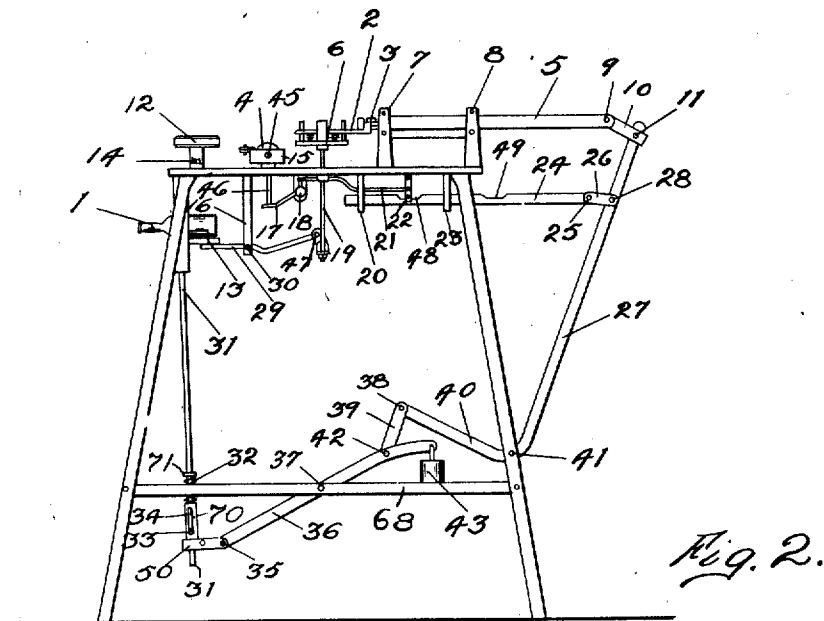
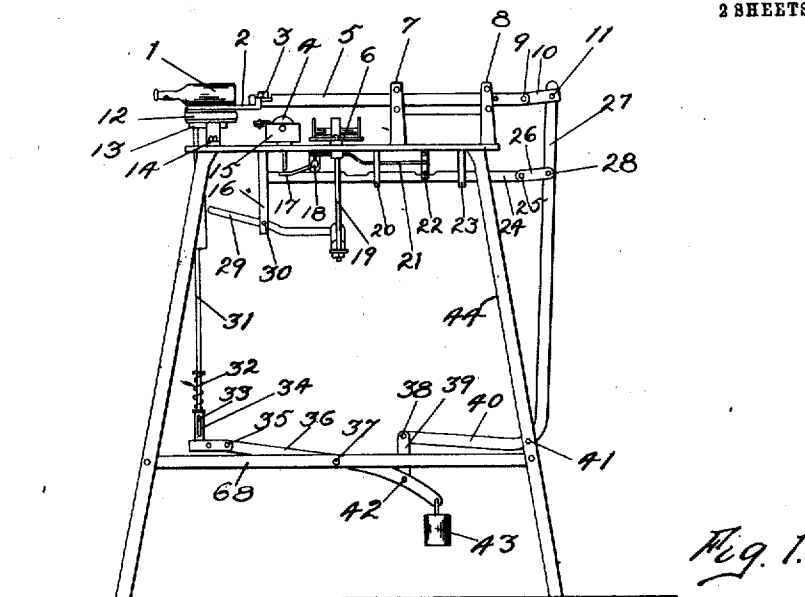


C. A. FOSSELMAN.
BOTTLE LABELING MACHINE.
APPLICATION FILED OCT. 26, 1908.

930,464.

Patented Aug. 10, 1909.

2 SHEETS—SHEET 1.



WITNESSES:

H. B. Burr.
Ira Scott.

BY

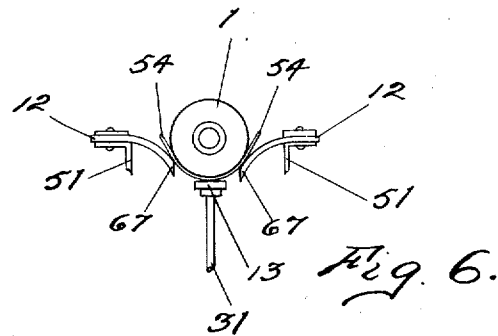
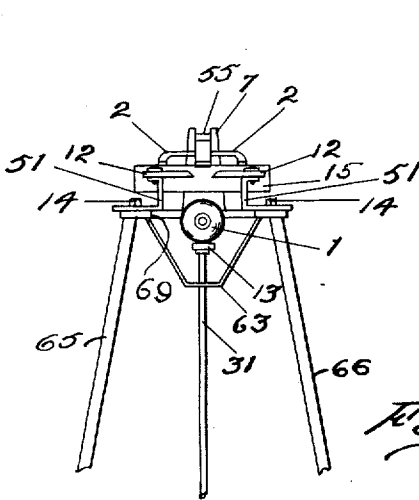
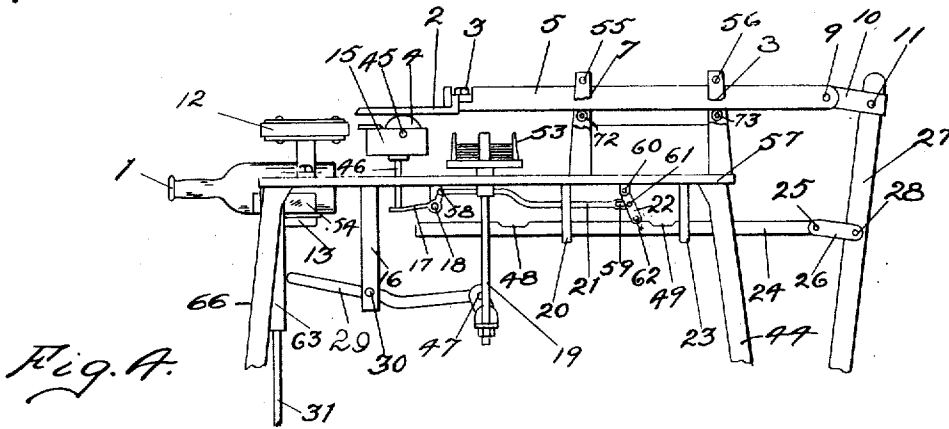
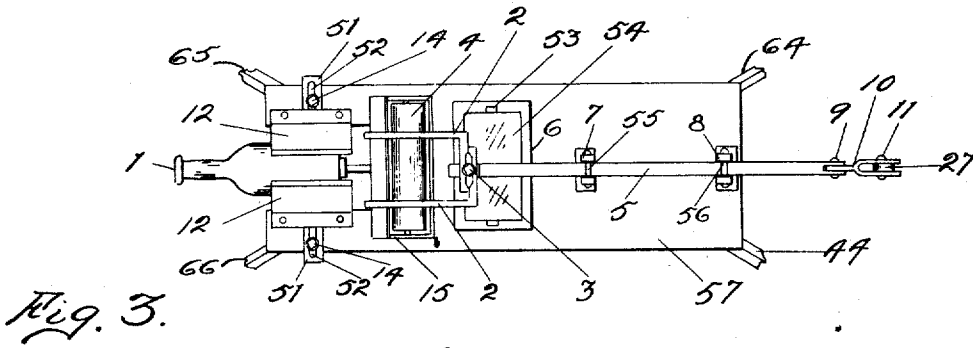
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WITNESSES:
H. B. Burr.
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UNITED STATES PATENT OFFICE.

CHRISTIAN A. FOSSELMAN, OF WAVERLY, IOWA.

BOTTLE-LABELING MACHINE.

No. 930,464.

Specification of Letters Patent.

Patented Aug. 10, 1909.

Application filed October 26, 1908. Serial No. 459,442.

To all whom it may concern:

Be it known that I, CHRISTIAN A. FOSSELMAN, a citizen of the United States of America, and a resident of Waverly, Bremer county, Iowa, have invented certain new and useful Improvements in Bottle-Labeling Machines, of which the following is a specification.

My invention relates to improvements in bottle-labeling machines, and the object of my improvements is to provide an inexpensive, simple and effective apparatus for gumming labels to bottles, and which can be easily operated by one workman without the assistance of other power or appliances. This object I have accomplished by the mechanism which is hereinafter fully described and claimed, and which is illustrated in the accompanying drawings, in which:

Figure 1 is a right-hand side elevation of my improved bottle-labeling machine, showing its coacting parts in the positions which they assume when the bottle is about to be passed through the machine to be labeled. Fig. 2 is another right-hand side elevation of said machine, showing the said coacting parts in their appropriate positions assumed at the end of the process of affixing a label to the bottle. Fig. 3 is an upper plan view of said machine, showing its coacting parts in their intermediate working positions. Fig. 4 is an enlarged right-hand side elevation of said machine, with the coacting parts in an intermediate position, parts of said machine being broken away. Fig. 5 is an enlarged front elevation of said machine, with parts thereof broken away. Fig. 6 is an enlarged detail of the label rubbers, showing them in their action of affixing a label to a bottle.

Similar numbers refer to similar parts throughout the several views.

The table 57 is supported on corner-posts 44, 64, 65 and 66, the posts 44 and 66, and 64 and 65 being connected by horizontal bars 68. The table 57 is in the form of an oblong rectangle, and has a rectangular recess in its front end for the passage of the bottle downward therethrough. Uprights 51 projecting from slotted base-plates are secured to the plate 57 on each side of the recess 69 adjustably by means of bolts 14 passing through said plate and the slots 52 of the base-plates. To each of the uprights 51 is secured a thick rectangular piece of rubber 12, in parallel relation to each other and spaced apart with their inner beveled edges 67 di-

rected toward each other. Underneath the separated beveled edges of the soft rubber pieces 12 is a plunger-head 13 secured to the upper end of a plunger-rod 31, the latter adapted to work vertically through a perforation in a hanger 63. The lower end of the rod 31 is movably seated in a sleeve 70 secured to the end of a swivel 50, the latter being connected to the forward end of a lever 36 on a pintle 35. The sleeve 70 has a longitudinal slot 34, into which projects a stud 33 slidably from the rod 31. A coiled compression-spring 32 is seated about the rod 31, between and engaging a fillet 71 on said rod and the top of said sleeve 70. The lever 36 is medially pivoted on a cross-shaft 37 which extends from one side-bar 68 to the other. A weight 43 is suspended from the rear end of the lever 36, while a link 39 is pivotally connected at 42 to the rear member of said lever and to the end of the forward member 40 of another lever 27 at 38. The lever 27 is medially pivoted on a cross-shaft 41 which connects the two rear posts 44 and 64, and the rear member of said lever is bent upwardly, its upper end being pivotally connected at 28 and 11 to the links 26 and 10 respectively.

7 and 8 are alined uprights spaced apart in the longitudinal central line of the plate 57, and having their upper ends vertically grooved to receive a slide-bar 5 therein. Anti-friction rollers 72 and 73 are mounted in the grooves of said uprights respectively to support said slide-bar 5, the upper bifurcations of the uprights being connected above said bar by means of the cross-pins 55 and 56 respectively. The rear end of the slide-bar 5 is pivotally connected to the link 10 by a pintle 9.

The forward end of the slide-bar 5 is vertically perforated to receive a bolt 3, and is also transversely grooved to provide a seat and slideway for the intumed portions of transversely adjustable fork-members 2. The contacting faces of said intumed portions are grooved to provide a seat for said bolt suited for slidable adjustment past the bolt when its lock-nut is loosened; to permit of a variation in the spacing apart of the forwardly-directed forks 2. These forks are parallel to each other, and their lower surfaces flat and in the same horizontal plane.

20 and 23 are hangers depending from the under side of the plate 57, provided with vertical slots in line with each other to re-

ceive slidably the slide-bar 24. The rear end of the slide-bar is pivotally connected to the link 26 at 25, and said bar has spaced-apart notches 48 and 49 for a purpose to be described.

The label-holder 6, which has erect fingers 53 to retain the labels 54 in a pile, and the mucilage-cup 15, are provided with depending spindles 19 and 46 respectively, vertically-movable through openings in the plate 57. The roller 4 in said cup is rotatable and adapted to not only dip within the mucilage therein, but also projects above the cup, so that, when said cup is in its uppermost position the roller contacts with the under flat surfaces of the tines of the fork 2 as the latter moves backward and applies to such under surfaces a coating of fresh mucilage. The cup 15 is first moved upward as the fork 2 is moving backward, and before the label-holder 6 is elevated, by the following-described means. A small bell-crank lever is pivoted at 18 to a hanger from said base-plate 57, and has its free forward member 17 projected forward under and adapted to contact with and lift the lower end of the spindle 46 of the cup 15. The rear member of said bell-crank lever is pivotally connected at 58 to the forward end of a connecting-rod 21, the latter end of which has a horizontal slot 59 which receives slidably a pin or stud 61 projected from a short swinging-arm 22, the latter swung on a pin-
 35 tle 60 extending from a hanger on the under surface of the base-plate 57. Below the pivotal-connection 61 at the end of the arm 22 a pin or stud 62 projects transversely and is adapted to ride over the upper edge of the slide-bar 24 and in contact therewith.

In the initial position of rest, when the plunger 31 is in its uppermost position, the pin 62 on the swinging-arm 22 rests in the rear notch 49 of the undermost slide-bar 24. When said plunger is depressed and the slide-bar 24 moved back by means of the hereinbefore-described motion-transmitting mechanism, the pin 62 rides up out of the notch 49 upon the raised upper edge of the bar, and being thereby pushed back against the rear wall of the slot 59, the rod 21 is drawn back, which causes the free member 17 of the bell-crank lever to drive upward the spindle 46 and cup 15. The roller 4 then contacts with the fork 2 and is held against it until the slide-bar 24 has moved far enough rearwardly to permit the pin 62 to drop into the notch 48. As the slide-bar 24 returns forwardly, the pin 62 is lifting over the rear wall of the notch 48 is drawn forward, sliding the pin 61 in the slot 59, and as the pin 62 moves forward over the upper edge of said bar it pushes forward the rod 21 and thus depresses the free arm 17 of the bell-crank lever, allowing the cup 15 to drop to break contact between the roller 4 and the fork 2.

The roller 4 is held in contact with the fork 2 until the downwardly-moving rearwardly-projecting plunger-head 13 contacts with and begins to push down the free forward end of a lever 29. The lever 29 is medially pivoted at 30 to the lower end of a hanger 16, and its rear end is pivoted at 47 to one end of a short link-connection, whose other end is pivotally connected to the bottom of the spindle 19 of said label-holder. When desired the label-holder may have a pair of spindles 19, working through orifices in the table 57, their lower ends being connected by a cross-bar which has a pivotal connection to the link referred to. The mucilage-cup 15 may likewise be similarly supported on a pair of spindles 46 likewise working through orifices in said table, and contacted by bell-crank-levers on a cross-rod connected pivotally to the rod 21. When the plunger-head 13 has moved down far enough, it contacts with and drives down the lever arm 29, and lifts the label-holder just as the mucilage-cup is moving down. A pile of labels, face down, is placed on the holder 6, and as the fork 2 moves back, the under surfaces of the tines thereof take a coating of mucilage from the roller 4. The tines then continue backward, and the label-holder rises, pressing the topmost label against the coated and sticky under surfaces of the tines. The label-holder then moves downward by its own gravity, as the pressure of the plunger-head 13 is removed when the latter is rising, and as the fork 2 returns forward it carries with it the adherent label to and over the elastic plates 12. A bottle 1 is then pushed vertically downward upon said label and plates 12, and, as shown in Fig. 6, the latter yield, their beveled edges 67 wiping the face of the label 54 and causing its gummed edges to adhere to the bottle. The bottle forces downward the plunger 31, which causes the connecting mechanism to move back the fork 2 for another action. The compression-spring 32 yields enough each time as necessary to cause the label-holder to rise sufficiently to bring the topmost label in contact with the fork 2, no matter how few labels may remain on said holder, when the operator varies the pressure on said plunger. The weight 43 should be heavy enough to cause the return of the moving parts when the pressure on the plunger is removed.

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

1. In a bottle-labeling machine, in combination, a label-holder, a mucilage-cup containing a horizontal roller, and a plunger, each vertically-movable and aligned horizontally, a machine-frame provided with slide-ways for the supports of said vertically-movable elements, separated flexible elastic wipers mounted over said plunger, a fork

having horizontal tines movable horizontally to and fro over the label-holder, the roller in said cup and the said wipers, mechanism for transmitting motion from the said plunger to said fork, and mechanisms actuated by said plunger adapted to transmit motion to said label-holder and to said mucilage-cup, the latter mechanisms adapted to successively elevate and lower said mucilage-cup and said label-holder the one before the other when said fork moves rearwardly thereover, the lower surfaces of the tines of said fork contacting with the roller in said cup in moving backward.

2. In a bottle-labeling machine, in combination, a label-holder, a mucilage-cup containing a horizontal roller, and a plunger, each vertically-movable and alined horizontally, a machine-frame provided with slideways for the supports of said vertically-movable elements, separated flexible elastic wipers supported over said plunger, a fork having horizontal tines movable horizontally to and fro over said label-holder, the roller in said cup and the said wipers, mechanism for transmitting motion from the said plunger to said fork, and mechanisms actuated by said plunger adapted to transmit motion to said label-holder and to said mucilage-cup, the latter mechanisms adapted to successively elevate and lower said mucilage-cup and said label-holder the one before the other when said fork moves rearwardly thereover, the lower surfaces of the tines of said fork contacting with the roller in said cup in moving backward, and yieldable elastic means connected between said plunger and its coacting mechanism for transmitting motion to said fork adapted to permit a variation of the length of the stroke of said plunger at the will of the operator, to cause the plunger to similarly effect the length of movement vertically of said label-holder.

3. In a bottle-labeling machine, in combination, a label-holder, a mucilage-cup containing a horizontal roller, and a plunger, each vertically-movable and alined horizontally, a machine-frame provided with slideways for the supports of said vertically-movable elements, separated flexible elastic wipers supported over said plunger, a fork having transversely-adjustable tines movable horizontally over said label-holder, the roller in said cup and the said wipers, mechanism for transmitting motion from the said plunger to said fork, and mechanisms actuated by said plunger adapted to transmit motion to said label-holder and to said mucilage-cup alternately and in succession, moving the said cup up and down before moving said label-holder up and down while

said fork is moving rearwardly thereover, the lower surfaces of the tines of said fork contacting with said roller in moving backward to take a coating of mucilage therefrom before passing over said label-holder, and means for automatically exercising a tension on the mechanism transmitting motion to said fork to cause said fork to return to its initial position when said plunger is released from downward traction.

4. In a bottle-labeling machine, in combination, a label-holder, a mucilage-cup containing a horizontal roller, and a plunger, each being vertically-movable and placed in the same alinement, a machine-frame provided with slideways for the supports of said vertically-movable elements, and with horizontally-alined slideways above and below each other respectively, horizontally-movable slide-bars movable in said horizontal slideways, flexible elastic wipers spaced apart and located above said plunger, a fork having transversely-adjustable tines secured to the forward end of the uppermost slide-bar and extending horizontally forward therefrom, mechanism transmitting motion from said plunger to both said slide-bars when traction downward is exercised upon said plunger, a yieldable elastic connection between said plunger and said motion-transmitting means, motion-transmitting mechanism connected to said movable label-holder adapted to be actuated to elevate the latter when downward traction is exercised upon the plunger, motion-transmitting means connected to said movable mucilage-cup adapted to be actuated by said lowermost horizontal slide-bar when downward traction is exercised upon said plunger, said slide-bar being so formed as to elevate said mucilage-cup and hold it in its uppermost position while the tines of said fork are passing over it in contact with its roller and then lower said cup and permit it to remain in its lowermost position while said fork is returning to its initial position, said action of raising and lowering said cup taking place before said label-holder is elevated, and tension-producing means operative upon said motion-transmitting mechanisms to said slide-bars adapted to automatically return them to their initial position on the withdrawal of downward traction from said plunger.

Signed at Waverly Ia. this 7th day of Oct. 1908.

CHRISTIAN A. FOSSELMAN.

Witnesses:

C. H. HASTINGS,
B. F. BECK.