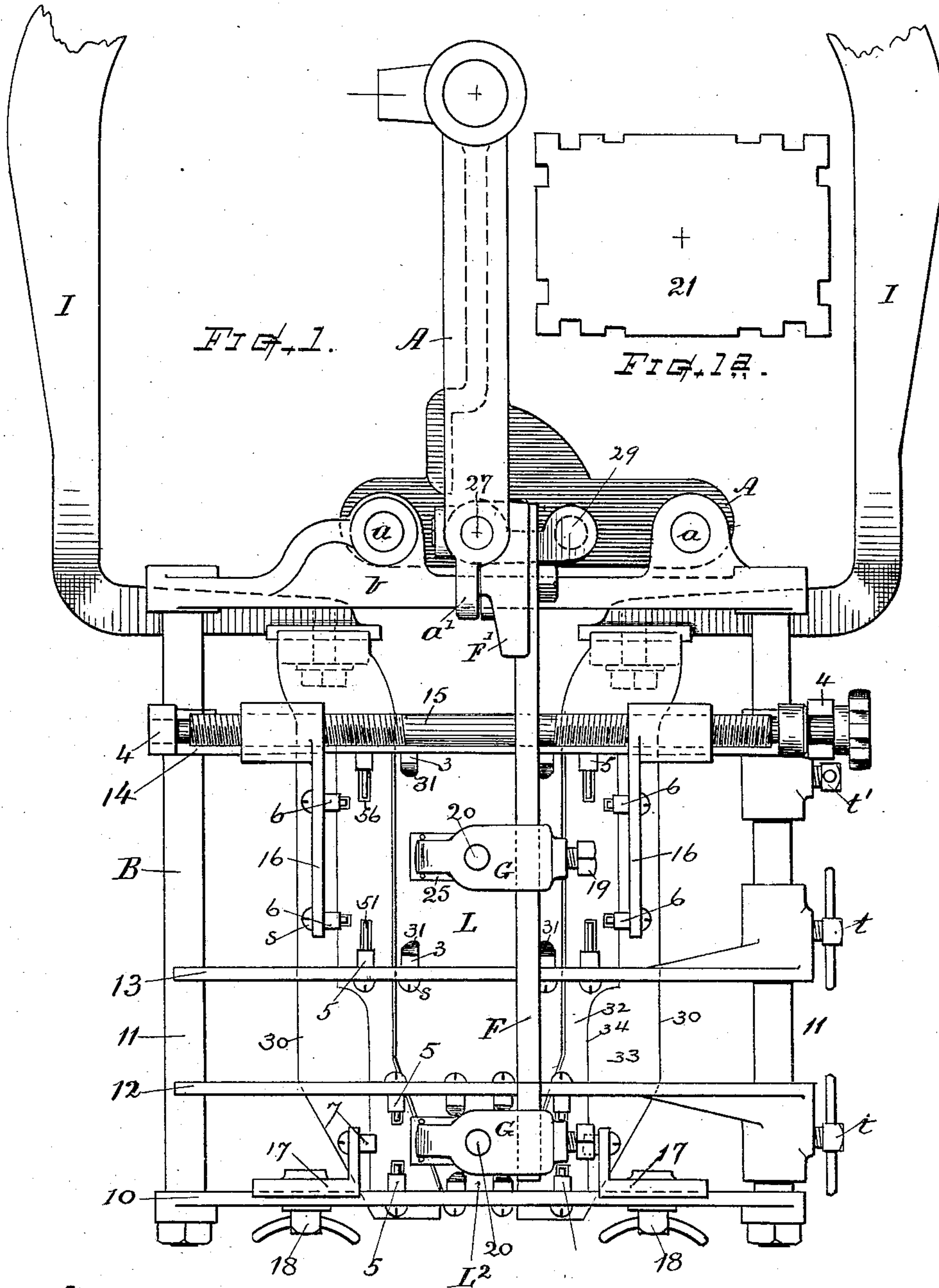


F. O. WOODLAND.
 LABEL SUPPLY MECHANISM.
 APPLICATION FILED JULY 9, 1906.

917,509.

Patented Apr. 6, 1909.

3 SHEETS—SHEET 1.



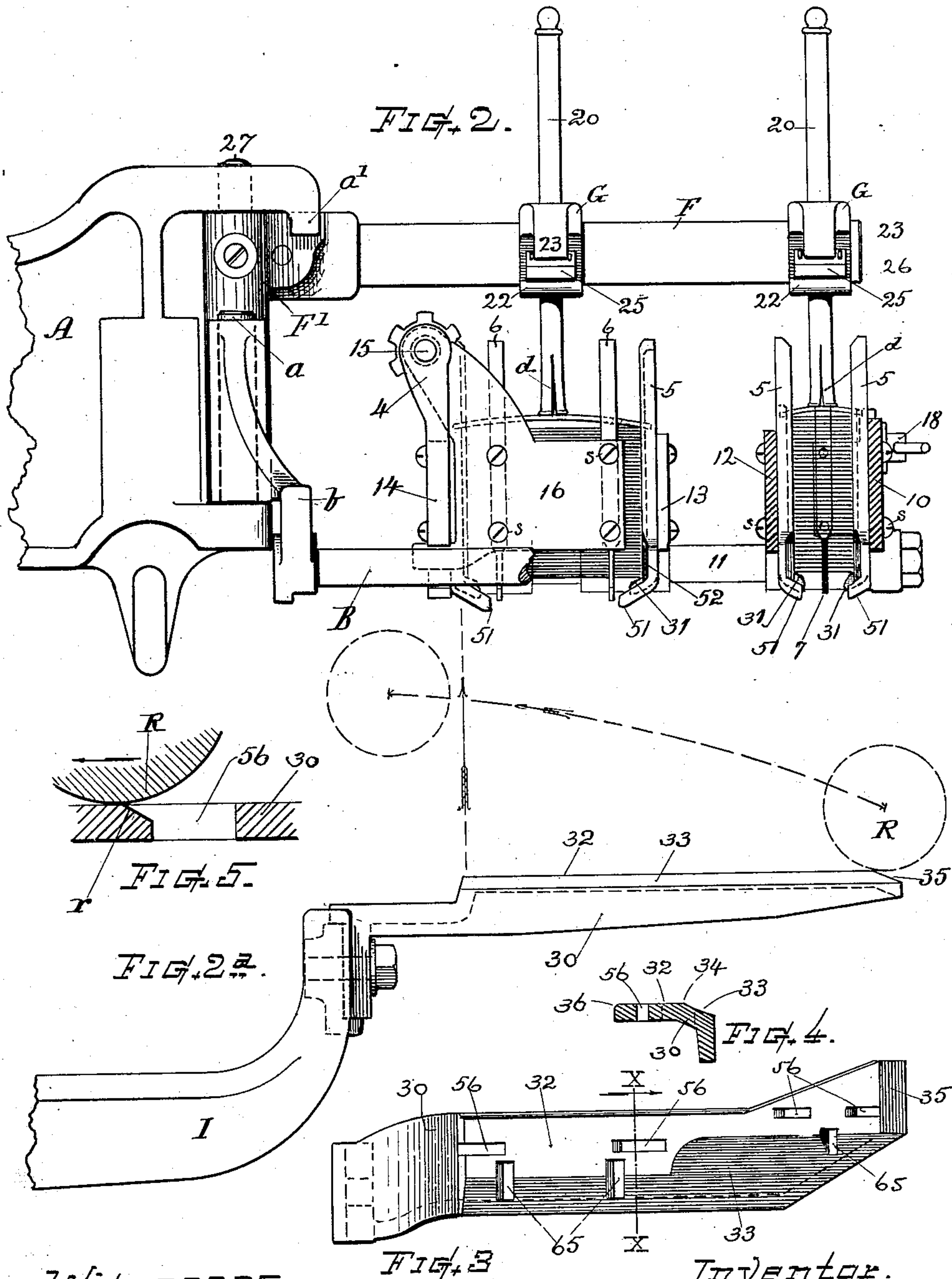
Witnesses.
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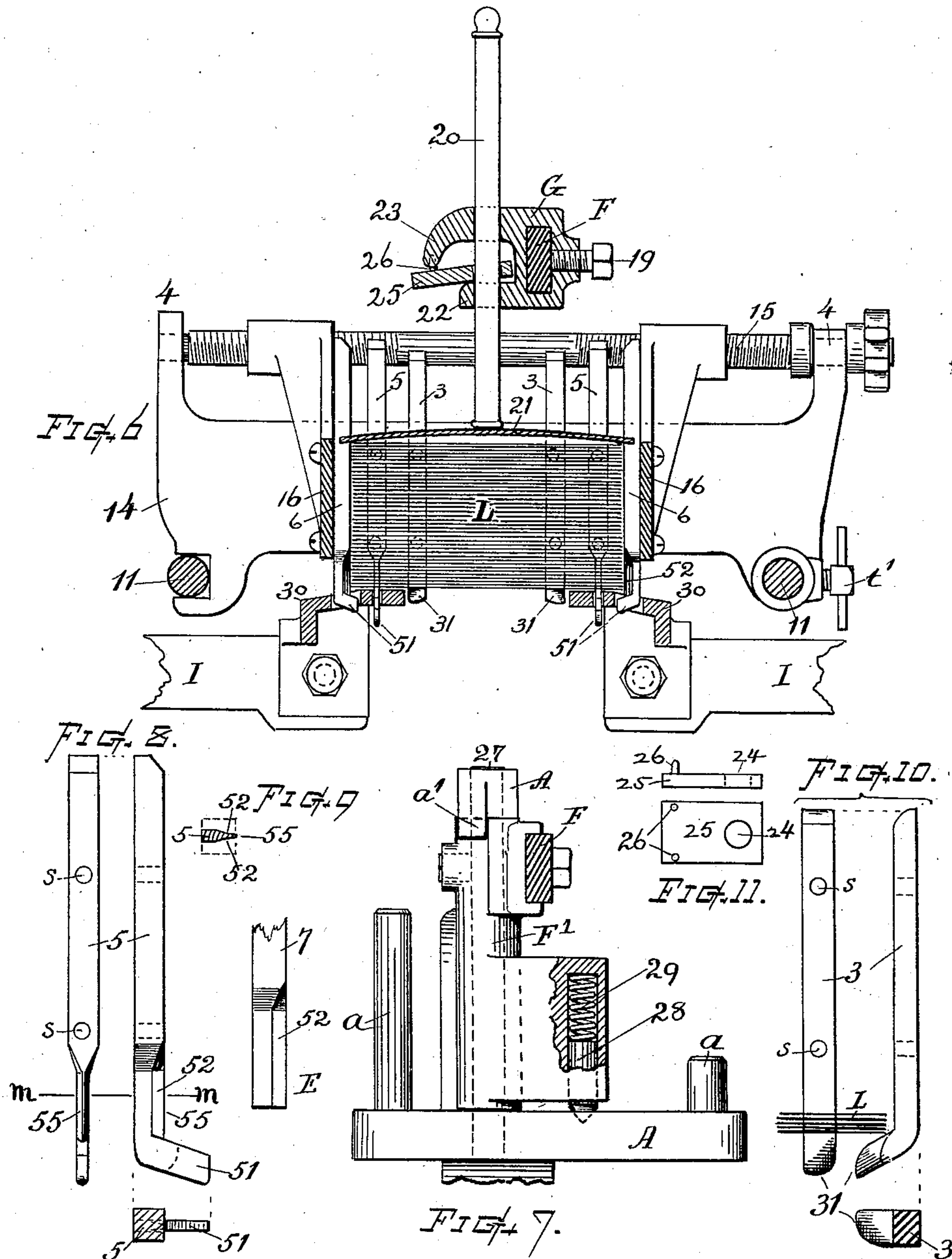
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UNITED STATES PATENT OFFICE.

FRANK O. WOODLAND, OF WORCESTER, MASSACHUSETTS.

LABEL-SUPPLY MECHANISM.

No. 917,509.

Specification of Letters Patent.

Patented April 6, 1909.

Application filed July 9, 1906. Serial No. 325,261.

To all whom it may concern:

Be it known that I, FRANK O. WOODLAND, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Label-Supply Mechanism, of which the following is a specification, reference being made therein to the accompanying drawings.

10 This invention relates to improvements in mechanism for holding a supply pack, or packs, of labels in a labeling machine, and for taking labels singly from the bottom of said pack or packs of labels to effect delivery and proper presentation of the same preparatory to their affixment to bottles or other similar articles; and my invention consists in the novel features of construction, combinations, and mode of operation hereinafter more particularly specified and definitely pointed out in the claims.

The accompanying drawings illustrate this invention as arranged for dual labeling, or the simultaneous delivery of body-labels and neck-labels, and as adapted for use in a bottle-labeling machine of a class similar to that described in my prior application for Letters Patent, Serial No. 197,485.

Figure 1 represents a plan view of a label supply mechanism embodying my invention. Fig. 1^a is a plan view of one of the follower-plates. Fig. 2 represents a side elevation view partly in section, and Fig. 2^a a side view of the picker devices, in their corresponding relation, as employed in coöperation with the parts shown in Fig. 2. Fig. 3 represents a plan view of one of the glue-applying pickers; Fig. 4 a transverse section of the same at line X X, and Fig. 5 a fragmentary longitudinal vertical section through one of the mortises in the picker plate. Fig. 6 represents a vertical transverse section through the body-label compartment, and Fig. 7 represents an elevation view with some parts in section, showing the follower-bar hinge and support for the label-holder. Fig. 8 shows, by side, front and plan views, a detail of one of the guide-stakes having knife-edge face and "peel-off" ends. Fig. 9 is a section of the same at line m m. Fig. 10 shows, by side, front and section plan, a detail of one of the sustaining guide-stakes; and Fig. 11 is a separate plan and side view of the follower-cramping piece.

55 Referring to the drawings, A denotes an upper portion of the labeling machine frame;

B the label-holder frame, which is removably supported upon the machine frame by sockets that fit over upright studs *a* or in other suitable manner. The label-holder frame, as shown in the present instance, is composed of a rear member or attaching-piece *b* and a front plate 10 connected by horizontal side rods 11; and mounted to slide on said rods, or one of them, there is a back-plate 14 and intermediate plates or bars 12 and 13, to which the stakes or parts that guide and support the label-packs are secured preferably by screws *s*, or other suitable fastenings. The back-plate is provided with bearings 4 in which the right and left threaded adjusting-screw shaft 15 is mounted; and supported in connection with said shaft are right and left adjustable cheek-plates 16 that carry the guide-stakes 6 for the ends of the body-label pack.

The compartment or pack for supplying body-labels is indicated by letter L, and that for supplying neck-labels by letter L².

Upon the front plate 10 there are laterally adjusting brackets 17 that carry the stakes 7 for the ends of the neck-label compartment L². Said brackets, as shown, are secured by clamp-screws 18 that pass through slots in the plate. The back-plate 14 and intermediate plates 12 and 13 are adjustable forward and rearward on the side rods 11, and are held at adjusted position by set-screws *t*, *t'*, or other efficient fastening means.

The size and relative position of the label-holding compartments may be varied by adjustment of the stake-supporting members or plates 12, 13, 14 and 16, as will be understood. The peculiar construction, arrangement and mode of operation of the label-supporting and guiding means is hereinafter more fully explained.

Extending over the compartments of the label-holder I arrange a follower carrier-bar F, approximately rigid against upward or downward movement, and adjustably mounted thereon is a head or guide-device G at each of the compartments L and L². A vertically sliding follower-rod 20 is arranged through said guide and adapted for resting its lower end upon the label pack, or upon the follower-plate 21 covering the pack of labels. The follower rods and their guide-devices being of similar construction, a description of one set will apply to either or both, and the parts are therefore similarly indicated on each set.

The guide-piece G has a horizontal mortise to fit over the carrier bar F, and a set-screw 19 for retaining it at position thereon. Said guide-piece is formed with a horizontal laterally projecting lower member or jaw 22, and an upper jaw or member 23 having a downwardly overhanging end; each member being provided with a hole for guiding the rod therein. In the space between the guide members I provide a loose plate 25 having near one edge a hole 24 through which the rod 20 passes in alinement with the guiding holes in the members 22 and 23. The plate 25 extends beyond the end of the member 22 sufficiently to give a preponderance that will cause friction of the plate against the rod, so that an upward pressure or movement of the rod will cause the plate to cramp or grip upon the rod and thereby resist any lifting action on the follower-plate or pack of labels. The outer end of the cramp plate 25 contacts with the overhanging end of the upper guide members and insures a firm grip on the rod when lifted, but the follower rod can descend freely, since the cramping action is then prevented by the plate being sustained by the lower guide member 22. Small pins 26 can be employed to keep the plate 25 from swinging out of place laterally.

The follower rod F may be solid or tubular, and of round or other cross-sectional shape. It is best made with a slight flange or bur at its lower end and a knob at its upper end, so it cannot pass through and escape from the opening in the guiding head G. Preferably the foot of the follower rod is slitted and the two halves slightly spread apart, as shown at *d* on Fig. 2; thus affording outwardly springing members that will cause the lower part of the rod to bind or give sufficient friction in the guide-head to retain the rod self-sustained in elevated position, when it is drawn up to its full extent, to give access to the label compartments; or when it is desired to swing the follower devices to one side.

The follower-plate 21 is best made of a size somewhat greater than the labels and somewhat crowned or curved upward at the center, (see Figs. 2 and 6) so that it bears upon the labels chiefly along the edges of the pack. The edges of the plate may be notched, as shown in Fig. 1^a, to accommodate the label-holder stakes, and so that the edges of the plate can project over the edges of the labels. This permits of the plate being of light weight and greater efficiency.

The bar F is preferably attached to the frame A by a hinging joint 27, so that the follower devices can be swung laterally to one side when it is desired to charge the compartments with labels; or to remove the label-holder from the machine. The hinging-piece F¹ is best provided with a spring-pressed stud 28 and spring 29 (see Figs. 1 and 7) for retaining the parts at adjusted posi-

tions by the point of the stud entering a properly disposed recess in the frame casting. A stop-lug *a*¹ may be formed on the frame for arresting the forward swing of the bar F at its working position.

The glue-applying pickers 30 are detachably secured to vertically reciprocating arms, or carriers I, and move to and from the bottom of the label-holder, as indicated by the arrow on Figs. 2 and 2^a. As a feature of improvement the picker-plates are each formed with a flat glue-carrying face 32 and a border face 33 slightly downwardly inclined and meeting the glue-carrying face at an obtuse angle 34. The outer end of the picker face is also made with a downward incline, as at 35. The inner edge of the picker may be slightly rounded or beveled, as at 36, along the face portion.

The glue-carrying face 32 bridges the space between the label-pack compartments or extends uninterruptedly from end to end of the picker face; thus affording a continuous level track for the glue-delivering roller R. When in operation the glue-delivering roller R meets the picker upon the end incline 35 and rolls along the face 32 toward the opposite end.

The effect of the inclined border surface 33 is that as the roller travels along the picker face the receding roll surface tends to drag the glue laterally at the angle 34 from the inclined portion 33 to the flat portion 32, and to thereby avoid an excessive accumulation of glue along the edge of the pickers, by the repeated actions, as occurs when the glue-applying faces terminate with an abrupt offset or square edge. Likewise the incline 35 tends to prevent accumulation of glue on the end of the picker. This feature of improvement in the formation of picker faces is of considerable practical utility in the operation of label supply mechanism, in labeling machines of the class specified.

The picker-carrying arms I are, in practice, attached to a reciprocating slide (not shown) that moves up and down on a suitable guide, and is combined with means for imparting motion thereto in the desired order of action with respect to other parts of a labeling machine. The pickers are caused to approach the bottom of the label holder, as in Fig. 6, their faces 32 having been glue-coated by the roller R as they moved upward. After taking a label from the bottom of the packs they move downward to the position where the label is presented for affixment to the bottle, as heretofore practiced.

A feature of my invention consists in providing a label-supply mechanism with means for guiding and sustaining a pack, or packs, of labels, and having facilities for partially peeling or rolling up the edge of the pasted or glued label from the picker-face as it is

taking the label from the bottom of the pack. As a practical embodiment of this feature I provide at the front and rear of the label compartments dual sets of uprights or stakes 3 and 5, comprising what for convenience may be termed sustaining stakes 2, and edge-guiding stakes 5. The latter are formed with narrow lower ends and inwardly projecting inclined portion 51 that extend beneath the pack of labels L. For some distance above the inward incline the stake is reduced and beveled, as at 52, Fig. 9, so as to present an approximately knife-edged or very thin contact face 55 for guiding-contact with the edges of the labels. The sustaining stakes are formed with the body portion of less dimension, so they do not touch the edges of the labels, but are provided each with an inwardly projecting lug 31 at the lower end, properly rounded on its extremity, and upon which the pack of labels is upheld. The inward lugs 31 of the stakes 3 are best arranged at a higher level than the inwardly projecting member 51 of the stakes 5, as shown in Figs. 2 and 7. The end-guiding stakes 6 are of similar construction to the stakes 5, but have less offset projection at their lower ends. (See dotted line on side elevation, Fig. 8.) The sustaining-stakes 3 are disposed with their lugs near to, but off from the inner line of the path of the pickers; while the guide-stakes 5 and 6 are disposed in the path of the pickers, and the picker-plates are provided with mortises 56 and 65, extending completely through the metal, to accommodate the narrow ends of the stakes 5 and 6 without contacting therewith, (see Fig. 7) when the pickers are forced against the bottom of the pack of labels.

In the operation of the means constructed and arranged as above described, the ends of the guide-stakes act to peel off and bend up the corners of the label from the face of the picker, without releasing it wholly therefrom, while the label is being drawn from the inwardly projecting ends or sustaining lugs 31, thereby giving a peculiar crimp to the labels that effectually prevents the taking of more than a single label from a pack at one time. The lugs 31 are out of reach of the glue, but the peeling hooks or ends 51, being necessarily within the glue-coated area will take on some glue; but the knife-edged guiding faces 55 obviate liability of getting glue on the edges of the labels in the pack sufficiently to stick them together. For narrow neck-labels the end guide stakes 7 can be made straight as at E, or without the inward projection, since the two side guides are so near together that they will accomplish the peel-off action.

The rear edge of the several mortises 56 and 65 are best formed with an upward

inclination, as indicated on Fig. 3, and shown at *r* on Fig. 5, so that as the roll R passes over them the receding action of the roll surface tends to draw up the glue to itself and to thus obviate any accumulation of glue within the mortises.

I claim and desire to secure by Letters Patent—

1. In a label-supply mechanism, the combination with a label-holder having means for sustaining a pack of labels, and glue-carrying pickers that take labels adhesively from said pack; of prongs, hooks or projections that peel off or roll up portions of the glued label from the glued picker-face as it leaves the pack of labels.

2. In a label-supply mechanism, the combination, of a bottom delivery label-holder provided with a set of devices having lugs out of line with the path of the pickers for sustaining a pack of labels, and a set of guide devices in the line of the path of the pickers and having prongs or offset ends adapted to peel a portion of the label from the picker-face, and picker-plates provided with means for accommodating said label-peeling ends.

3. In a label-supply mechanism, a set of guide-stakes provided with inwardly projecting lower end lugs, narrow necks and knife-edged guiding faces; in combination with gluing pickers provided with mortises through their glue-carrying faces into which the ends of said guide-stakes are received when the pickers are elevated against the label pack.

4. In a label-supply mechanism, a label-holder provided with dual sets of guide-stakes comprising a set of stakes or devices having inwardly projecting ends for sustaining the pack of labels, and a second set of guide-stakes having narrow inwardly projecting ends or pull-off hooks, the offsets thereof disposed at a lower level than the offset of the first named set; in combination with glue-applying pickers having their glue-carrying faces provided with openings; there-through into which the ends of said guide-stakes enter without contact with the picker.

5. In a label-holder for labeling machines, a guide-stake composed of a stiff metal rod of substantially uniform shape, and comprising a straight body-bar having an offset at its lower end, a portion of said bar reduced laterally to afford a narrow lower-end offset and neck-section, the sides of said neck-section above the end offset being beveled off to approximately knife-edge form to present a thin edge-guiding-face in longitudinal alinement with the face of the body-bar portion.

6. In a label-supply holder for the purpose specified, a stake or guide-post comprising an attaching body adapted for receiving the attaching screws, and a laterally reduced neck-

portion, the sides of which are beveled to form an approximately knife-edged guiding face at the lower part of said stake.

7. In a label-supply mechanism, a set of 5 guide-stakes provided at their lower ends with narrow inwardly projecting lugs, and neck-portions formed with knife-edged guiding faces; in combination with a set of stakes or sustaining devices having inwardly offset 10 ends for upholding a pack of labels, said ends disposed at a higher level than the guide-stake lugs.

8. In a label-supply mechanism, in combination as described, with a label-holder 15 frame, and adjustable compartment-bars or plates carrying means for upholding a pack of labels thereon, for bottom delivery of labels, and means for securing said compartment-plates; a set of stakes or guide-posts 20 each comprising an attaching body, a downwardly inclined offset lower end lug that extends beneath the pack of labels, and a laterally reduced neck-portion, the sides of which are beveled off to an approximate 25 knife edge at the guiding face, adjacently above the offset lower end.

9. In a labeling machine, the combination of a bottom-delivery label-holder, reciprocating pickers that co-act with the bottom 30 of said label-holder in taking labels therefrom, a vertical endwise-movable follower-rod, a stationary guide-carrier above said label-holder, a rod-supporting guide mounted on said carrier and in which said follower-rod slides, and a gripping clamp within said 35 guide for resisting upward movement of the follower-rod and permitting downward movement of the same.

10. In a label-supply mechanism for bottle-labeling machines, the combination, of a 40 bottom-delivering label-holder, a non-liftable arm attached to the supporting frame and projecting over the label-holder, a follower-supporting guide mounted on said 45 arm above said label-holder, means for maintaining the guide in fixed relation thereon, a vertically slidable follower-rod supported in said guide, and self-clamping means for resisting upward movement of the follower-rod 50 within the guide while permitting its free downward movement.

11. In a label-supply mechanism, the combination of a bottom-delivering label-holder having compartments and means for containing a plurality of packs of labels, and 55 delivering labels from each pack, a frame supporting said label-holder, a follower-supporting bar attached to said frame and projecting over said compartments, a plurality of guide-devices adjustably secured upon 60 said bar, a vertically sliding follower-rod in each guide-device, and a clamping-piece within each guide automatically coacting with the guide and follower-rod to automatically effect resistance to upward movement 65

of the rod while permitting downward movement of the same.

12. In a labeling machine, in combination with a bottom-delivering label-holder, and the frame whereon said label-holder is 70 movably supported; a follower supporter extending over the label-holder and carrying follower-means for resisting upward pressure on the label pack; said follower supporter connected with said frame by a non-liftable 75 hinging joint that permits lateral displacement of the supporter and follower-means, the hinging-piece provided with a spring-pressed stud for retaining the follower supporter at position when in alignment with the 80 label pack.

13. In a label-supply mechanism, a follower comprising a supporting-bar, a guiding head mounted thereon comprising a horizontally projecting lower member, and a projecting upper member having a downwardly 85 offset end, a cramp-plate loosely disposed between said members, and an upright follower-rod slidably supported in openings through said guide members and cramp-plate, the foot of said follower-rod standing 90 upon the label pack.

14. In a label-supply mechanism for bottle-labeling machines, the combination of a 95 bottom-delivering label-holder having compartments for containing a plurality of packs of labels, a non-liftable follower-supporting bar extending over said compartments, a plurality of guide-devices slidably adjustable on said bar, said guide-devices each having a 100 lower guiding member and an upper guiding member, vertically disposed follower rods arranged through the respective guiding-members, a perforated cramp-plate embracing the follower-rod between the guide members, 105 and means for preventing rotation of the cramp-plates upon the follower rods.

15. In a labeling machine, in combination with means for supporting a pack of labels and means for delivering labels therefrom; a 110 follower means comprising a vertically sliding follower-rod, and a guide therefor above the label pack, said follower-rod having outwardly springing members at its foot adapted for self-sustaining said rod in elevated position 115 within the guide.

16. In a label-supply mechanism for bottle-labeling machines, the combination with a label-holder having a series of guide-stakes provided with under projecting ends 120 for supporting a pack of labels by engagement beneath the edges thereof; of a follower consisting of a transversely and longitudinally crowned plate having its under surface concave and adapted for bearing upon 125 the pack of labels along the edges thereof, and a self-regulating resistance device bearing upon the top of said plate, for the purpose set forth.

17. In a label-supply mechanism, the com- 130

5 bination, with a bottom-delivery label-holder comprising a set of upright guide-stakes having inwardly projecting lower ends for supporting a pack of labels thereon, a centrally-
 10 bearing follower-device, with means for resisting upward movement thereof; of a crown-
 15 ingly-curved detached follower-plate extending over the pack of labels beneath the fol-
 20 lowing-device and receiving the contact of said
 25 follower-device on the upward arch of its crown, for the purpose set forth.

18. In a label-supply mechanism, the combination with a bottom-delivery label-holder having guide-stakes with means for sup-
 15 porting a pack of labels thereon; of an arched or crowned follower-plate of greater dimension than the labels, and having notches to accommodate the label-holder stakes, said fol-
 20 lowing-plate adapted for pressure upon the pack chiefly along the edges of the labels; and a follower-device resting upon the center of said plate.

19. In a labeling machine, a glue-applying picker having its glue-applying face provided
 25 with a recedingly-beveled border surface meeting the glue-applying face at an obtuse angle, for the purpose set forth.

20. In a labeling machine, a gluing picker provided with a glue-carrying surface and an
 30 adjacent inclined surface extending along the side of said glue-carrying surface; in combination with a glue-delivering roller that rolls along the glue-carrying surface for charging the same with glue or adhesive material, and a label-supply holder from which
 35 labels are drawn by said picker.

21. In mechanism of the character described, a glue-applying picker having a flat face defining the area for receiving and im-
 40 printing glue, and a marginal surface along its outer edge, in continuation of said defining face beyond the end of the label, but inclined to the plane of said glue-applying surface, for the purpose set forth.

45 22. In mechanism of the character described, in combination with a label-holder and a reciprocally carried glue-delivering roller, a picker having a flat glue-carrying face and an adjacent downwardly inclined
 50 bevel at the end where the roller approaches and meets the picker face, for the purpose set forth.

23. In a label-supply mechanism, a dual-feed picker having a continuous glue-carry-
 55 ing surface; in combination with a dual label-holder adapted for delivering labels from a plurality of packs to said picker, and a delivering roller that charges said continu-

ous picker surface with glue or adhesive substance.

60

24. In a label-supply mechanism, a label-holder provided with a set of guide stakes having inwardly projecting lower end lugs, narrow necks, and knife-edged guiding faces; in combination, with gluing pickers having
 65 mortises through their glue-carrying faces into which the ends of said guide stakes are received when the pickers are elevated to take a label, said mortises having beveled
 70 surfaces at their receding edges to coact with the glue-delivering roller, for the purpose set forth.

25. In a bottle-labeling machine, the combination, of vertically reciprocating picker-carrying arms, pickers mounted on said
 75 arms and having glue-applying faces with mortises therethrough, a dual-compartmented bottom-delivery label-holder having means for sustaining packs of labels thereon above said pickers, label-holder stakes coin-
 80 cident with the positions of the mortises in the picker faces and provided with offset ends that hook beneath the label-packs and respectively enter the picker mortises for
 85 peeling up the edges of the labels, vertically slidable follower-rods that rest upon the packs, a non-liftable support and guides for said follower-rods, and automatic rod-cramping devices engageable with said fol-
 90 lower-rods for resisting upward pressure of the pickers against the packs of labels.

26. In a labeling machine, in combination with a label-holder comprising a plurality of compartments with means for supporting
 95 packs of labels for bottom delivery therefrom, said compartments being adjustable in relation to each other; a follower mechanism including a lift-resisting carrier or arm extending over and above the several compartments, a plurality of guide-devices
 100 mounted upon and independently adjustable along said carrier, means for respectively securing said guide-devices at positions of adjustment, an upright gravity-actuated follower-rod slidably supported in
 105 each guide-device, and means for normally resisting upward movement of the follower-rod while permitting its downward movement within the guide.

Witness my hand this 3rd day of July
 1906.

FRANK O. WOODLAND.

Witnesses:

CHAS. H. BURLEIGH,
 ELLA P. BLENUS.