

Patented Apr. 15, 1919.



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ADVANCING MEANS FOR LABEL-HOLDERS.

1,300,409.

Specification of Letters Patent.

Patented Apr. 15, 1919.

Original application filed June 11, 1914, Serial No. 844,553. Divided and this application filed October 22, 1915, Serial No. 57,349. Renewed January 6, 1919. Serial No. 269,892.

To all whom it may concern:

Be it known that we, JOHN EMANUEL JOHNSON and CHARLES H. OSLUND, said JOHNSON being a subject of the King of Sweden and said OSLUND a citizen of the United States, both residing at Worcester, in the county of Worcester and State of Massachusetts, have invented a new and useful Advancing Means for Label-Holders, of which the following is a specification.

This is a division of our patent on a rotary labeling-machine, filed June 11, 1914, Ser. No. 844,553, patented Aug. 28, 1917, No. 1,238,713.

The principal object of this invention is to provide a label hopper with means for feeding the labels forward by the aid of gravity and keeping a pressure on them which will insure their being pressed toward the feeding end thereof at all times with a uniform pressure independently of the number of labels in the hopper. The invention also involves improvements in construction by which the feeding and pressing action is made practical and simple, and means for moving the hopper back so that when the picker comes up into position for receiving a label it will not engage the hopper and therefore will not take a label, this being employed in certain emergencies which it is not necessary to describe in detail herein. There are many other improvements in the machine as will appear later.

Reference is to be had to the accompanying drawings, in which—

Figure 1 is a plan of part of a label feeding device constructed in accordance with this invention;

Fig. 2 is an end elevation of the same,

Fig. 3 is a side elevation of the labeling device showing the paste pot in section.

In the form illustrated which is designed to be applied to a bottle labeling machine, a main frame 42 is provided on which is mounted a horizontal shaft 106 underneath. This shaft has means not shown by which the shaft can be operated by power or by hand.

The paste and label carrying mechanism is controlled from the shaft 106. The frame 42 is provided with a stand 153 extending

upwardly therefrom on which the label holder is mounted. On the top of this stand is a horizontally movable support 154 held by a spring 155 in its forward operative position but capable of moving back on guide rods 156 to an inoperative position. It carries upon it a pair of vertical studs 157 on which a bracket 158 is mounted. One of the bosses 159 on this bracket which surrounds one of the studs 157 is split and its ends connected by a bolt or screw so that it can be fixed in position and so that the bracket 158 can be adjusted vertically and fixed in adjusted position. Projecting upwardly at an angle from the bracket 158 are a pair of parallel rods 160. Between these rods are a series of cross bars 161, four being shown in the drawings. They are fixed in any adjustable position on the rods 160 by means of set screws or the like so as to be adjusted for labels of any desired width. Each of these cross bars carries a pair of guides 162 which constitute one side of a label holder. They are also provided with longitudinal perforations through which project arms 164 and 164^a carried by hubs 165 mounted on right and left-hand screws 166. These screws are supported in projections from the ends of the top and bottom cross bars and have hand wheels 168 by which they can be turned to adjust the arms 164 back and forth. Each arm 164 and 164^a supports one or more guides 169 which constitute the ends of the label holder.

It will be seen that by the use of the number of parts shown in the drawings, two label holders can be provided, one for the body labels and the other for the neck labels. Each of the guide bars 162 and 169 has a hook 171 on the end. These hooks face inwardly to hold the labels but do not project far over the edges so that the labels can be withdrawn from the end of each label holder.

The bracket 158 is provided with a rearward extension 172 carrying a pivot shaft 173 on which is pivotally mounted a plate 174. This is provided with a pair of guide rods 175 each having a depression 176 in the end at the top. These guide rods support rollers 177 which carry arms 178 having fixed relatively thereto rods 179 guided

through slots in the plate 174 and provided on their ends with plates 180 adapted to engage the end label in each label holder and hold the labels in proper position against the hooks 171. The arms 178 and rod 179 are connected by members 18 which constitute weights for holding the rods 179 down toward the hoppers and keeping labels in proper position. The depressions 176 are for the engagement of the rolls 177 when it is desired to draw the plates 180 back to permit filling the holders or adjusting the parts. Moreover, the whole plate 174 can be swung back after the rolls 177 are brought into the depressions 176 so as to provide ready access to the label holders. The plate 174 is held in the position shown in Fig. 3 by a pin 181 passing through holes in the plate and in an arm on the bracket 172. A chain 182 is shown for preventing this pin being lost when the plate 174 is turned back.

In order to prevent the operation of the labeling device under certain conditions a roller 189 loosely mounted on a shaft 190 is moved by any desired means along said shaft between the arms of a fork 191 which supports the shaft. This fork is fixed on a shaft 192 and the roller 189 is adapted to rest on a feeler cam 193 on the shaft 106. The result of this is to lift the roll 189 and turn the shaft 192, thus swinging an arm 196 fixed on this shaft. This engages a lug 197 on the slide 154 and moves the same back against the spring 155. This moves the whole labeling holding device back out of the reach of the pickers 200.

The support 42 is provided with a stand 201 on which is a rod 202. On this rod is a slidable sleeve 203, the sleeve being keyed to turn with the rod. To this sleeve the label pickers 200 are fixed so as to move with it from the full line to the dotted line position in Fig. 3. The sleeve also slides along the rod to move the picker from the label holder to a position to apply the labels to the bottles. For the purpose of causing the former of these motions the following mechanism is provided.

Also mounted on the shaft 106 is a picker swinging face cam 208. This operates a roll 209 mounted on a bell crank 210 which is connected at its outer end with a link 211 which is normally pulled down by a spring 212. This link is connected at its upper end with an arm 213 fixed to the rod 202 and consequently it will be clear that when the cam 208 pulls the roll 209 in the pickers will be rocked toward the label holder.

The shaft 106 is provided also with a roll cam 215 which operates a roller on a lever 217 which is connected by a link 218 with a slide 219 operating in an upwardly inclined guide 220. This slide is provided with a paste roller 221 on the top. The operation of this slide causes the paste roller to move

up and down on an inclination for the purpose of applying paste to the pickers when they are in the dotted line position in Fig. 3.

In order to keep the paste roller 221 firmly in contact with both pickers throughout its travel so that the paste will be applied uniformly, the following mechanism is shown. A bell crank 214 is pivoted on the stand 201 and held down at one end by a strong spring. To the other arm of the bell crank is pivoted a link 216 having a longitudinal slot 215^a enlarged at its inner end. This receives the grooved end of the shaft of the paste roller 221, and the spring always holds this end of the roller against its picker. The enlargement of the groove is to permit easy disassembling of the parts.

The roller gets its paste from the paste drum 222 mounted in the paste pot 223 and operated by a sprocket chain 224 from a sprocket wheel 225 on the shaft 106. A scraper 227 is mounted in the paste-pot to engage the drum and remove superfluous paste therefrom in such a manner as to cause it to run back into the paste-pot. The upper part of the paste-pot is closed by a plate 228 pivoted on studs 229 and capable of swinging up into inclined position.

The sequence of operations secured by the various cams and driving mechanisms shown is as follows:—The rollers 221 rise from the paste drum 222, the pickers 200 then move outwardly from the table to the dotted line position shown in Fig. 3. The roller 221 then moves downwardly and applies paste to the forward surface of the picker. It then moves back into engagement with the drum. Its movement is in a plane parallel with the plane of the pickers when in their retracted position shown in dotted lines in Fig. 3. Then the cam 208 acts to swing the pickers up into the full line position shown in Fig. 3 where they engage the labels at that end of the label holder. The pickers are provided with notches 230 in their edges for enabling them to pass the hooks 171. The pickers being covered with paste and engaging the labels near their outer edges draw the two end labels from the label holders. The weights 18 constantly tend to force the rods 179 down in an inclined direction so that the plates 180 bear on the pile of labels with uniform pressure independently of the number of labels in the label holders. The labels therefore are always in the right condition to be applied to the picker by the motion of the latter. It will be understood also that whenever it is not desired to apply a label the machine can go through a cycle of operations without applying it, by bringing the roller 189 into contact with its cam 193 and thus moving the label holder back out of contact with the picker. As explained in the parent application, this is accomplished for the purpose of preventing the

gumming up of a pair of labels when the table on which the articles to be labeled passes the labeling position without an article in position to be labeled.

5 Although we have illustrated and described only one form of the several features of this invention, we are aware of the fact that many modifications can be made therein without departing from the scope
10 of the invention as expressed in the claims. Therefore we do not wish to be limited to all the details of construction herein shown and described, but what we do claim is:—

1. In a label holding and feeding device, the combination of a movable support, means
15 for reciprocating said support, a bracket carried by the support, label holding devices mounted on the bracket, a rod extending at an incline from said bracket, a weight supported by the rod and slidable there-
20 along, a movable rod connected with the weight having a plate on it for transmitting the pressure of the weight to a pile of labels, and means for connecting the last named
25 rod with the weight.

2. The combination of a label holder, a plate for closing the end thereof having an inclined rod extending therefrom with a weight thereon, an arm extending from said
30 rod, and a guide rod parallel with the first named rod for supporting the arm.

3. The combination with a label holder, of a plate for closing the end thereof having an inclined rod extending therefrom with a
35 weight thereon, an arm extending from said rod and provided with a roller, a guide rod parallel with the first named rod for supporting the roller, said guide rod having a notch in the end for receiving the roller and
40 preventing the same from being dislodged, and means for taking labels from the holder.

4. The combination of a label holder, a plate for closing the end of the label holder, a rod extending longitudinally from the
45 label holder and attached to said plate, a movably mounted plate having a guide for said rod whereby when the first named plate is removed from the label holder the second plate can be moved to expose the end of the
50 label holder, and means for holding the second plate in its normal operative position.

5. The combination with a label holder, of a plate for closing the end thereof for
55 receiving the labels, said plate having an

inclined rod extending therefrom with a weight on the end, an arm extending at right angles to said rod and provided with a roller, and a guide rod parallel with the first named rod for supporting the roller
60 and weight said guide rod having a notch in the end for receiving the roller and preventing the same from moving down the guide rod.

6. The combination of a pair of inclined
65 side rods, a label holder supported thereby, a plate for closing the end of the label holder, a rod extending longitudinally from the label holder and attached to said plate, a pivotally mounted plate having a guide
70 for said rod whereby when the first named plate is removed from the label holder the second plate can be turned on its pivot to expose the end of the label holder, and means for holding the second plate in its normal
75 operative position.

7. In a label holding and label feeding device, the combination of an inclined fixed rod, a roller mounted to roll down the upper
80 surface of the rod on which said roller is supported, a label holder, means in the label holder for applying pressure to a pile of labels therein, and means connected with said roller for operating the first named
85 means.

8. In a labeling machine, the combination of a label holder located in inclined position, a fixed rod arranged on the same inclination, a roller mounted on the upper side
90 of said rod and adapted to roll down the same toward the label holder, a weight depending from the roller and located on the lower side of said rod to move down with the roller, and a rod parallel with the first named rod movably connected with said
95 weight to move therewith for applying pressure to the labels in the label holder.

9. In a labeling machine, the combination with a label holding device, of an inclined rod, a roller supported on said rod and
100 mounted to roll down the same, a weight supported by the roller, a movable rod connected with said weight and movable therewith, and means on the movable rod for applying pressure to a pile of labels in the
105 label holding device.

In testimony whereof we have hereunto set our hands.

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