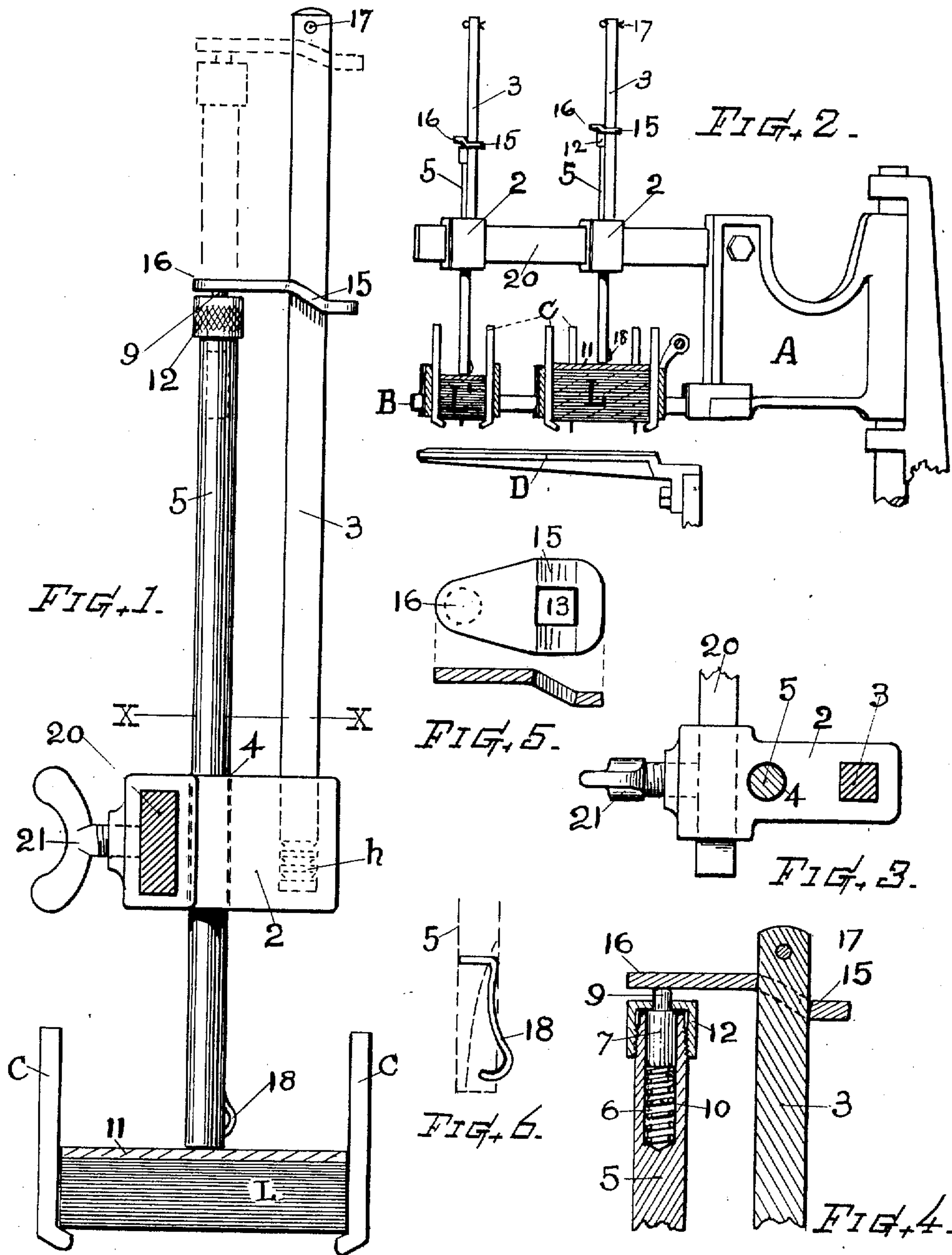


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 LABEL FOLLOWER MECHANISM.
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954,841.

Patented Apr. 12, 1910.



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Specification of Letters Patent.

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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-Follower Mechanism, of which the following is a specification, reference being made therein to the accompanying drawings.

My present invention relates to improvements in follower mechanism, of the class employed with bottom-delivering label-holders, for retaining and resisting upward pressure or movement of the pack of labels, or the like, in label-affixing machines and machines of similar character; the prime object being to provide a more efficient and desirable automatically adjusting follower that will give an easy and uniform pressure upon the pack, or packs, under varying conditions and different qualities of labels; also to obviate liability of the follower pressing too firmly on the pack, and unduly compressing the same, by reason of the jar or motion of the machine. I attain these objects by the mechanism illustrated in the accompanying drawings.

Figure 1 represents a front view of my improved follower mechanism. Fig. 2 shows the follower mechanism as applied to the label-holder of a dual labeling machine. Fig. 3 is a horizontal section at line X X. Fig. 4 is a vertical section at the top ends of the guide-rod and follower-rod. Fig. 5 shows a plan view and central section of the cramp-piece; and Fig. 6 is a view of the spring for temporarily holding the follower-rod elevated.

Referring to the several parts illustrated in the drawings, A denotes the frame or label-holder carrier; and B the label-holder; which may be of any suitable construction, and provided with any efficient means, as stakes C, for supporting a pack, or packs, of labels or the like thereon, as at L L', for delivery from the bottom of the pack. The means employed for taking the labels singly from the pack, or packs, and conveying them to the place of affixment, may be of any well known or suitable kind. In the present instance, for illustration, there is shown a glue-applying picker D, a pair of which are usually employed to move up against the bottom of the pack and take the labels therefrom adhesively, in well known manner.

But my improvement has reference to the follower mechanism, which can be applied to label-holders of various forms, as employed for various kinds of machines wherein the structure of the label-holder and feeding means renders the use of a follower desirable.

The numeral 2 indicates the follower-supporter or head-piece, having an upright guide-rod 3 rigidly fixed therein, and projecting upward therefrom; also having a vertical guide-way or opening 4 there-through near to and approximately parallel with said guide-rod, and the follower-rod 5 is supported in and freely slidable endwise through said opening. The guide-rod 3 is preferably of square or rectangular cross-section, and the follower-rod cylindrical. The rod 3 is preferably fixed in the head-piece by embedding its end in the metal when casting the head-piece, as indicated by dotted lines at h on Fig. 1.

The top end of the follower-rod 5 is formed with an internal cavity 6, and externally screw-threaded. Within said cavity I arrange an endwise movable stud 7 having a shoulder and a projecting tip 9; and provide a spring 10 beneath the stud for pressing it upward. The stud and spring are confined from escaping from the cavity by a centrally perforated screw-cap 12, or other suitable means, which allows the tip 9 of the stud to project about one sixteenth of an inch, more or less, above the cap or end of the follower, substantially as shown in Figs. 1 and 4, and to yield to any force sufficient to overcome the resistance of the spring 12, which latter can be made with a tension suitable to meet the requirements in any particular instance. The lower end of the rod 5 rests upon the plate 11, which is usually placed upon the top of the pack or pile of labels L, and follows downward as the pile is reduced by removal of labels from the bottom.

A cramp-device or plate 15, having a suitable opening 13 for freely sliding downward, and upwardly cramping, is arranged on the guide-rod 3, and has an end or member 16 that projects over the follower-rod 5 for contact with the end of the rod or its spring-pressed stud 7. A cotter-pin, or equivalent means at 17, serves to prevent the cramp-piece 15 escaping at the top of the guide-rod.

At or near the lower end of the follower-rod I provide a small spring 18 arranged

in, and projecting from a slot in the side of the rod. Said spring is best formed of a wire bent as shown in Fig. 6, and is adapted for giving friction within the head-piece, when the follower-rod is elevated, sufficient for temporarily retaining said rod in elevated position while the operator is charging labels, or the like, into the holder for renewing the packs.

10 The head-piece 2 is disposed above the pack of labels and supported in suitable manner to maintain a fixed position with the rods upright. Preferably, as in the present instance, where a label-holder has a plurality of compartments, a horizontal supporting-bar 20, of rectangular cross-section, is rigidly fixed to the frame or label-holder carrier A and arranged to extend over the several compartments of labels L, L'; the head-piece for each compartment being formed with a horizontal opening to fit and slide upon said supporting bar 20, and a clamping or fastening means, as set-screw 21, is provided for retaining the head-piece at any position upon the bar, with the follower-rod approximately centrally above its respective compartment. The follower-supporting head-piece can be adjusted along the bar to any position desired to conform with the compartments when adjusted for various forms and positions of labels.

In the operation of this mechanism, the follower-rod 5 moves downward freely by gravity, but its upward movement is resisted by the over-projecting resistance device or plate 15, which also drops by gravity, but cramps on the standing guide 3 with any lifting action against its projecting end 16. The spring-pressed stud 7 serves as a primary contact member between the rod and resistance device, and while allowing the top end of the follower-rod to solidly impinge against the cramp-piece when the pack is pressed upward by the pickers, gives a limited degree of yielding and resilient action that preserves the proper relation of the cramping members and prevents the cramp-piece moving down the guide-rod so far as to cause an increasing concentration of the pack to such a degree that it becomes rigid and interferes with the proper working of the pickers in taking labels from the bottom of the pack.

The cramping and yielding devices being at the top of the follower-rod make a light and easily operating mechanism that is sensitive and readily operative without regard to the condition or thickness of the labels, and will work on labels of thick paper, or of thin tissue paper.

By simply lifting the clamp and follower-rod to the top of the guide, as indicated by dotted lines Fig. 1, said parts will be held elevated by the spring 18, so as not to interfere with the charging of labels into the top

of the label-holder. When charged, the follower can be brought into working position by simply pushing it downward by the hand.

I claim—

1. In combination with means for supporting a pack of labels, or the like, a follower mechanism comprising a non-elevatable supporting and guiding head, an upright guide-rod fixed therein, a movable follower-rod guided within and extending through said head approximately parallel with said guide-rod, and a slidable cramp-device mounted on said guide-rod and projecting over said follower-rod; said cramp-device adapted to move freely downward along said guide-rod, but to grip on the guide-rod and resist upward movement when pressure is exerted on its projecting end by contact of said follower-rod.

2. A follower mechanism comprising a head-piece having a horizontal guide-way and a vertical guide-way therethrough, means for clamping said head-piece upon a bar passed through said horizontal guide-way, a vertical rod fixed in said head-piece, an endwise movable follower-rod passing through the vertical guide-way in said head, a spring projected stud at the top end of said follower-rod, and an upwardly clamping grip-device movable on said vertical rod and projecting over the top end of the follower-rod.

3. In a mechanism of the class described, in combination with the supporting member having a cramp-guiding-rod fixed therein, a follower-guiding opening adjacent thereto, and the cramping-plate arranged to act on said fixed cramp-guiding-rod; of a follower-rod slidable through said opening, and having a recess in its upper end, a perforated cap secured thereon, a spring within said recess and an endwise movable stud seated upon said spring and having a limited projection through said cap for impingement against the clamp-device.

4. In combination with a top-charged bottom-delivering label-holder, a label follower mechanism comprising a follower-guiding support, a fixed upright cramp-guide-rod, an upright endwise movable follower-rod, a tilting cramp-plate embracing said cramp-guide-rod and overlying said follower-rod, means at the top end of said follower-rod that affords a limited yield and resilient action between said cramp-plate and the adjacent end of the follower-rod, but permitting solid contact of the same by slight upward movement of the follower-rod.

5. The combination with a holder adapted for supporting a pack of labels or the like, means for taking labels from the bottom thereof, and a pressure-plate for the top of the label pack; of a standing guide, an endwise movable follower approximately parallel to said standing guide and seating on

said plate, a guide for said follower, a downwardly moving resistance-device mounted on said standing guide and adapted for automatically resisting upward movement of said follower, and a yieldable contact-member disposed between said follower and resistance-device, and having a limited yielding and resilient movement, for the purpose set forth.

6. The combination with a bottom-delivering label-holder having compartments and means for supporting a plurality of packs of labels, of a rigid horizontal carrier-bar extending over the compartments of said label-holder, guiding heads adjustably secured upon said carrier-bar at the respective label-compartments, means for releasably securing the guiding-heads rigid upon said bar, an upright cramp-guide fixed in each guiding-head, an upright follower-rod adjacent to and approximately parallel with said fixed cramp-guide, and slidable endwise through the guiding-head, an upwardly grip-

ping cramp-device arranged on the cramp-guide and projecting over the follower-rod, and an endwise yielding spring-pressed stud arranged in the end of the follower-rod and having a limited projection for impinging against said cramp-device, substantially as set forth.

7. The combination with the label-holder, follower-guiding support, fixed cramp-guide-rod, endwise movable follower-rod, and sliding cramp-piece; of the laterally projecting friction spring located in a slot at the foot of the follower-rod and adapted for temporarily holding up said follower-rod and cramp-piece when at extreme elevated position.

Witness my hand this 24th day of August, 1909.

FRANK O. WOODLAND.

Witnesses:

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