

No. 831,853.

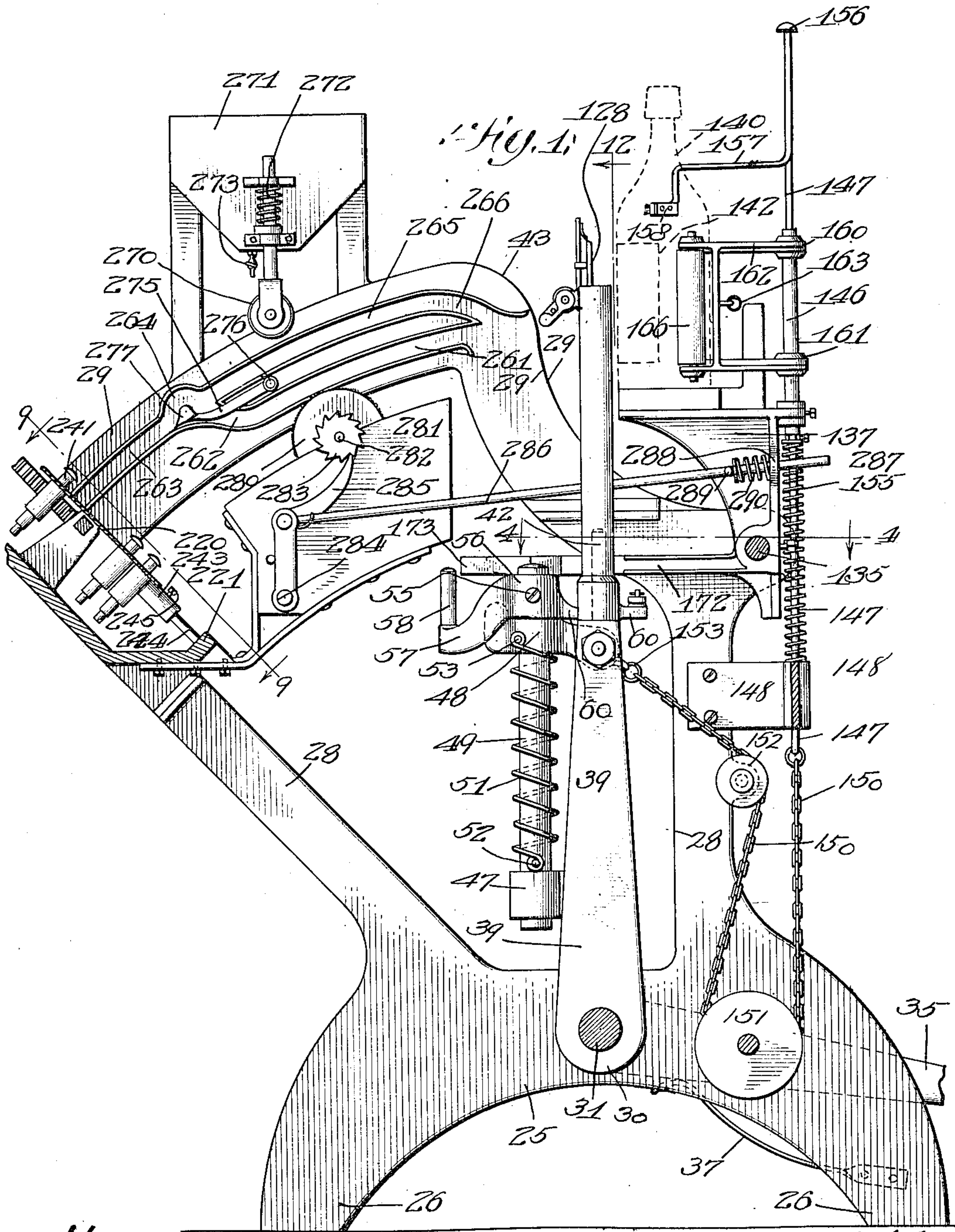
PATENTED SEPT. 25, 1906.

S. FYFE.

BOTTLE LABELING MACHINE.

APPLICATION FILED JULY 6, 1905.

5 SHEETS—SHEET 1.



Witnesses:

JB Weir
Robert Weir

Früher:

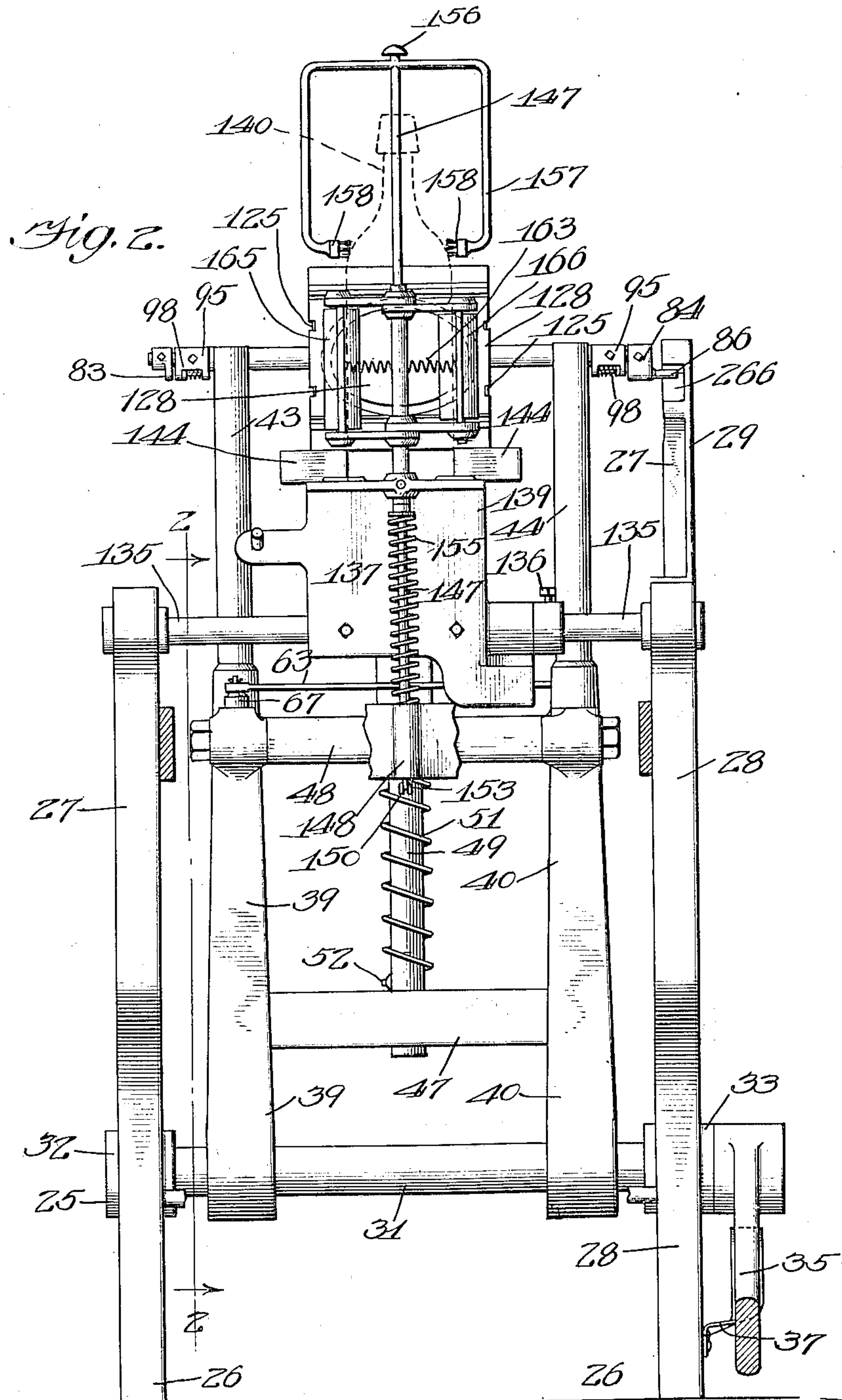
Samuel Fyfe
By Cheever & Co
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Witnesses:
J. B. New
Robert New

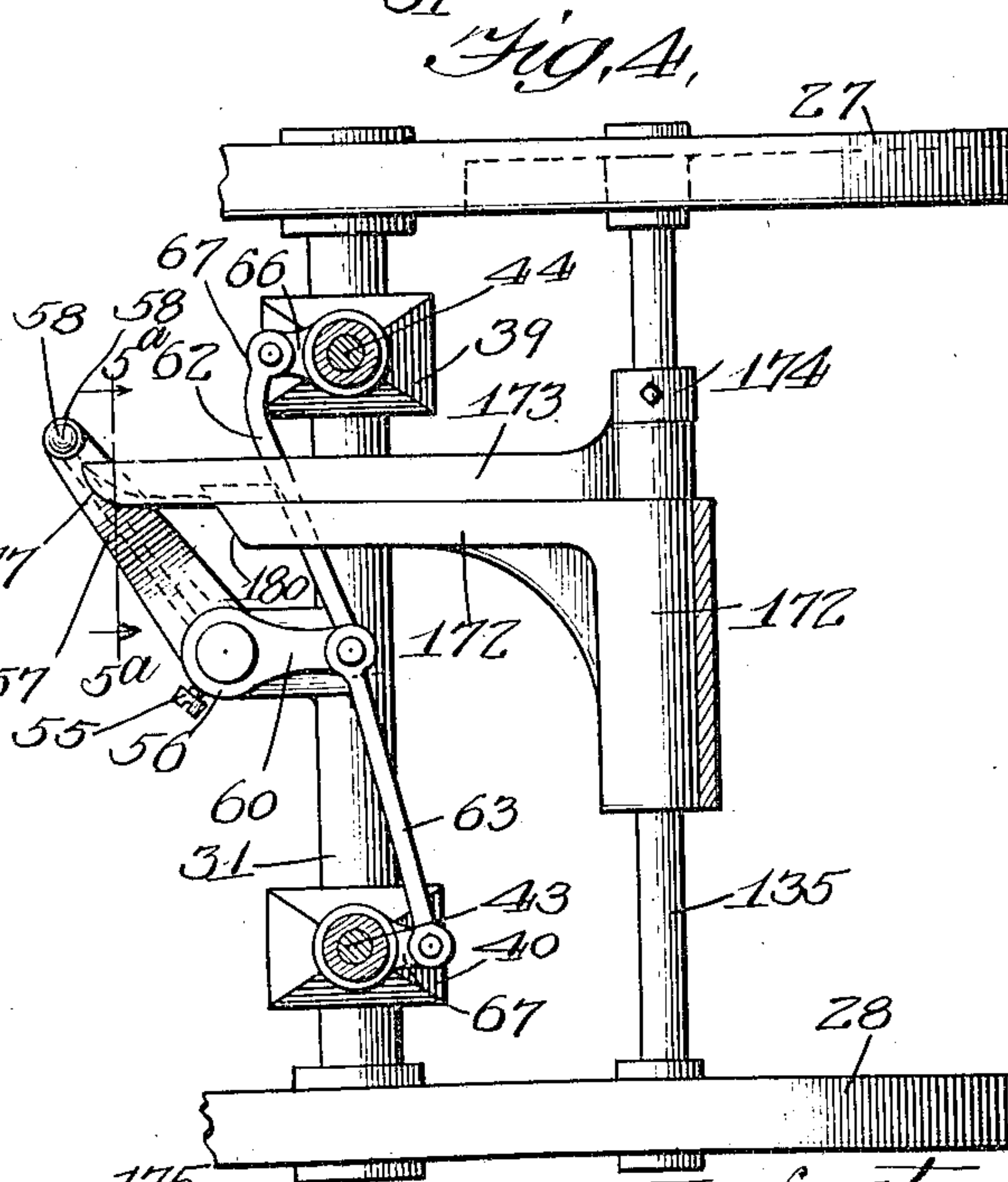
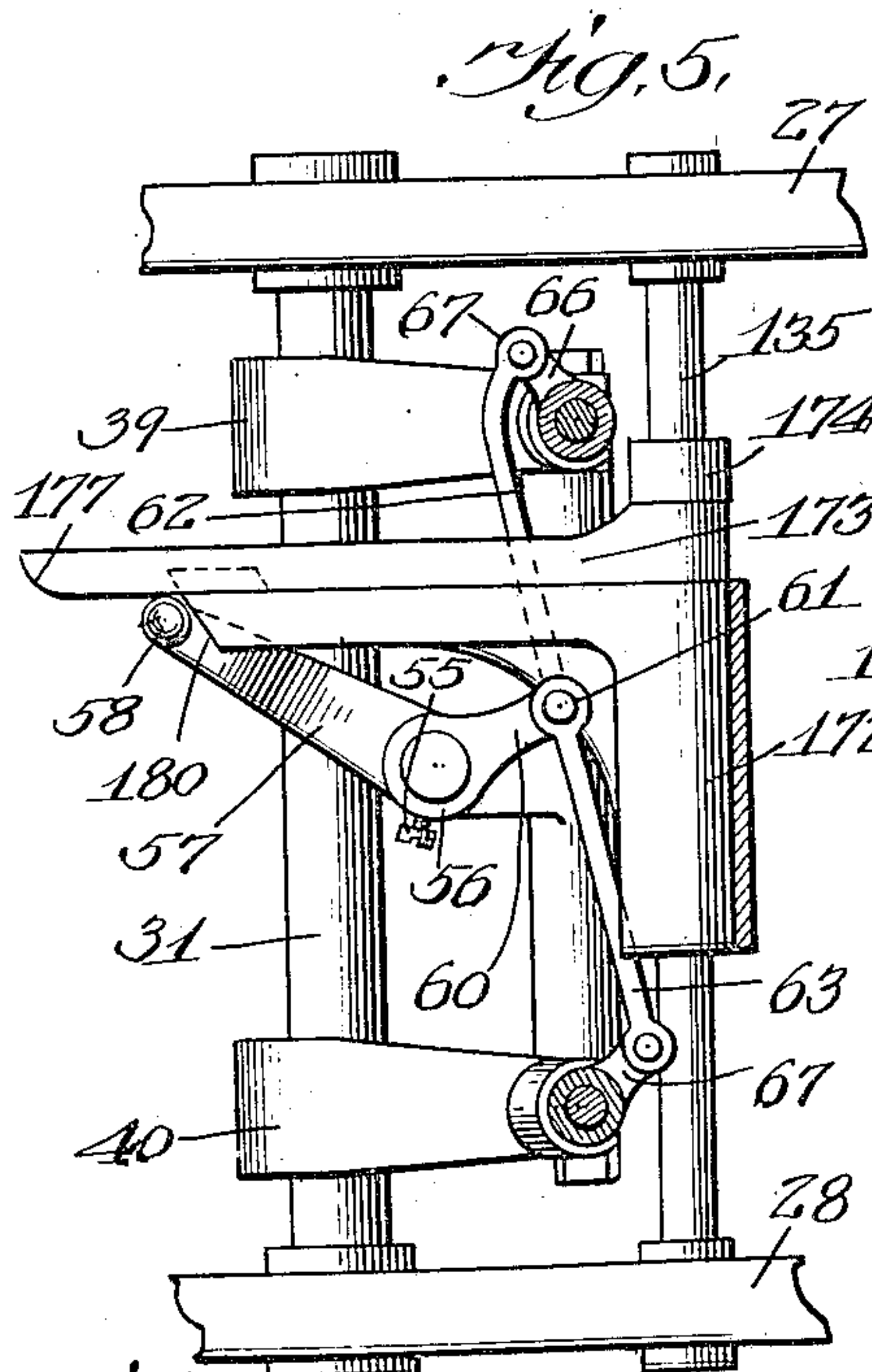
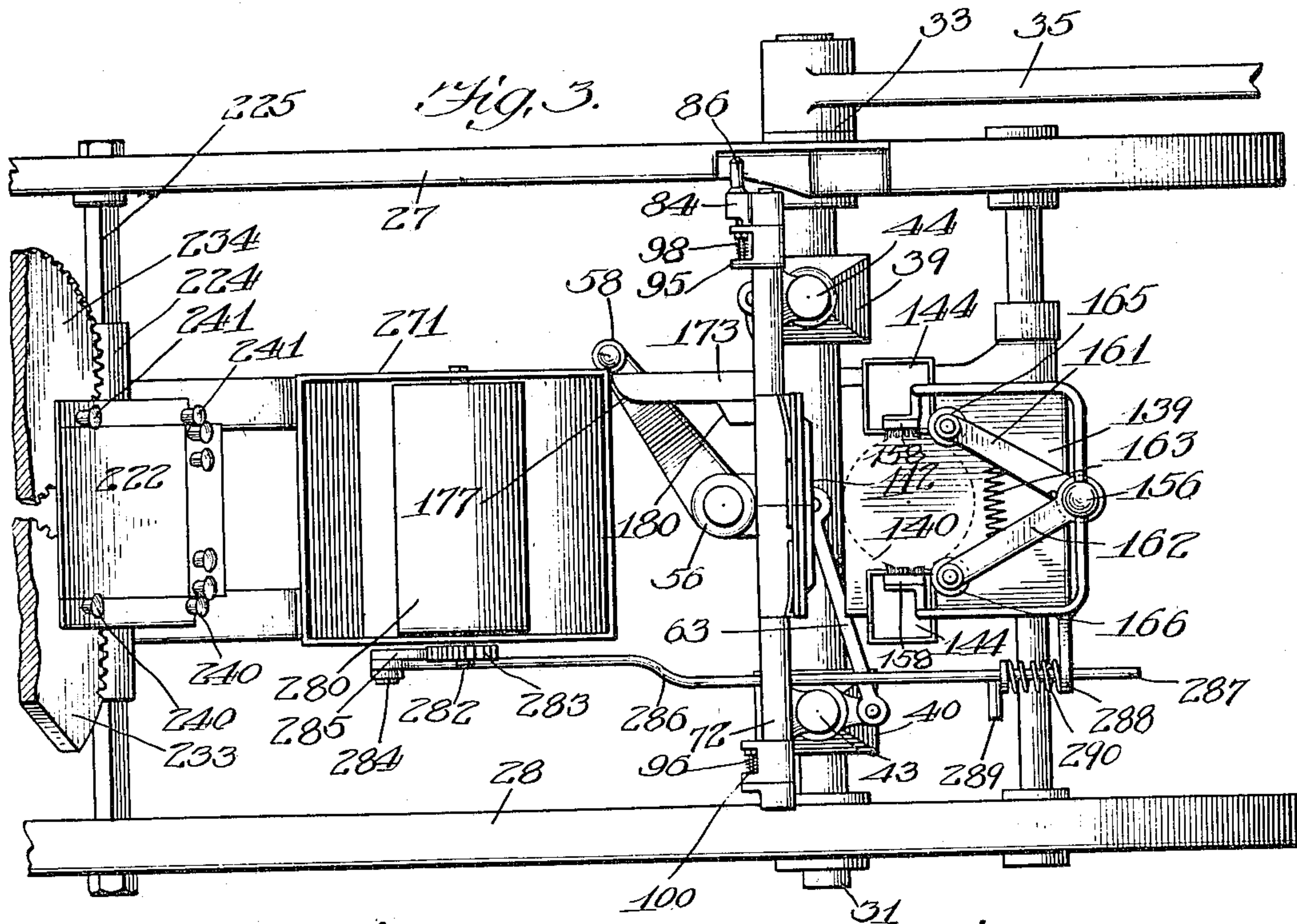
Inventor:
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5 SHEETS—SHEET 3.

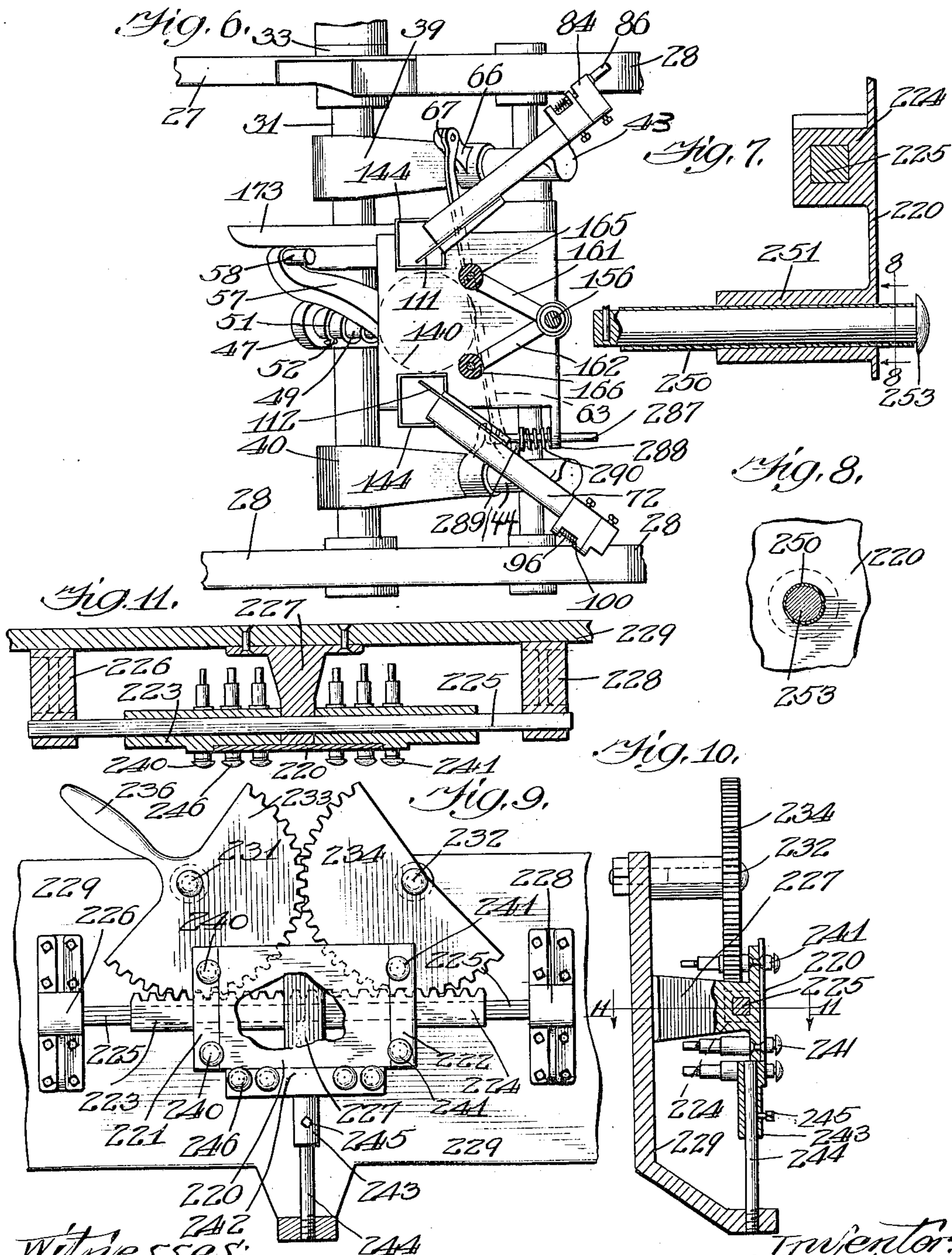


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5 SHEETS—SHEET 4.



Witnesses:
J. B. Weir
Robert H. Weir

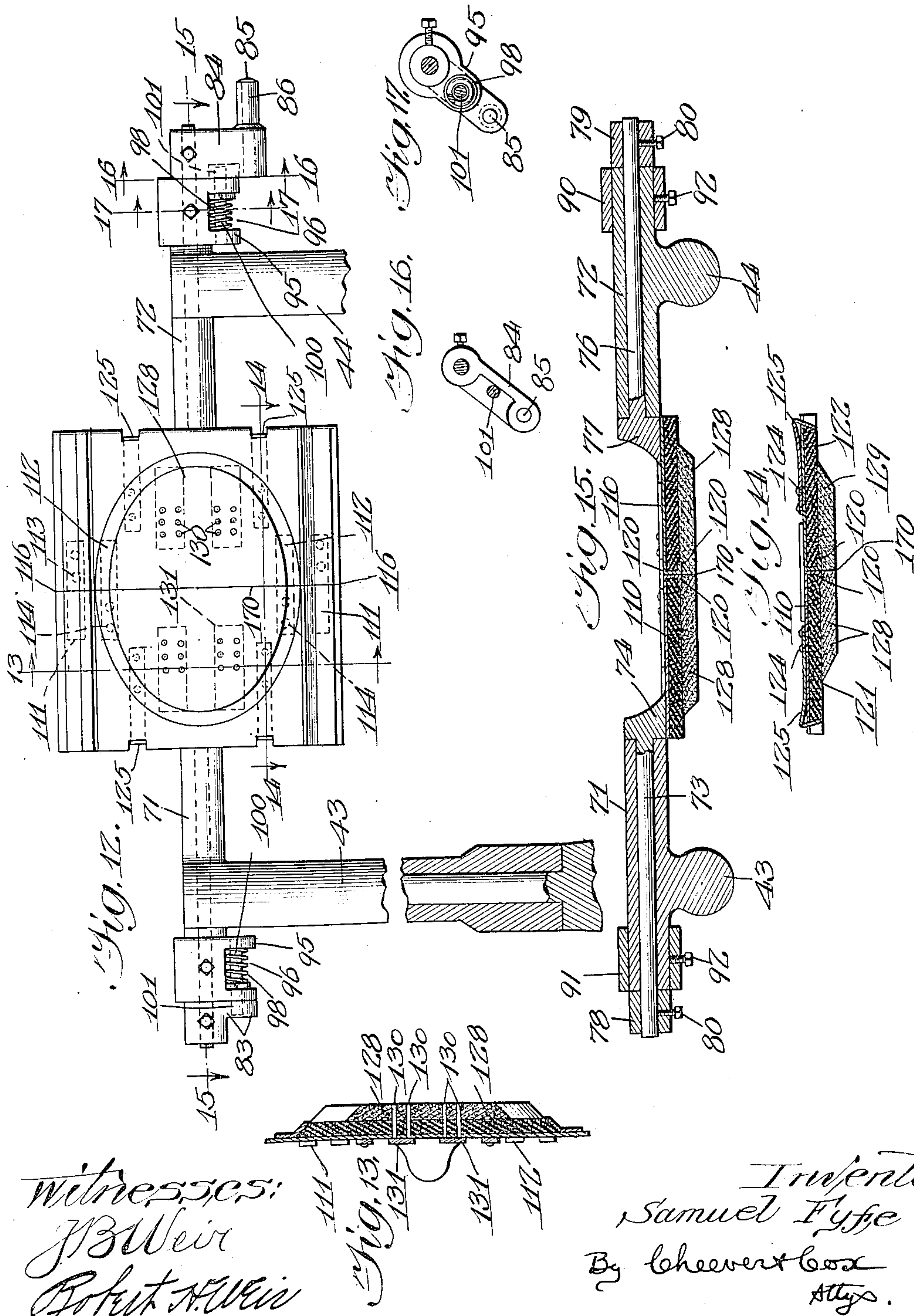
Inventor:
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5 SHEETS—SHEET 5.



Witnesses:
J. B. Weir
Robert H. Weir

Inventor:
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UNITED STATES PATENT OFFICE.

SAMUEL FYFE, OF CHICAGO, ILLINOIS.

BOTTLE-LABELING MACHINE.

No. 831,853.

Specification of Letters Patent.

Patented Sept. 25, 1906.

Application filed July 6, 1905. Serial No. 268,302.

To all whom it may concern:

Be it known that I, SAMUEL FYFE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Bottle-Labeling Machines, of which the following is a specification.

My invention relates to bottle-labeling machines, and is in general an improvement upon the device of my prior patent, No. 628,307, issued to me July 4, 1899.

The object of my invention is to provide improved mechanism for the machine of that patent whereby the machine will work much more positively, efficiently, and economically to apply the label to the bottle.

My invention consists in a novel form of mechanism by means of which the labeling mechanism after applying the label to the bottle travels back clear of the label and bottle, thereby avoiding the danger of stripping, wholly or partially, the freshly-applied label from the bottle; in means for flexibly mounting the bottle, so as to remove from the bottle jar or unnecessary pressure in the act of applying the label to the bottle; in a novel form of mechanism for wiping surplus paste from the edge of the label after the label has been applied to the bottle; in novel mechanism for holding the label-carrying mechanism in normal position when clear of the cams of the machine or other mechanism adapted to move the label-carrying mechanism from its normal position; in a novel form of label-carrying pad and mechanism for pneumatically securing the labels thereto; in a novel form of mechanism for adjusting the label-storage pad or holder for holding the different sizes of labels, and in a novel form of mechanism for holding different thicknesses of labels in said permanent storage-holder, so as to hold the remaining labels in the holder under proper tension as successive labels are removed by the machine and pasted upon the bottle.

It also consists in the combination of parts and details, which will be hereinafter more fully described and claimed as the specification proceeds.

Referring to the drawings, Figure 1 is a side view of a machine embodying my invention in its preferred form taken on the line 2 of Fig. 2. Fig. 2 is a front view of the machine looking at it from the right of Fig. 1. Fig. 3 is a plan view when all the parts are in the position of Figs. 1 and 2, which for con-

venience will be referred to as the "normal" position. Fig. 4 is a detail plan view of Fig. 1, showing the position of the cam-and-link mechanism for preventing the label-applying mechanism from stripping the pasted label from the bottle when the parts are in normal position, as shown in Figs. 1, 2, and 3. Fig. 5 is a detail plan view of the same parts as Fig. 4 when in the position which they assume after the label has been pasted onto the bottle. Fig. 5^a is a detail on line 5^a of Fig. 4. Fig. 6 is a detail plan view showing all the parts of the label-applying mechanism when in the extreme forward position—i. e., when the label has been applied to the bottle and the mechanism is ready to start back toward normal position. Fig. 7 is a sectional detail view through mechanism for securing the labels in the storage-receptacle, so that as successive labels are removed by the machine the remaining labels are still properly held in the receptacle. Fig. 8 is a sectional plan view on line 8 of Fig. 7. Fig. 9 is a detail plan view taken on the line 9 of Fig. 1, showing mechanism for adjusting the label-storage holder or receptacle for different-sized labels, different-shaped labels, and for adjusting them to center. Fig. 10 is a sectional end view of Fig. 9. Fig. 11 is a sectional plan view on line 11 of Fig. 10. Fig. 12 is a detail front view of the label-carrier, taken on line 12 of Fig. 1. Fig. 13 is a sectional side view of the label-carrying pad, taken on line 13 of Fig. 12. Fig. 14 is a similar view on line 14 of Fig. 12. Fig. 15 is a sectional plan view on line 15 of Fig. 12. Fig. 16 is a detail view of a crank-arm, taken on line 16 of Fig. 12. Fig. 17 is a detail view taken on line 17 of Fig. 12.

Again referring to the drawings, the numeral 25 indicates the main frame of the machine, having legs 26 resting upon the floor or other suitable support. This frame is made in two parts 27 and 28, as shown in Fig. 2, which as to their lower portions are identical. The frame 28 carries an upper extension 29, in which cam-tracks, to be hereinafter described, are mounted.

Journaled in the lower portion of the frame at 30 is a shaft 31, adapted to be rotated on its axis in bearings 32 and 33. On the outer end of this shaft 31 there is a lever 35, adapted to be normally operated by the foot of the workman applied at a point beyond Fig. 1, though it may be operated by other means. This lever is normally moved upward by

some sort of a spring—as, for instance, the spring 37, shown in Fig. 1.

Rigidly secured to the shaft 31 and normally rising therefrom vertically are two lever-arms 39 and 40, from which it will appear that partially rotating the shaft 31 by depressing the lever 35 will rock these lever-arms 39 and 40 backward and forward in a vertical plane. Extending from the upper ends of these levers 39 and 40 are studs or pins 42, (best shown in Fig. 1,) on which are journaled supplemental lever-arms 43 and 44. These supplemental lever-arms are carried by the main levers 39 and 40 as they are rocked backward and forward in a vertical plane, as described, and are also capable of being rotated upon the studs or pins 42, heretofore described.

Rigidly secured to or made integral with the lever-arms 39 and 40 are bearings 47 and 48, in which is journaled a vertical shaft 49. On this shaft 49 is a coiled spring 51, having one end rigidly secured to the shaft at 52 and the other end rigidly secured to the upper bearing 48 at 53. Rigidly secured to the upper end of the shaft 49 by means of a screw 55 or other suitable means is a collar 56, having extending from it a lever-arm 57, on the end of which is journaled a vertically-extending antifriction-roller 58, adapted to travel in a cam to be hereinafter described. Extending from the opposite side of the collar or hub 56 is another lever-arm 60, having pivotally secured at its end 61 two links 62 and 63. The opposite ends of these links 62 and 63 are respectively connected to short lever-arms 66 and 67, rigidly secured or made integral with the supplemental lever-arms 43 and 44, respectively. From an inspection of the drawings and the foregoing description it will readily be seen that rotating the shaft 49 upon its axis will cause the lever-arm 60 to move against the resistance of spring 51 in the arc of a circle and that this motion will be communicated through the links 62 and 63 to the lever-arms 66 and 67, and thereby rotate or rock the supplemental lever-arms 43 and 44 in opposite directions upon their bearings 42, heretofore described. From the foregoing it should, however, be understood that the shaft 49 can only be moved backward and forward through a relatively small arc of a circle to cause the operation described, for manifestly if a complete rotation were attempted the links and lever-arms would lock together. Extending toward each other from the upper ends of the supplemental lever-arms 43 and 44 are horizontal arms 71 and 72. These arms 71 and 72 are integral with the supplemental arms 43 and 44, as shown in Fig. 15. Journaled in the horizontal arm 71 is a shaft 73, carrying on its inner end one half, 74, of the label-carrier, and similarly journaled in the horizontal arm 72 is another shaft 76, carrying

on its inner end the other half, 77, of the label-carrier, to be hereinafter more fully described. On the outer ends of these shafts 73 and 76 are collars 78 and 79, rigidly secured to the shafts by screws 80 or other suitable means. Extending from the collars 78 and 79 are lever-arms 83 and 84, the lever-arm 84 having extending from it a pin 85, carrying an antifriction-roller 86, adapted to travel in a cam to be hereinafter described. When this roller 86 is traveling in the cam, it controls the position of the label-carrier half 71, which in turn, by mechanism to be hereinafter described, controls the label-carrier half 74; but when the roller 86 is out of contact with the cam the label-carrier would be free to assume any position its center of gravity might indicate were not other means provided for controlling its position, which I prefer to have normally upright. In order to hold the label-carrier mounted on the shafts 73 and 76 in such position, I rigidly secure to the horizontal arms 71 and 73 collars 90 and 91 by means of set-screws 92. While these collars should be rigidly secured in position for any given desired position of the label-holders, I make them adjustable by means of the set-screws 92, so that if the machine were used for a different-shaped bottle from that normally used and it were desired to therefore change the normal angle of the label-carriers, it could be done by loosening these screws 92 and rotating the collars 90 and 91 to a suitable position to maintain the different adjustments desired for the label carriers or holders. In these collars 91 and 92 or in arms 95 extending from them I cut notches or recesses 96 and in them mount springs 98. These springs 98 inclose latch-pins 100, which are horizontally slidable backward and forward within the notches or recesses 96 and have beveled latch ends 101, like an ordinary door-latch, extending into line with the arms 83 and 84, heretofore described. The bevel-faces of these latches 101 (not shown clearly in the drawings) so engage the lever-arms 83 and 84 that if the crank-arm 85 be taken hold of and rotated in one direction the lever-arms 83 and 84 will pass over the bevel-faces of the latches and force them inward against the action of the springs 98, so as to allow the lever-arms 83 and 84 to pass the latches, thereby permitting the continuous rotation of the shafts 73 and 76 in that direction; but if it is attempted to rotate the crank-pin 85 in the opposite direction the lever-arms 83 and 84 will, at some point in their first revolution, strike the backs of the latches 101, and thereby be stopped by the latch, so that the shafts 73 and 76 cannot be rotated in this direction past the latches. By this construction I am able by properly adjusting the positions of the collars 90 and 91 to so locate the latches that the label carriers or holders 74 77 will

always be held in one position when the crank-pin 85 is not in contact with the cam and that when said crank-pin is in engagement with a proper cam, to be hereinafter described, the label holders or carriers may be rotated by that cam in a complete circle.

The label carrier or holder is made in two parts 74 and 77, which numerals have heretofore been used as indicating the whole of each part. They will, however, be now described in detail.

Each half of the holder consists in a metal plate 110, rigidly connected to its shaft 73 or 76. On the backs of these two plates are fingers 111 and 112, those numbered 111 being rigidly secured by rivets 113 or other suitable means to one plate and overlapping the other, while the fingers 112 are secured by rivets or other suitable means 114 to the opposite plate and overlap the first plate, with the result that the half portions of the label carrier or holder are adapted as the supplemental lever-arms 43 and 44 are rotated on their axes to be swung away from each other or separated on the line 116, but that they are locked together when either is rotated on the axis of shafts 73 and 76.

The metal plates 110 heretofore referred to have on their inner ends where they abut together to form the complete label carrier or holder T-shaped flanges 120, (best shown in Figs. 14 and 15,) in which the inner ends of hard-rubber plates 121 and 122 are adapted to fit, as shown. Rigidly secured to the backs of the plates 110 by rivets 124 or other suitable means are spring-clips 125, adapted, as shown in Fig. 14, to fit around the outer edges of the hard-rubber plates 121 and 122 and hold them in contact with the plates 110 and in engagement with the T-shaped flanges 120. It will readily be seen that by springing these springs 125 off from the edges of the hard-rubber pieces 121 and 122 these pieces or plates may be readily removed.

While I prefer to make the plates 121 and 122 just referred to of hard rubber, they may be made of other material without departing from my invention. I make them of hard rubber, so that sponge-rubber faces 128 and 129 may be easily secured to them in the factory, preferably in one molding.

In order to assist in temporarily securing each label to the label-carrier, I bore through the sponge-rubber faces of the carrier and, in fact, the entire carrier-holes 130, and at the rear of said holes on the back of the carrier place flexible valve-plates 131. These valve-plates may be made of metal, rubber, or other flexible material. The purpose of this construction is to assist in holding a label upon the face of the soft-rubber carrier 120 by means of pneumatic suction created in the holes 130, and in order to insure non-leakage of air in the holes 130 I have the edges of the soft-rubber portion 128 adjacent to said

holes sealed by a rubber solution applied in the course of manufacture, so that air in the holes 130 will not leak through the porous rubber 128. From this construction it will be seen that when a label is pressed against the porous rubber face 128 of the carrier it creates a compression in that rubber, thereby squeezing out a portion of the air in the holes 130 in the plate and that when the pressure which applied the label to the porous-rubber face 128 is removed the rubber expands while the open end of the holes 128 are closed by the paper of the label, thereby forming a partial vacuum in the holes 130, and thus detachably, though lightly, securing the label to the face of the carrier. The forming of the vacuum just described is also in practice partially assisted by the concussion created by the label-carrier heretofore described, striking the face of the pile of labels in the storage-receptacle to be hereinafter described.

Connecting the front frame 27 and rear frame 28, heretofore described, is a rigid stationary shaft 135. Rigidly secured to this rod or shaft 135 by means of a bolt 136 or other suitable means is a bottle-supporting table 137, placed, as shown in Fig. 2, midway between the lever-arms 39 and 40 and perpendicular to the face of the label-carrier, which is, as heretofore described, supported by the supplemental arms 43 and 44, mounted upon said arms 39 and 40. On this table-support 137 is the table proper, 139, on which a bottle 140 (shown in dotted lines) is adapted to rest in such a position and at such a height that when the lever-arms 39 and 40 are moved slightly to the right from the position shown in Fig. 1 a label carried on the face 128 of the label-carrier will be applied to the bottle, as shown in Fig. 1, the label being indicated by the dotted lines 142. The method and the mechanism by which this is accomplished will be described more in detail hereinafter. On this table 139 on each side of the normal position of the bottle is a water pot or dish 144, adapted to have surplus paste left on the side of the bottle adjacent to the label wiped into them by mechanism to be hereinafter described. It should be understood that there is not often any considerable quantity of paste left at the side of the label, but merely a smear of paste which I design to remove and wash down into the receptacles or dishes 144. At the back of the table 139 is an upright standard 146, in which a rod 147 is adapted to slide up and down. The lower end of this rod 147 is also slidably mounted in a support 148, attached to the lower part of the machine, so that the rod is supported near each end. On the lower end of the rod 147 is attached a chain 150, which passes over rollers 151 and 152, journaled upon the frame, as shown in Fig. 1, and has its opposite end connected at 153 to the bearing or cross-bar 48, rigidly

connected to the lever-arms 39 and 40, from which it follows that when the lever-arms 39 and 40 are moved to the left in Fig. 1 the chain 150 will be drawn after it over the pulleys 151 and 152, with the result that the rod 147 is moved downward through its bearing against the action of spring 155. When the lever-arms 39 and 40 are moved in the opposite direction, the spring 155 will move the rod 147 upward to normal position, as shown in Fig. 1. On the upper end of the rod 147 is a handle 156, by means of which the operator can, by hand, depress the rod 147 against the action of spring 155 without moving the other parts of the mechanism just referred to. Extending from the upper portion of rod 147 are two arms 157, embracing the bottle 140 on opposite sides, as shown in Figs. 1 and 2. On the ends of these rods 157 are brushes 158, adapted to bear upon the sides of the bottle in the line 142 of the label, from which it follows that when the rod 147 is depressed in the manner heretofore described these brushes will be moved down the edge of the label on the bottle and wipe any paste or paste smear into the water-dishes 144. These brushes 158 may be permanently or detachably secured to the arms 157, and they may be secured in a horizontal line, as shown, or at an angle to the horizontal, as desired. In practice I prefer to remove the bottle which has just been labeled before allowing the spring 155 to return the brushes in normal position after they have wiped the paste from the label, then allow the brushes to return to normal position, and then put in a new bottle; but manifestly the brushes may be returned while the original bottle is in the position shown without departing from my invention.

Journalled at 160 and 161 upon the standard 146, heretofore described, are two lever-arms 161 and 162, connected together by a spring 163. On the ends of these lever-arms 161 and 162 are rollers 165 and 166, adapted to bear upon opposite sides of the rear portion of the bottle 140, from which it will be seen that if the bottle is jarred by the face 128 of the label-carrier striking it it will be moved in between the arms 160 and 162 a slight distance against the action of the spring 163, thereby relieving the bottle from the danger of being broken by the too sudden action of the label-carrier, which exists where no such spring relief mechanism as that just described is used.

In the operation of the portion of the machine which has been heretofore described in this specification the mechanism may be considered as normally in position of Figs. 1, 2, and 3, with a label upon the face 128 of the label-carrier, said label being gummed by mechanism to be hereinafter described and ready to be applied to the bottle. The operator depresses the lever 35, thereby moving

the lever-arms 39 and 40 to the right in Fig. 1 until they ultimately assume the position shown in Fig. 6. In so doing the label-holder has applied the label to the bottle and the two halves of the label holder or carrier have passed to each side of the bottle, as shown in Fig. 6. If now the parts here under discussion should be returned directly to normal position, either the fingers 111 and 112 or inner corners 170 of the faces 128 of the label-carrier would engage the edge 142 of the label and strip it from the bottle. I avoid this misfortune by providing the stationary cam 172, mounted upon the shaft 135, and a latch-cam 173, journaled adjacent to said stationary cam, and the collar 174, these cams being adapted to be engaged by the roller or pin 58 in the manner heretofore described. The under side of this latch-cam 173 is beveled in the surface 175, so that as the roller 58 moves from the position Fig. 4 toward the position of Fig. 5 it lifts the latch-cam 173 and allows the pin to pass under it, while when the parts are in the position shown in Fig. 5 the pin 58 can only return to the position of Fig. 4 by traveling around the curved line 177 of the latch-cam. This latch-cam slightly overlaps the stationary cam 172, which has an angular face 180, against which the roller 58 is adapted to bear. When now in the operation of this portion of the device the operator depresses the lever 35, he causes the label-carrier to be moved to the right in Fig. 1 until the label upon the carrier strikes the bottle 140. As soon as this occurs and the depression of the lever 35 continues the bottle 140 causes the label-carrier to split in the middle on the line 116, heretofore described, and each part tilt back as its supplemental lever 43 and 44 turns on its journal-bearing 42, or, in other words, the parts travel to the position of Fig. 6. During this operation the pin 58 travels under the latch-cam 173 until it strikes the angular face 180 of stationary cam 172. As soon as this occurs the roller 58 travels along this face 180 a sufficient distance to allow the latch-cam 173 to drop back to normal position. This angular face 180 of the stationary cam is so shaped that as the roller 58 travels along it the link mechanism 62 and 63 throws the halves of the label-carrier a sufficient distance to the sides of the bottle—that is to say, outward, away from the bottle—so that no portion of the label-carrier touches the bottle, the halves of the label-carrier being held in vertical position by the latches 101, heretofore described. As soon as this outward motion is completed the pin 58 passes out from under the latch-cam 173 and it drops down to normal position. This operation just described has put a tension upon the spring 51, mounted upon the shaft 49, and when now the operator releases the lever 35 the tension of this spring 51 assists the spring 37 in returning all the parts to the

normal position, and particularly causes the roller 58 to travel back around the curved end 177 of the latch-cam 173, in so doing holding the half of the label-carrier clear of the bottle. As the roller passes off from this end 177 of the cam the spring 51 causes the halves of the label-carrier to swing back upon the journals 42 to the normal position, with the fingers 111 and 112 locking the plates together, as heretofore described, so that they may be simultaneously rotated for the purpose of having another label applied to them in the manner to be hereinafter described.

I will now describe the method of applying the labels to the label-carriers heretofore described. For this purpose I provide at the rear of the machine a permanent storage-receptacle 220. This receptacle consists of a flat plate 220 proper, having on its ends supplemental portions 221 and 222, each of which are rigidly secured to racks 223 and 224, adapted to slide backward and forward along the rod 225, mounted in suitable supports 226, 227, and 228, rising from the rear portion of the frame of the machine 229. Pivoted upon this portion 229 of the machine at 231 and 232, respectively, are semi-circular gears or pinions 233 and 234, meshing together, as shown. On one of these gears is a handle 236, adapted to be grasped by the operator to change the positions of these gears. The gears 233 and 234 mesh with the racks 223 and 224, from which it follows that by moving the handle 236 the racks may be moved along the rod 225 in opposite directions and equal amounts, so that paper labels placed upon the receptacle 220 between the pins 240 and 241 at opposite ends of the receptacle may be held in position by those pins irrespective, within reasonable limits, of the size and shape of the labels so placed in the receptacle. It will also be seen that as the racks and attached parts move away from and toward the center of the receptacle at the same rate of speed the pins 240 and 241 will serve to center the labels in their receptacles. In order to provide a side adjustment for the labels, I provide a supplemental plate 242, rigidly secured to a sleeve 243, adapted to move along the rod 244, detachably secured thereto by the thumb or set screw 245. This supplemental plate 242 also has pins 246, against which the labels rest. In order to provide for the holding of labels in the receptacle after some have been removed, I make these pins 240, 241, and 246 in the manner shown in Figs 7 and 8, consisting of split tubes 250, snugly fitted in bosses 251 on the under side of the plate 220, the flanges 253 on the heads of rods slidably clamped in the tubes being adapted to fit or lap over the edges of the labels. When the label-carrying mechanism, heretofore described, strikes the label-receptacle containing the pile of labels having their edges under

the flanges 253, heretofore described, the label-carrier picks up a label from the pile of labels in the receptacle and simultaneously drives the tubes 250 and contained rods in a very small amount, so that the flanges 253 are in approximately the same position with reference to the second label (now the first label) that they were to the label which has been removed. During this operation the tubes and contained rods fit sufficiently tight in the bosses 251, so that they are not moved too far. One special function which I claim for these pins is that they hold the labels in sufficiently loose position, so that the top label may be moved without material difficulty, while retaining the remaining labels sufficiently so that they will not come off with the first or top label as it is removed.

In the cam supplemental portion 29 of the frame I provide a cam-track 261, 262, 263, 264, 265, and 266, in which the roller 86 on pin 85, heretofore described, is adapted to travel in the order named from the normal position of Fig. 1 to take a label from the label-receptacle and carry it back to the position of Fig. 1, where it is ready to apply the label to the bottle.

As the roller 86 passes along the portion 261 of the cam-track it tilts the label-carrier so that the face 128 of the label-carrier is upward, and as the arms 39 and 40 are moved farther on toward the label-receptacle at the left of Fig. 1 the face of the label-carrier is passed under a roller 270, journaled beneath a water-receptacle 271 and adapted to move up and down against the action of spring 272. In the under side of this water-receptacle 271 is a small faucet 273, by means of which water from the receptacle may be allowed to drop upon the roller 270 and from it be communicated to the face 128 of the label-carrier.

It will of course be understood that the crank-pin 85 is caused to travel in the portion 261 of the cam-track, because the spring 37, bearing on the lever 35, causes the lever-arms 39 and 40 to travel to the left in Fig. 1 toward the label-receptacle 220. As the pin 85 so travels along the cam-track 261 and passes the face 128 of the label-carrier under the roller 270 in the manner heretofore described, the roller 86 on the pin 85 passes along track 262 and lifting the latch 275, pivoted at 276 and weighted at its end 277, passes into the cam-track 273. This cam-track 262 is so shaped that it causes the face 128 of the label-carrier to be tilted from the horizontal position under which it passed roller 270 to a position where it is parallel to and ready to come into contact with the labels in the label-receptacle 220. A further continuation of the motion of the lever-arms 39 and 40, just described, brings the label-carrier in contact with the labels in the label-receptacle, from which the label-carrier picks one label in the manner heretofore described,

the label being held upon the face of the label-carrier first by the water communicated to it from the roller 270 and second from the suction in the tubes 130, as heretofore described. The operator now depresses lever 35, thereby starting the label-carrier toward the normal position, or, in other words, causes the pin 85 to travel back in the cam-track 263 and thence into portions 264 and 265 of the track. As this takes place the label-carrier is tilted by the portion 264 of the cam-track to such a position that the label on the label-carrier is passed over a paste-wheel 280, rotating in a paste-receptacle 281, and given a coat of paste upon the face which is to be applied to the bottle. After this is done the pin 85 continues to travel in the portion 265 of the cam-track and thence into the portion 266 of the cam-track, which is so shaped that it tilts the label-carrier with the pasted label upon it into the upright position, (shown in Fig. 1.) where it is ready to apply the label to the bottle in the manner heretofore described. This paste-roller 280 is mounted upon a shaft 282, carrying a ratchet-wheel 283. Pivoted on the side of the paste-receptacle 281 is a ratchet-dog 285, connected to a rod 286, extending across the machine and having its opposite end 287 slidably mounted in the frame at 288. On this rod 286 is a pin 289, adapted to be engaged by the supplemental lever 43 to move it against the action of coil-spring 290, mounted upon the rod 286. When the lever-arms 39 and 40 are moved to the position of Fig. 6, the lever-arm 43 engages this pin 289, and thereby causes the ratchet-dog 285 to move the ratchet 283 one tooth, thereby presenting a different portion of the paste-roller 280 to the label-carrier the next time it passes over the paste-roller. The special advantage in this construction lies in the fact that the paste-roller is held stationary at all times except when moved one tooth, as just described, with the result that the paste runs down from the top of the roller, leaving only enough on the top of the roller to smear the label with paste, thereby doing away with the great excess of paste which would be applied to the label were this paste-roller 280 free to rotate on its axis as the label is carried over it. I find in practice that sheepskin with the wool upon it applied to the roller 280, the wool being in contact with the paste, makes by far the most satisfactory material for covering this roller.

In the general operation of the machine the operator first places a supply of labels upon the label-receptacle 220, adjusting it to the size and shape of the label in the manner heretofore described. He places paste in the receptacle 281, water in the receptacle 271, and places a bottle to be labeled upon the table 139, as shown. He now allows the spring 37 to carry the lever-arms 39 and 40 to the

left in Fig. 1 until the face of the label-carrier 128 picks up a label from the label-receptacle in the manner heretofore described. He now depresses the lever 35, thereby moving the lever-arms 39 and 40 to the right and causing the label upon the label-carrier to pass over the paste-roller 280 and up to the position of Fig. 1. The operator now continues the depression of the lever 35, thereby applying the label to the bottle in the manner heretofore described. The operator now releases the lever 35, and the half portions of the label-carrier pass back in the manner heretofore described clear of the bottle, after which they are returned by the action of spring 51, as heretofore described, to the normal position, as shown in Fig. 1. As the operator starts to repeat the operation thus described and the levers 39 and 40 again move to the left they pull upon the chain 150, thereby moving the brushes 158 down the edges of the label upon the bottle and wiping the surplus paste or smear of paste off into the water-receptacle 144, heretofore described. As soon as this operation is completed the operator removes the labeled bottle and either at that time or after the brushes 158 have been returned to normal position by the spring 155 inserts another bottle to be labeled, and the operation is repeated.

For convenience the machine has been described as applying a label to a bottle; but it may be used for applying labels to many other objects, and the word "bottle" as used in the claims is to be broadly construed accordingly.

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

1. In mechanism of the class described, in combination with a support for a bottle to be labeled and mechanism adapted to be moved in one direction to apply a label to the bottle and to be returned to original position; a cam mechanism adapted to hold the label-applying mechanism out of contact with the bottle during said return stroke of said label-applying mechanism.

2. In mechanism of the class described, in combination with a support for a bottle to be labeled and mechanism adapted to be moved in one direction to apply the label to the bottle and to be returned to original position; a latch-cam adapted to allow the label-applying mechanism to move in contact with the bottle during said forward stroke and adapted to hold said mechanism out of contact with the labeled bottle during said return stroke.

3. In mechanism of the class described, in combination with a support for a bottle to be labeled, and mechanism adapted to be moved in one direction to apply the label to the bottle and to be returned to original po-

sition and a latch-cam adapted to be automatically swung out of the way of said label-applying mechanism during said forward stroke and having a face adapted to hold said label-applying mechanism out of contact with the labeled bottle during its return stroke and a stationary cam adapted to be engaged by the label-applying mechanism at the end of its forward stroke to throw said mechanism out of contact with the labeled bottle and into engagement with said latch-cam.

4. In mechanism of the class described, in combination with a support for a bottle to be labeled; a label-applying mechanism made in two parts and adapted to pass on opposite sides of a bottle to apply a label thereto, spring mechanism adapted to hold said label-applying mechanism in contact with the bottle during the act of applying the label and cam mechanism adapted to move the parts of the label-applying mechanism away from the bottle so that they may be returned to the original position out of contact with the bottle.

5. In mechanism of the class described, in combination with a support for a bottle, two lever-arms pivotally mounted on approximately the same axis back of the bottle having ends bearing upon the bottle and spring mechanism connecting the two levers adapted to hold said lever-arms in contact with the bottle.

6. In mechanism of the class described, in combination with a table for a bottle, a post or other support rising back of said bottle on the table, a pair of lever-arms pivoted upon the said upright support, rollers upon said lever-arms adapted to bear upon the bottle and spring mechanism adapted to hold said lever-arms in such a position that the rollers are in contact with the bottle.

7. In mechanism of the class described, a table to support a bottle, a support or post rising from said table adjacent to the bottle, a pair of lever-arms pivotally mounted on said post having their opposite ends bearing against the bottle and a coiled spring connecting said lever-arms midway between their pivotal points and their points of contact with the bottle adapted to hold said lever-arms in contact with the bottle.

8. In mechanism of the class described, in combination with a support for a bottle and mechanism adapted to apply a label thereto; mechanism mounted upon the machine adapted to be moved along the edge of the label pasted upon the bottle for the purpose of removing surplus paste therefrom.

9. In mechanism of the class described, in combination with a support for the bottle and mechanism adapted to paste a label thereon; automatic mechanism operated by the main machine for wiping away the sur-

plus paste or paste smear upon the bottle at the edge of the label pasted thereon by the machine.

10. In mechanism of the class described, in combination with a table adapted to support a bottle and mechanism adapted to apply a label to the bottle; a rod so mounted that it can be moved up and down substantially parallel to the axis of the bottle upon the table and brushes carried by said rod adapted to bear upon the sides of the bottle adjacent to the edges of the label pasted upon the bottle by the machine, whereby moving said rod up or down wipes away the paste or paste smear, from the edges of said label pasted upon the bottle.

11. In mechanism of the class described, a table adapted to support a bottle having a label thereon, a rod adapted to be moved up and down with reference to the table, a spring adapted to normally hold said rod in raised position and a pair of brushes carried by said rod normally bearing against the upper portion of said bottle above the vertical edges of the label whereby depressing said rod causes said brushes to wipe the vertical edges of said label upon the bottle.

12. In mechanism of the class described, the combination of a table adapted to support a bottle with a label pasted thereon water-cups upon the table on each side of the position for the bottle and below the label thereon and mechanism for wiping paste upon the vertical edges of the label upon the bottle into said water-dishes.

13. In mechanism of the class described, in combination with a support for a bottle with a label thereon and mechanism adapted to be moved backward and forward for the purpose of applying a label to the bottle; a label-carrier journaled in the said mechanism adapted to be rotated on its axis in one direction during the operation of the machine and a latch adapted to prevent said label-carrier rotating completely around upon its axis in the opposite direction, substantially, as set forth.

14. In mechanism of the class described, the combination of a frame or bearing in which a label-carrier is adapted to rotate, a crank-arm mounted upon the shaft of the label-carrier and a latch mounted upon the support adapted to allow the label-carrier to rotate freely on its axis in one direction and to prevent such rotation in the opposite direction substantially as described.

15. In mechanism of the class described, a label-carrier having a T-shaped flange adapted to be engaged by the face material of the carrier, and spring-clips adapted to slip over carrier-face material placed in said T-shaped clips to hold the same in contact with the carrier.

16. As an article of manufacture for use in

mechanism of the class described, a carrier back plate having detachably secured thereto a label-carrying pad composed of a sheet of hard rubber having a facing of sponge-rubber secured thereto.

17. In mechanism of the class described, a label-carrier having a portion of its face made of compressible material, a plurality of holes through said carrier open to the face of the carrier and flexible pieces on the rear of the carrier closing said holes.

18. In mechanism of the class described, the combination of a plate on which the labels are adapted to rest, two racks mounted beneath the plate means for moving said racks backward and forward in opposite directions at equal speeds, and label-holding mechanisms adapted to engage labels upon said plate and detachably hold them thereon each mounted upon one of said racks whereby as said racks are moved backward and forward they move the label-holding mechanisms backward and forward.

19. In mechanism of the class described, the combination of a plate adapted to receive a label, mechanism on opposite sides of said plate adapted to hold said labels upon the plate, a rack connected to each of said label-holding mechanisms, a pair of gears meshing with each other one gear meshing with each rack as described for moving said mechanisms simultaneously to or from said plate for the purpose of holding different-sized labels in position and mechanism adjustably mounted upon a third side of the plate adapted to be moved to different positions to hold said labels upon the plate.

20. In mechanism of the class described, a plate adapted to receive a pile of labels a plurality of movable members movably mounted vertically to said plate having heads adapted to lap over the edges of labels upon the plate the fit of said movable members in the plate being such that the blow or jar of a label-carrying mechanism picking a label off from the plate will force said movable members inward toward the plate a sufficient distance to cause them to hold the remaining labels upon the plate.

21. In mechanism of the class described in combination with a moving label-carrier adapted to pick up labels and paste them upon a bottle, a storage-receptacle adapted to carry a stock of labels and to be engaged by said label-carrier; a plurality of pins made out of split tubes mounted in the frame of said permanent storage-chamber, said tubes carrying head-flanges fitting over the edges of the labels in the storage-chamber and adapted to be engaged by the label-carrying mechanism as it picks a label from the storage-receptacle, the fit of said tubes being such that they are driven into the frame of the receptacle or holder by the label-carrying mechanism a sufficient distance to hold the

remaining labels upon the holder while the first label is being withdrawn by it.

22. In mechanism of the class described, the combination of a water-receptacle 271, a roller 270 for water mounted upon the frame of the water-receptacle and adapted to be moved up and down with reference to the receptacle, a faucet 273 adapted to drip water from said receptacle upon the roller a label-carrier and mechanism adapted to pass the label-carrier under said water-roller.

23. In mechanism of the class described, the combination of a support for the bottle, a storage-receptacle for labels and a label-carrier adapted to travel between the bottle and the storage-receptacle for labels for the purpose of applying labels to the bottle; a paste-roller intermediate between said bottle and label-storage receptacle, a paste-receptacle in which said roller dips and automatic means for turning said paste-roller a slight portion of one complete revolution during each oscillation of the label-carrier whereby as said label-carrier passes over the paste-roller, paste is applied to the label upon the carrier without the paste-rollers being rotated thereby.

24. In mechanism of the class described, in combination with a support for a bottle, and a storage-receptacle for labels; a label-carrier adapted to be moved backward and forward between the label-storage receptacle and the bottle, means for applying water to the face of the label-carrier as it goes toward the storage-receptacle, means for causing the label-carrier to there pick up a label means for causing said label-carrier to then pass the label upon it over a source of paste whereby the label is moistened with paste, means for then applying the label on the label-carrier to the bottle, means for causing the label-carrier to press the label upon the bottle in the act of applying it, means for then moving the label-carrier clear of the bottle during its return stroke to its original starting-point and automatic means operated by the machine for wiping away paste or paste smear upon the edges of the label pasted upon the bottle by the machine.

25. In mechanism of the class described the combination of a support for a bottle, a pair of lever-arms adapted to be rocked in planes approximately parallel to the central axis of the bottle, a label-carrier to engage the bottle for the purpose of applying a label thereto made in two parts each of said parts being pivoted to one of said levers, and mechanism connected to each of said levers and to a single spring mechanism adapted to hold said label-carrier portions in normal position.

26. In mechanism of the class described, the combination of a support for a bottle, a pair of lever-arms adapted to be rocked in planes approximately parallel to the axis of the bottle, a label-carrier adapted to engage

the bottle to apply a label thereto made in two parts, each of said parts being pivoted to one of said levers, a single spring mechanism carried by said lever-arms and a link connection between said spring mechanism and the parts of the label-carrier adapted to hold said label-carrier in normal position.

In witness whereof I have hereunto subscribed my name in the presence of two witnesses.

SAMUEL FYFE.

Witnesses:

DWIGHT B. CHEEVER,
CAROLYN RAFTERY.