond the end of the arm 1; but these parts do not come into engagement until the supporting-arm 3 is carried downward with the plate U, at which time the rear end of the arm 1 causes said arm to rise and engage the said collar 4 to hold the push-bar in its rearward position until the label is affixed to the bottle. When the plate U rises, the supporting-arm 3 engages the rear end 2 of the arm 1 and causes said arm to be disengaged from the collar 4, which therefore releases the push-bar, and the spring *e''* returns it to its normal position, as shown in Fig. 1.

The feed-rolls are supported on a shaft *b*, which carries a gear-wheel 6, arranged in engagement with an idle-gear 7, which communicates motion from said gear 6 to a gear 8 on the shaft 9, which carries the paste-rolls II. The gear 8 also meshes with a gear 10 on the shaft 11, which carries the idle-roll *i*, and by this arrangement of gearing motion is communicated to the paste-rolls and the idle-roll from the feed-rolls simultaneously, and all of said rolls operate together.

By this construction it will be seen that the operation of the machine is to a very large extent automatic, and it may be briefly described as follows: The label-holder P is turned back, so that the holding-rod Q will assume a horizontal position for convenience in arranging the pile 12 of labels in place, and in doing this care is observed to have the labels in a symmetrical pile, so that they may be properly fed forward, the pin S or other device engaging two or more of the labels at the rear edges thereof. The holding-rod Q is then allowed to bear upon the labels, and the label-holder P is turned into its normal position, as shown in Fig. 1, and the holding-rod R is arranged to bear upon the front edge of the pile. The bottom of the bottle is placed against the head *e'*, and the push-bar is forced

backward until the bottle rests in its proper position upon the cushion O and the collar 4 has engaged the rear part of the frame. During this operation the rack *e*, engaging the gear-wheel C, has caused the shaft *b* to make one turn. The cam-faces *b'* during this operation engage the bottom label of the pile 12 and carry it forward to the paste-rolls, the cam-faces of which paste-rolls apply a suitable amount of adhesive substance to the label and advance it in the holders N of the horizontally-reciprocating carriers. When the shaft *b* has made a complete turn, the end *f'* of the pivoted arm G engages the slot *f* of the disk F and prevents a further revolution of the feed-rolls, which might tend to advance the bottom label of the pile. The vertical bar *u* is now lowered by means of the treadle or, as previously explained, by power applied through the shaft *y''* and its connection with said bar to cause the horizontally-reciprocating carriers to advance and arrange the label in its proper position with relation to the bottle. At the same time the plate U, being lowered, carries with it the affixing-rolls T, which at the proper time engage the label supported in the holders N and press it closely and tightly on the bottle, said rolls operating upon the bottle under considerable pressure until they pass the horizontal plane of the middle of the bottle, at which time the label-carriers are thrown outward into the position shown in dotted lines in Fig. 2, and the bottle is slightly forced upward by reason of the fact that the rolls T pass below the middle of the bottle. When the plate U is lowered, the supporting-arm 3, carried thereby, releases the arm 1 and causes the latter to engage the collar 4 on the push-bar and hold the bar in its retracted position until, the label having been affixed to the bottle, the plate U rises to its normal position and the supporting-arm 3 disengages the arm 1 from the collar, whereupon the push-bar returns to its normal position under the influence of the spring *e''*, and the machine is ready to operate upon another bottle.

I am aware that changes in the form and proportion of parts and details of construction of my invention may be made without departing from the spirit or sacrificing the advantages thereof, and I would therefore have it distinctly understood that I reserve the right to make all changes in the construction and arrangement of parts of my improved machine which fall within the scope of my invention.

It will be understood, of course, that the rack *e* is always in engagement with the gear-wheel C; but when the push-bar resumes its normal position after the label has been affixed to the bottle the pawls *d* yield to the movement of the ratchet-wheel *c'* and no movement is communicated to the shaft *b*, which only rotates when the push-bar is thrust inwardly.

Having thus fully described my invention, what I desire to secure by Letters Patent is—

1. In a labeling-machine, the combination with a label-holder for containing a pile of labels, of feed-rolls adapted to engage the bottom label in said pile and feed the same forward, paste-rolls adapted to apply adhesive material to said labels, horizontally-reciprocating carriers operating above the article to be labeled and arranged to receive the label from said paste-rolls and carry it into proper position with relation to the article to be labeled, and means for operating said carriers, substantially as described.

2. In a labeling-machine, the combination with a label-holder, of feed-rolls having cam-faces on a portion of their peripheries adapted to engage the bottom label of a pile in said label-holder and feed said bottom label forward from the pile, and means operated by the insertion of the bottle in the machine to actuate said feed-rolls, substantially as described.

3. In a labeling-machine, the combination with a label-holder, of feed-rolls having cam-faces on a portion of their peripheries adapted to engage the bottom label of a pile and feed the same forward, paste-rolls spaced a suitable distance apart, cam-faces on a portion of the peripheries of said paste-rolls adapted to receive paste and apply the same to the label and feed the label forward from the feed-rolls, and means for operating said feed and paste rolls actuated by the insertion of the bottle in the machine, substantially as described.

4. In a labeling-machine, the combination with a label-holder, of feed-rolls provided with cam-faces on a portion of their peripheries adapted to engage the bottom label of a pile in said label-holder and advance the same forward, paste-rolls, cam-faces on a portion of the peripheries of said paste-rolls adapted to apply adhesive materials to portions of the surface of said label and advance the label forward, an idle-roll operating above said paste-rolls and upon the label to hold the label in contact only with the cam-faces on the paste-rolls and means operated by the insertion of the bottle in the machine for actuating said feed and paste rolls simultaneously, substantially as described.

5. In a labeling-machine, the combination with a label-holder adapted to receive a pile of labels, of feed-rolls provided with cam-faces on a portion of their peripheries to engage the bottom label of said pile and advance the same forward, means operated by the insertion of a bottle in the machine for actuating said feed-rolls and means for automatically stopping said feed-rolls at the end of each complete revolution, substantially as described.

6. In a labeling-machine, the combination with a label-holder adapted to receive a pile of labels, of feed-rolls provided with cam-faces adapted to engage the bottom label and advance the same forward, paste-rolls arranged in advance of said feed-rolls and pro-

vided with cam-faces to apply adhesive material to portions of the surface of the label, supporting-bars arranged intermediate of the feed-rolls and the paste-rolls to support the label while being advanced by the feed-rolls to the paste-rolls, a vat arranged beneath the paste-rolls to contain the paste or adhesive material, the spring-arms secured to the side of said vat, the paste-feed roll on said arms and arranged to engage with the cam-faces of the paste-rolls, a scraper yieldingly supported adjacent to the paste-rolls and adapted to engage therewith, and a guard arranged intermediate of the feed-rolls and paste-rolls to protect the feed-rolls, substantially as described.

7. In a labeling-machine, the combination with a label-holder adapted to receive a pile of labels, of feed-rolls adapted to advance the bottom label of said pile, paste-rolls adapted to apply adhesive material to portions of the surface of said label, reciprocating carriers to receive the label from the paste-rolls and carry it into its proper position with relation to the article to be labeled, and means for simultaneously affixing the label to the article and throwing the carriers out of the way of the article, substantially as described.

8. In a labeling-machine, the combination with a label-holder, of feed-rolls for advancing a label from said holder, paste-rolls adapted to apply paste to a portion of the surface of said label, horizontally-reciprocating carriers to receive the label from the paste-rolls and carry it into position above the article to be labeled, and a push-bar adapted to be operated by the insertion in the machine of the article to be labeled and thereby actuate the feed-rolls to advance a single label from the holder to the carriers, substantially as described.

9. In a labeling-machine, the combination with a label-holder, of feed-rolls adapted to advance a label from said holder, paste-rolls adapted to apply adhesive material to a portion of the surface of said label, a push-bar operated by the insertion of the article to be labeled in the machine and actuating the feed and paste rolls, and means for stopping the operation of said rolls after they have completed a full revolution, substantially as described.

10. In a labeling-machine, the combination with a label-holder, of feed-rolls adapted to advance a label from said holder, paste-rolls adapted to apply adhesive material to a portion of the surface of said label, a push-bar operated by the insertion of the article to be labeled in the machine and actuating the feed and paste rolls, and means for holding said push-bar after it has been thrust in, substantially as described.

11. In a labeling-machine, the combination with a label-holder, of feed-rolls adapted to advance a label from said holder, a shaft supporting said feed-rolls, a disk on said shaft and provided with a slot in its periphery, a

pivoted arm having a downturned end adapted to engage the slot in said disk, a push-bar adapted to actuate said feed-rolls, and a collar carried by said push-bar and arranged to engage the pivoted arm to raise the downturned end thereof out of engagement with the disk, substantially as described.

12. In a labeling-machine, the combination with a label-holder, of feed-rolls adapted to advance a label from said holder, a shaft supporting said rolls, a gear-wheel mounted loosely on said shaft and provided with a sleeve at one end thereof, a ratchet-wheel secured rigidly on said sleeve, a box secured on the shaft and over said ratchet-wheel, pawls pivotally secured in said box and arranged in engagement with the ratchet-wheel, and a push-bar provided with a rack to engage the gear-wheel and operate the same whereby, when the push-bar is thrust backward, the shaft and feed-rolls will be revolved forwardly, and, when the push-bar resumes its normal position, the feed-rolls will remain stationary, substantially as described.

13. In a labeling-machine, the combination with a label-holder, of feed-rolls adapted to advance a label from said holder, a shaft supporting said feed-rolls, a disk mounted on said shaft and provided with a slot, a pivoted arm provided with a downturned end adapted to engage the slot in said disk, a gear-wheel loosely mounted on the shaft adjacent to said disk and provided with a sleeve at one end thereof, a ratchet-wheel secured on said sleeve, a box arranged over the sleeve and secured to the shaft, spring-pressed pawls pivoted in the box and arranged in engagement with the ratchet-wheels, a push-bar adapted to be operated by the insertion of the article to be labeled in the machine, a rack on said push-bar arranged to engage the gear-wheel, and a collar carried by said push-bar and arranged to engage the pivoted arm and raise the end thereof from engagement with the disk, substantially as described.

14. In a labeling-machine, the combination with a frame, and means for advancing the label therethrough, of a label-holder pivotally mounted on the frame and adapted to receive and hold a pile of labels, and spring-controlled devices bearing on the pile for maintaining said labels in a compact pile, substantially as described.

15. In a labeling-machine, the combination with a frame, and means for advancing the label therethrough and affixing the same to the article to be labeled, of a label-holder pivotally mounted on the frame and adapted to receive the pile of labels, said pile of labels being partly inclosed within the walls of said holder and projecting partly from the forward end thereof, and the label-holder being adapted to be turned on its pivot to bring the labels into a vertical position, substantially as and for the purpose described.

16. In a labeling-machine, the combination

with a frame, and means for advancing a label therethrough and affixing the same to the article to be labeled, of a label-holder pivotally mounted on the frame and adapted to be turned on its pivot to bring the pile of labels into a vertical position, substantially as and for the purpose described.

17. In a labeling-machine, the combination with a frame, and means for advancing a label therethrough and affixing the same to the article to be labeled, of a label-holder pivotally mounted on the frame and adapted to receive the pile of labels, said pile of labels being partly inclosed within the walls of said holder and projecting partly from the forward end thereof with the bottom label in position to be engaged by the advancing means, a pin projecting up from the bottom of the holder and adapted to engage the bottom labels of the pile therein, a holding-rod adapted to bear upon the pile of labels and having a socket in its lower end to receive said pin and a spring-pressed holding-rod arranged to press the forward part of the pile, unincluded by the holder, downward in position to be engaged by the feed-rolls, substantially as described.

18. In a labeling-machine, the combination with a frame, of a label-holder mounted on said frame, feed-rolls adapted to advance a label from said holder, a device projecting up through the bottom of the holder and adapted to engage the bottom labels of a pile in said holder at the edge thereof, and a spring-controlled holding-rod arranged to bear upon the pile of labels and provided with a socket in its lower end to receive said engaging device when the pile of labels is entirely or nearly exhausted, substantially as described.

19. In a labeling-machine, the combination with a frame and means for advancing a label therethrough, of a pivoted label-holder mounted on the frame and adapted to receive a pile of labels, said pile of labels being partly inclosed within the walls of said holder, a plate arranged in front of said pile, a spring-pressed holding-rod supported on said plate and arranged to bear upon the forward end of the pile of labels to bring the lower label into position to be fed from the pile, a spring-pressed holding-rod arranged to bear upon the rear end of the pile of labels, and supported on said pivoted label-holder and a device for retarding the movements of the lower labels, substantially as and for the purpose described.

20. In a labeling-machine, the combination with a frame, a label-holder mounted thereon and means for advancing a label through the machine, of a cushion to receive the article to be labeled, vertically-movable affixing-rolls, arms supporting said rolls, carriers to receive the label from the advancing means and means for reciprocating said carriers in a horizontal plane to carry the label forward in position above the article to be labeled and si-

multaneously operate the affixing-rolls to affix said label to the article, substantially as described.

21. In a labeling-machine, the combination with a frame, a label-holder mounted on the frame, and means for advancing a label through the frame, of vertically-movable affixing-rolls, arms supporting said rolls, horizontally-reciprocating carriers connected with said arms and adapted to receive the label from the advancing means and carry it into position above the article to be labeled, and means for simultaneously operating the carriers and lowering the arms to cause the affixing-rolls to affix the label to the article and the carriers to move out of the path of said affixing-rolls, substantially as described.

22. In a labeling-machine, the combination with a frame, a bed-plate, a label-holder mounted on the frame, and means for advancing a label through the frame, of carriers adapted to receive the label and support the same above the article to be labeled, loops forming a part of said carriers, the affixing-rolls, the arms supporting said affixing-rolls, the cross-bars on the said arms and operating in the loops, and means for lowering said arms to bring the rolls into contact with the article to be labeled, substantially as described.

23. In a labeling-machine, the combination with a frame, a label-holder, and means for advancing the label through the frame, of carriers provided with slotted holders to receive the label, and means for reciprocating said carriers back and forth in the frame to carry the label from the advancing means into position above the article to be labeled, substantially as described.

24. In a labeling-machine, the combination with a frame, a label-holder mounted on the frame, and means for advancing a label through the frame, of a bed-plate having slots therein, a plate arranged beneath the bed-plate and having lugs projecting up through said slots, the bases pivotally mounted on said lugs, the arms secured on said bases, the holders carried by said arms and adapted to receive a label and support the same above the article to be labeled, and adjusting devices in said holders to adapt the holders to receive labels of different sizes, substantially as described.

25. In a labeling-machine, the combination with a frame having a bed-plate, a label-holder mounted on the frame, and means for advancing a label through the frame, of affixing-rolls, a plate arranged beneath the bed-plate, the arms pivoted on said plate and carrying the affixing-rolls, the carriers adapted to support a label above the article to be labeled, a plate arranged beneath the bed-plate and provided with lugs extending up through slots in the bed-plate, the bases mounted on said lugs and supporting the carriers, and means connected with the plates beneath the bed-plate and adapted to actuate the same to operate the

affixing-rolls and the carriers simultaneously, substantially as described.

26. In a labeling-machine, the combination with a frame having a bed-plate, of a plate located beneath the bed-plate, arms supported on said plate and carrying the affixing-rolls, a vertically-operating bar connected to said plate, means for raising and lowering said bar to cause the affixing-rolls to contact with the article to be labeled, carriers adapted to support the label above the article to be labeled, a plate arranged beneath the bed-plate and having lugs extending up through the bed-plate to support the carriers, racks on the under side of said plate, a shaft journaled in the frame, pinions carried by said shaft and adapted to engage the racks, and a connection intermediate of the shaft and vertically-operating bar, whereby the carriers are operated simultaneously with the affixing-rolls, substantially as described.

27. In a labeling-machine, the combination with a frame having a bed-plate, of a plate located beneath the bed-plate, arms supported on said plate and carrying the affixing-rolls, a vertically-operating bar connected to said plate, means for raising and lowering said bar to cause the affixing-rolls to contact with the article to be labeled, carriers adapted to support the label above the article to be labeled, a plate arranged beneath the bed-plate and having lugs extending up through the bed-plate to support the carriers, racks on the under side of said plate, a shaft journaled in the frame, pinions carried by said shaft and adapted to engage the racks, a spring arranged in the socket at the upper end of the vertical bar, a strap connected to said spring and the shaft whereby the shaft is rotated as the rod is lowered, and a spring connected to the frame and to the plate carrying said racks and adapted to return said plate to its normal position after being advanced, substantially as described.

28. In a labeling-machine, the combination with a frame, means for feeding a label through the frame, a push-bar adapted to operate said feeding means, means for affixing the label to the article to be labeled, a vertically-operating rod adapted to actuate said affixing means, a shaft connected with said vertical rod and adapted to operate the same, a clutch on said shaft, and a rod connected to said clutch and adapted to be engaged by said push-bar to close the clutch, substantially as and for the purpose set forth.

29. In a labeling-machine, the combination with a frame, and means for advancing a label therethrough, of carriers adapted to receive the label and adjust the same in position over the article to be labeled, the affixing-rolls normally maintained above the carriers, arms supporting said affixing-rolls, and means adapted to bring said rolls into contact with the article to be labeled and, at the same time, throw the carriers out of engagement

with the label and on each side of the article, substantially as described.

30. In a labeling-machine, the combination with a frame, and means for advancing a label therethrough, of affixing-rolls normally arranged above the article to be labeled, arms supporting said affixing-rolls, carriers provided with holders adapted to receive the label and support it in position above the article to be labeled, and adjusting devices on said holders whereby the carriers can be changed to suit labels of different sizes, substantially as described.

31. In a labeling-machine, the combination with a frame, and means for advancing a label therethrough, of carriers adapted to support a label above the article to be labeled, and comprising guide-arms bent to form loops, the supporting-arms and the holders carried by said supporting-arms and provided with slots to receive the labels, substantially as described.

32. In a labeling-machine, the combination with a frame, and means for advancing a label therethrough, a bed-plate, carriers adapted to receive and support the label above the article to be labeled, a plate arranged below the bed-plate and provided with lugs extending up through slots in said bed-plate, a shaft journaled in bearings in the frame, gearing devices intermediate of said shaft and said plate, whereby the latter is reciprocated as the shaft rotates, the affixing-rolls, the arms supporting said rolls, a plate U carrying said

arms, a vertically-operating bar *u* connected to said plate, and yielding devices intermediate of the shaft and said bar, whereby the shaft is rotated as the bar is lowered, substantially as and for the purpose described.

33. In a labeling-machine, the combination with a frame, and means for advancing a label therethrough, of horizontal reciprocating carriers adapted to receive the label and support the same in position above the article to be labeled, vertical reciprocating affixing-rolls, arms supporting said affixing-rolls and means for operating the same and connections between said arms and the carriers, whereby the carriers are thrown out of the path of the affixing-rolls as the latter descend to affix the label to the article, substantially as described.

34. In a labeling-machine, the combination with a frame, and means for advancing a label therethrough, of horizontally-reciprocating carriers adapted to receive a label from the advancing means, vertically-reciprocating affixing-rolls, arms supporting said affixing-rolls and normally holding the carriers in their proper position to receive and support the label and operating to throw said carriers out of the path of the affixing-rolls while the latter are in operation, and means for operating said carriers and affixing-rolls, substantially as described.

F. C. II. STRASBURGER.

Witnesses:

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