No. 675,887. Patented June 11, 1901.

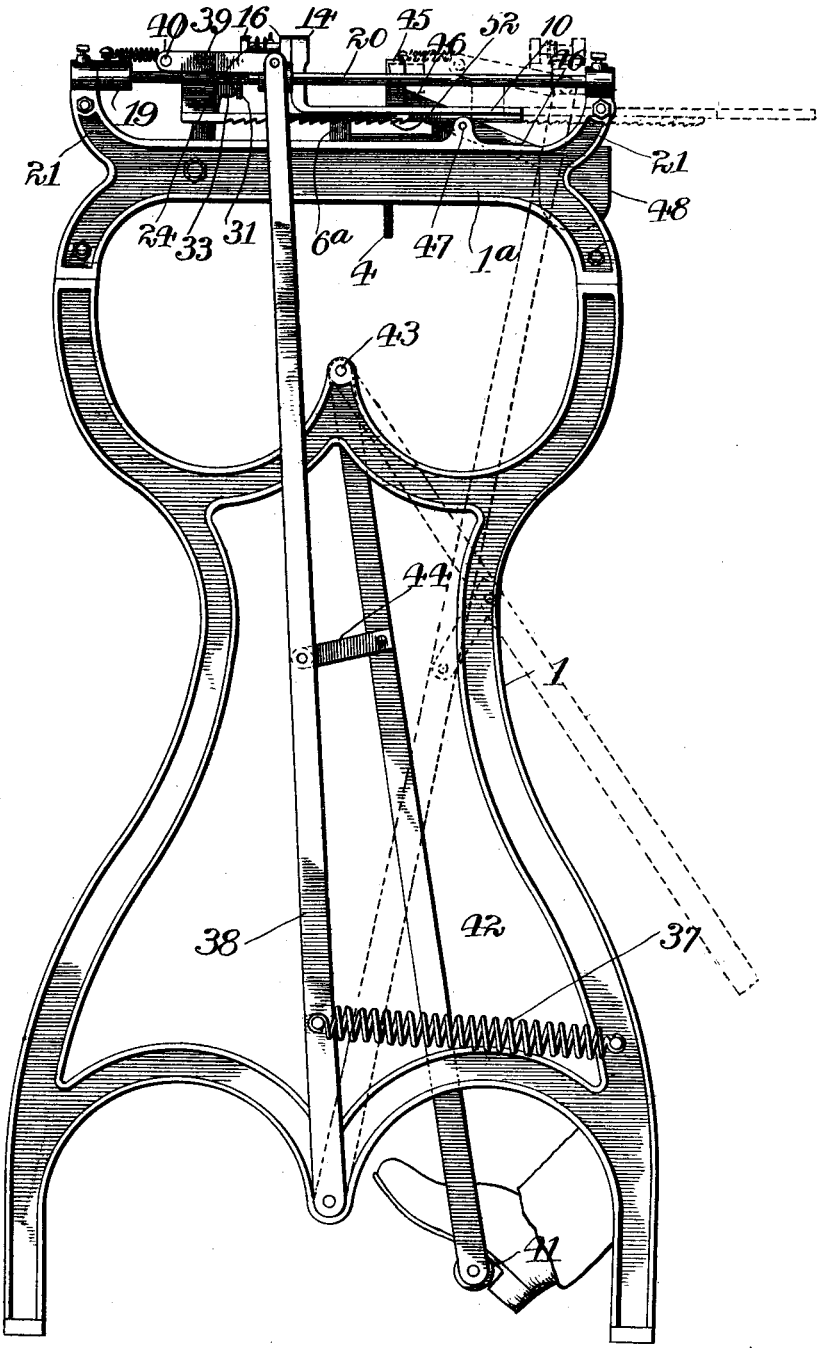
E. N. GILFILLAN.

LABELING MACHINE.

(No Model.) (Application filed May 28, 1900.)

3 Sheets—Sheet 1.

Fig. 1



Witnesses.
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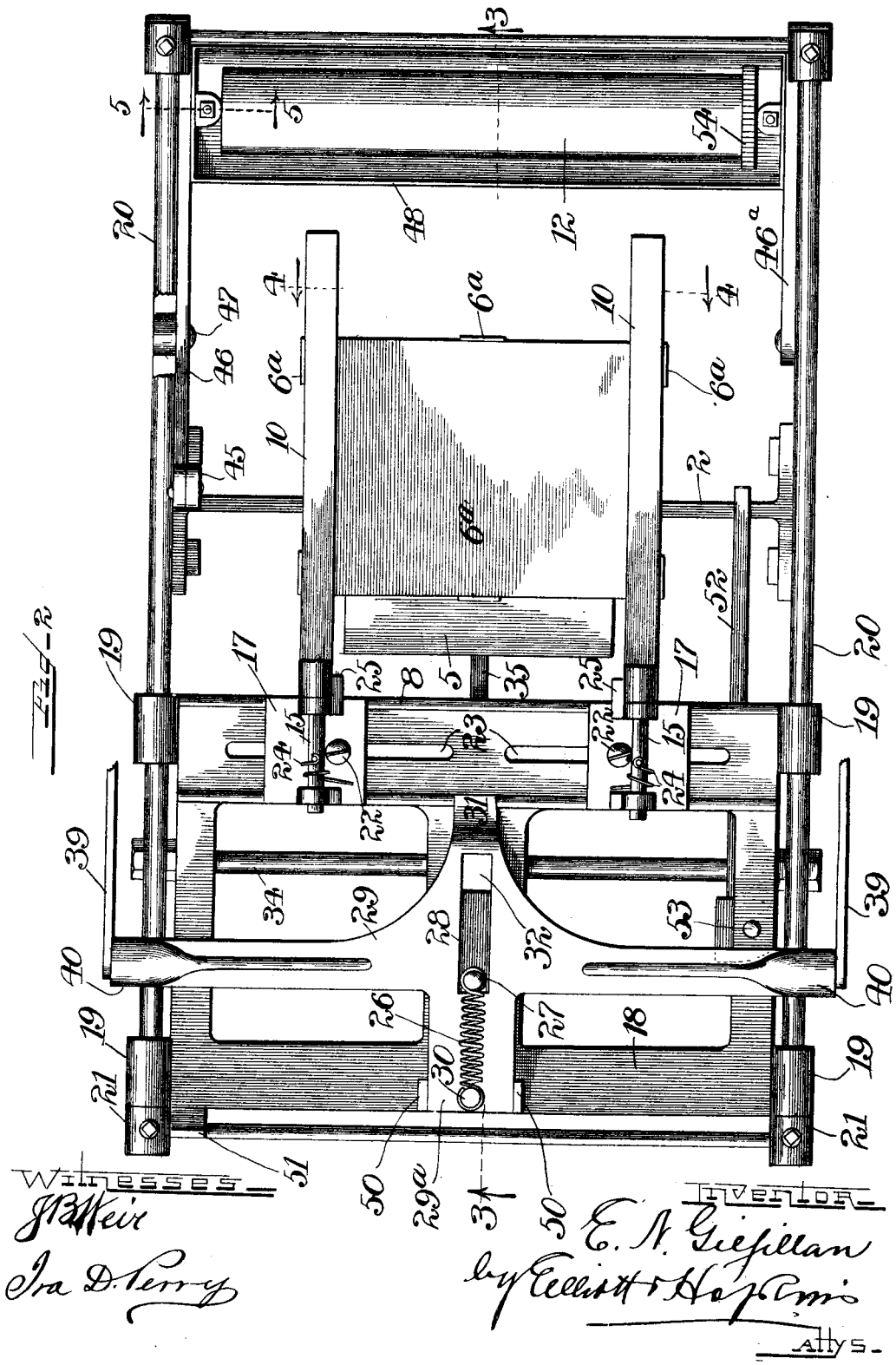
3 Sheets—Sheet 2.



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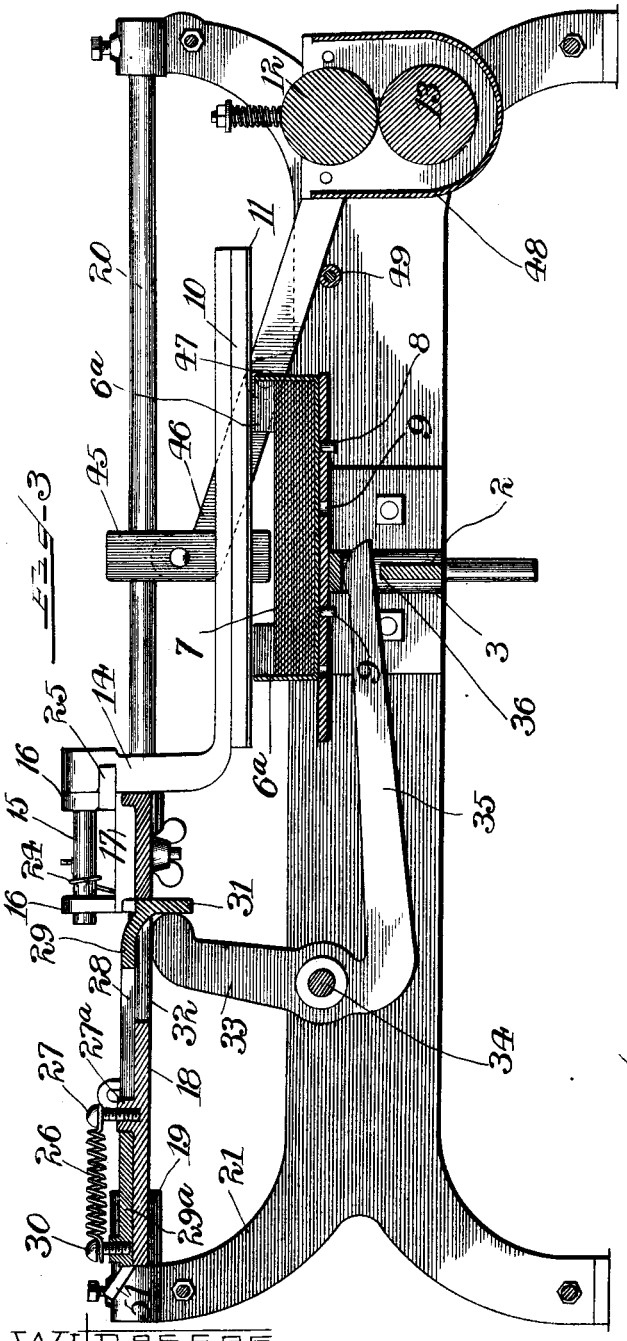

Fig. 3.

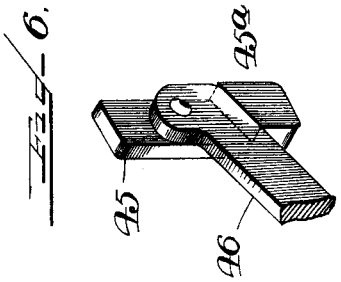

Fig. 6.

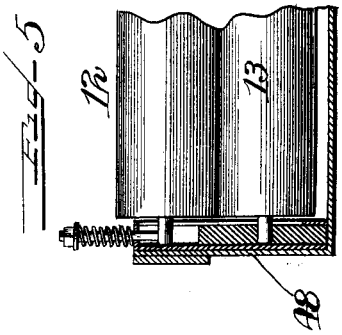

Fig. 5.

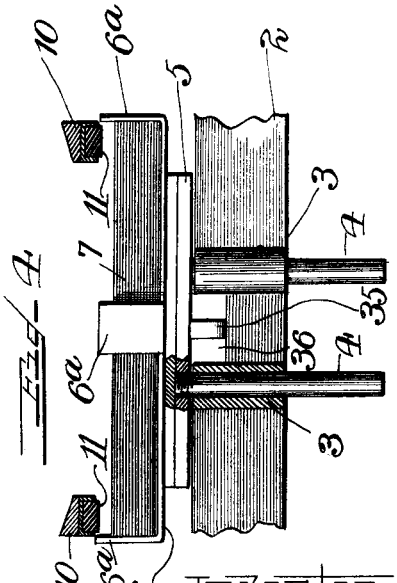

Fig. 4.

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UNITED STATES PATENT OFFICE.

ESSINGTON N. GILFILLAN, OF CHICAGO, ILLINOIS, ASSIGNOR TO NEW YORK LABELING MACHINE COMPANY, OF NEW YORK.

LABELING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 675,887, dated June 11, 1901.

Application filed May 28, 1900. Serial No. 18,338. (No model.)

To all whom it may concern:

Be it known that I, ESSINGTON N. GILFILLAN, a citizen of the United States, residing at 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 specification.

My invention relates more particularly to machines for applying paste to the label in order that the same may be affixed to the bottle or package, and has for its primary object to provide a simple and convenient device that will apply paste over the desired area of the label and hold the label in a convenient position to be pressed against the package or bottle to be labeled, thus leaving both hands of the operator free to be engaged solely in picking up the bottle or package and pressing the label against it.

With these ends in view my invention consists in certain features of novelty in the construction, combination, and arrangement of parts by which the said objects and certain other objects hereinafter appearing are attained, all as fully described with reference to the accompanying drawings, and more particularly pointed out in the claims.

In the said drawings, Figure 1 is a side elevation of my improved labeling-machine. Fig. 2 is an enlarged plan view thereof. Fig. 3 is a vertical section taken on the line 3 3, Fig. 2. Fig. 4 is a detail transverse section taken on the line 4 4, Fig. 2. Fig. 5 is a detail transverse section taken on the line 5 5, Fig. 2; and Fig. 6 is a perspective view of a dog or pawl hereinafter described.

1 represents any suitable frame or stand for supporting the operating mechanism at a convenient height from the floor, and between the side members 1^a of the upper portion of this frame is supported a cross-bar 2, in which is formed a number of vertical sockets or guides 3 for the reception of downwardly-extending stems 4, formed on the bottom of a label-bed 5, which is thus made vertically movable and which supports a box 6, containing the labels 7, the box being provided with a number of pins 8, engaging in sockets or perforations 9 in the bed 5, so as to hold the box in place with capability of being removed when it is desired to refill it or to insert a box of labels of a different size. The label-box 6 consists of a flat plate having tongues 6^a turned upwardly therefrom at the ends and corners to hold the labels in place, while at the same time permitting label pasting and carrying fingers 10 to come into contact with the surface of the uppermost label. These fingers 10 are arranged in a horizontal position and preferably parallel with each other, so as to come in contact with remote edges of the label, and each is provided with a rubber or other suitable surface 11, appropriate for carrying paste and applying the same to the label. The label pasting and conveying fingers 10 are reciprocated in a horizontal direction, so as to pass successively over paste-rollers 12 13 and the label-bed and to pick up a label from the latter and project it forward over and beyond the rollers 12 13, so as to be in position to have the bottle or package inserted downwardly between the fingers 10 for causing the label adhering thereto to stick to the bottle, the bottle being held in one hand and the other hand being placed below the label as it adheres to the fingers 10 and pressed against the bottle and smoothed out as the bottle descends. Each of the fingers 10 is provided with an arm 14, which has a pivot pin or shaft 15, mounted in ears 16, rising from a plate 17, which is mounted on a sliding frame 18, having lugs 19, sliding on parallel guide-rods 20, supported on opposite sides of the frame in brackets 21. The plates 17 are also mounted with capability of sliding transversely of the line of movement of the sliding frame 18, and they are each provided with a set-screw 22, which passes downwardly through a slot 23 in the frame 18, so that the fingers 10 may be set at various distances apart for use with labels of different sizes. In order that a small label may be applied to a bottle or package too large to be passed between the fingers 10, such fingers are made laterally deflectable, or, in other words, turn on their pivot-shafts 15 in an outward direction to permit the bottle or package to pass between them. They are returned to their normal position by means of coil-springs 24, wound on shafts 15, and their inward movement is limited by stops 25, formed on one of the ears 16, in which the shaft 15 is pivoted.

The frame 18, with its perforated lugs or slides 19, which constitutes a carriage for the fingers 10, is attached to one end of a spring 26 by means of a screw 27, which passes upwardly through a slot 28 in a cross-bar 29, to which the other end of the spring 26 is connected by means of screw 30, the cross-bar 29 lying over the frame 18 and having a lug 31 projecting downwardly through a slot 32 in the frame 18 into the path of one end or arm 33 of a bell-crank lever, pivoted at 34 to the side members of the main frame, and having its other arm 35 projecting into an aperture 36, formed in the upper edge of the cross-bar 2 and engaging under the label-bed 5, so that when the bell-crank is oscillated to the left, as viewed in Fig. 3, the labels will be elevated into contact with the fingers 10. The rearward movement of the frame 18 is limited by the brackets 21; but the cross-bar 29 can move as much farther to the rear as the length of the slot 28, the spring 26 being stretched in doing so, and when pressure against the cross-bar 29 is relieved the spring 26 returns it to its normal position, as shown in Fig. 3. This upward movement of the arm 35 for lifting the label-bed, as described, is produced by the movement of the lug 31 after the frame 18 has come to rest against the brackets 21, and the forward movement of the entire carriage, constituted by the frame 18, together with the fingers 10, is produced by a spring 37, secured at one end to the main frame 1 and at the other end to a long vertical arm 38, whose lower end is pivoted to the main frame, while its upward end is connected by a link 39 to a trunnion 40 on the cross-bar 29, the arm 38, with its link 39 and trunnion 40, being preferably duplicated on the opposite side of the machine to insure easy movement. As soon as the pressure of the lug 31 against the arm 33 of the bell-crank is relieved the label-bed and the bell-crank descend to their normal positions by their own weight, and the spring 37 forces the fingers 10 forwardly until they project beyond the front side of the machine in the position shown in dotted lines in Fig. 1 for holding the label adhering thereto in a convenient position for the operator to pass the bottle or package downwardly between the fingers with one hand and press the label upwardly against the bottle with the other hand.

The return movement of the carriage, together with the fingers 10, is produced by a treadle 41, mounted in the lower ends of a pair of foot-levers 42, whose upper ends are pivoted at 43 to the main frame and connected at a suitable point to the arms 38 by means of links 44. Thus it will be seen that when the treadle 41 is forced to the left, as viewed in Fig. 1, the carriage and fingers 10 will also be forced to the left, and as they proceed on their way from the dotted position shown in Fig. 1 the rear edge of the frame 18 comes into engagement with a pivoted pawl 45, mounted upon the upper end of an arm 46, which is pivoted at 47 to the side members of the main frame and supports one end of a paste-trough 48, in which the paste-rollers 12 13 are mounted, 49 being a stop to limit the downward movement of the trough. The other end of the trough 48 is supported by pivoted arm 46^a on the opposite side of the machine. This engagement of the pawl 45 by the moving frame 18 throws the roller 12 up into engagement with the lower faces of the fingers 10 and supplies the latter with paste as they proceed on their return movement, the paste-rollers being thus held in their elevated position as long as the pawl 45 is in engagement with the under side of the frame 18, and as soon as the frame 18 passes the pawl the paste trough and rollers gravitate to their normal position out of the way of the fingers 10, so that as soon as the pressure of the operator's foot against the treadle 41 is relieved the spring 37 will project the fingers 10 forwardly again; but in making this return movement the frame 18 deflects the pawl 45 upon their pivot and passes over it without depressing the arms 46, the pawl 45 being constructed, as shown in Fig. 6, with a lug 45^a on its lower end, adapted to engage with the under side of the arm 46 when pushed in one direction, and thus depress the arm, but when pushed in the other direction to turn upwardly on its pivot. In making the forward movement under the influence of the spring 37 the motion of the cross-bar 29 is imparted to the carriage or frame 18 by the lug or boss 27^a, in which the screw 27 is threaded, the boss being projected upwardly in the slot 28, and in making its return movement the motion of the cross-bar 29 is imparted to the frame 18 through the medium of the spring 26 until the bosses or slides 19 come against the brackets 21, whereupon the spring 26 permits the cross-bar 29 to slide still farther to the rear and bring the lug 31 against the arm 33 for lifting the labels. The cross-bar 29 is provided with a narrowed portion 29^a at its rear side, guided between two flanges 50, formed on the upper side of the frame 18. If desired, the rear side or edge of the frame 18 may be provided with a beveled shoe 51 for easing its passage over the pawl 45.

As the carriage 18 and fingers 10 return to the position shown in Fig. 3 a toothed bar 52, secured at 53 to the under side of the frame or carriage 18 and held in a horizontal position, comes into engagement with a ratchet-wheel 54 on the paste-roller 12, and thus rotates the roller while the fingers 10 are passing over it.

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

1. A labeling-machine having in combination a vertically-movable label-holder, a vertically-movable paste-supplying device, reciprocating paste-applying fingers, levers oscillating in unison with the movement of said fingers for lifting said label-holder and paste

device respectively, and means for reciprocating said fingers, substantially as set forth.

2. A labeling-machine having in combination a vertically-movable label-holder, a reciprocating carriage, paste applying and carrying fingers mounted on said carriage, a vertically-movable paste apparatus, pivoted arms or levers for lifting said paste apparatus and label-holder respectively, a yielding projection on said carriage for engaging the lever which raises said label-holder and means on the lever which raises the paste apparatus, adapted to engage the carriage when moving in one direction but permit it to pass when moving in the opposite direction, substantially as set forth.

3. A labeling-machine having in combination a vertically-movable label-holder, a vertically-movable paste apparatus, means for imparting a vertical movement thereto, a sliding carriage, fingers carried by said carriage for alternately engaging said paste apparatus and label-holder, a lever for lifting said label-holder, a cross-bar connected with said carriage by a yielding connection and having a lug projecting into engagement with said lever and having limited independent movement and means for reciprocating said cross-bar, substantially as set forth.

4. A labeling-machine having in combination a label-holder, reciprocating label pasting and carrying fingers, means for causing the labels on said holder and said fingers to come into contact, a movable paste apparatus adapted to approach the line of movement of said fingers, a pivoted arm for moving said paste apparatus, a pivoted pawl on said arm adapted to be struck by a part connected with said fingers for deflecting said arm when moving in one direction and to deflect said pawl and pass over said arm when moving in the opposite direction and means for reciprocating said fingers, substantially as set forth.

5. A labeling-machine having in combination a reciprocating carriage, a label-holder, label pasting and applying fingers carried by said carriage, means for causing the labels on said holder and fingers to come into engagement, a movable paste apparatus having a roller, a ratchet on said roller, a rack-bar carried by said carriage over said ratchet and means for moving said paste apparatus with said roller against said fingers and said ratchet against said rack-bar as the carriage reciprocates, substantially as set forth.

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