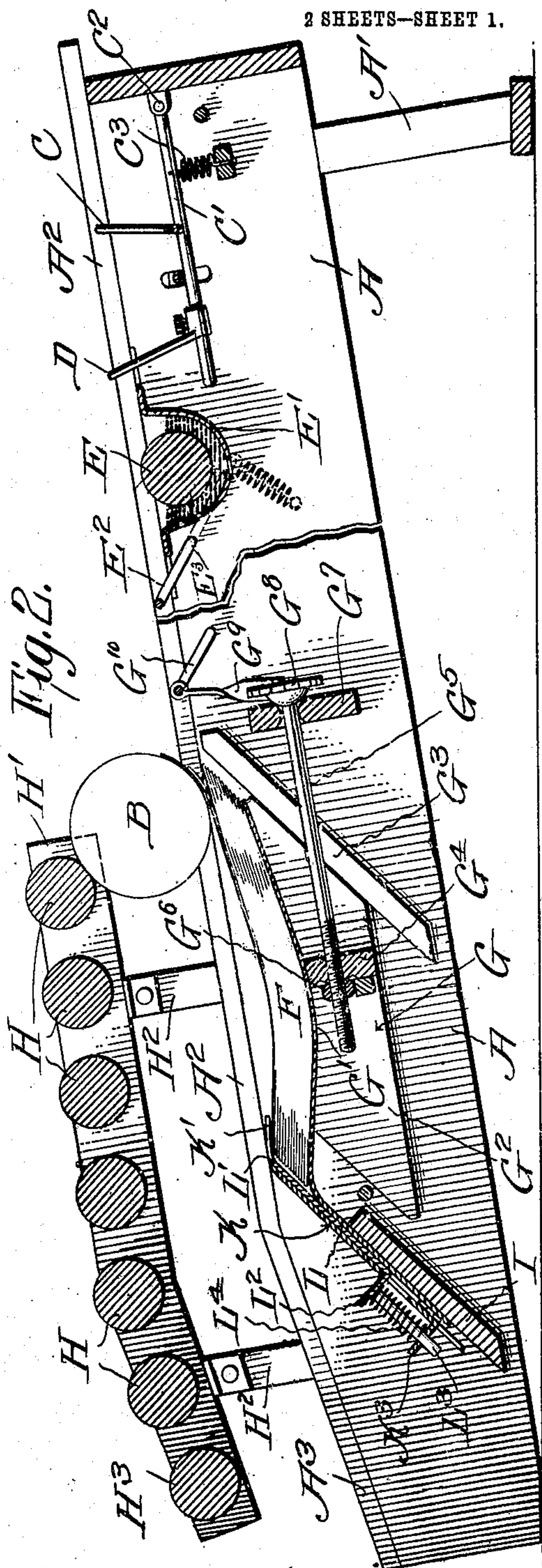
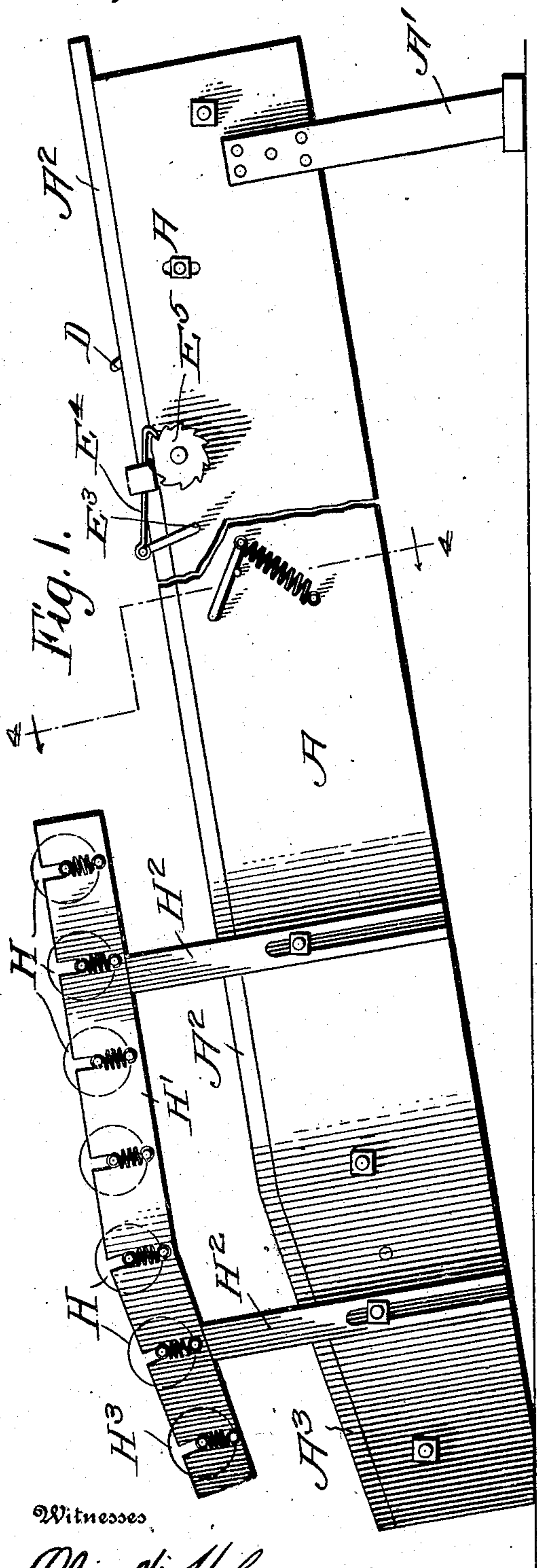


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CAN LABELING MACHINE.
APPLICATION FILED JULY 1, 1907.

Patented June 8, 1909.

2 SHEETS—SHEET 1.

924,129.



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JACOB BARROW, OF WINDFALL, INDIANA.

CAN-LABELING MACHINE.

No. 924,129.

Specification of Letters Patent.

Patented June 8, 1909.

Application filed July 1, 1907. Serial No. 381,707.

To all whom it may concern:

Be it known that I, JACOB BARROW, a citizen of the United States, residing at Windfall, in the county of Tipton and State of Indiana, have invented a new and useful Improvement in Can-Labeling Machines, of which the following is a specification.

This invention is a novel construction of machine for affixing labels and while particularly adapted for labeling cans it can be used for labeling any other cylindrical body.

The object of the invention is to provide an exceedingly simple machine in which the force of gravity is the only force employed for the purpose of operating the machine, the weight of the can or other article as it passes through the machine being depended upon to perform the various operations.

Another object of the invention is to construct a machine in which each of the several elements will be independent of the other elements, that is each one receiving its motion from the can and not affected by the motion of any other element of the machine thereby reducing the liability of the parts getting out of order to a minimum.

Another object of the invention is to construct the machine in such a manner that each can as it passes along through the machine will prepare the way for the next succeeding can.

With these various objects in view my invention consists essentially in the employment of an inclined runway along which the can is adapted to travel, said runway having a label holder and a pasting device arranged therein in such a manner that as the can passes along the said inclined runway a definite amount of paste or glue will be transferred to the can and said pasted or glued can continuing its motion will pick up the topmost label, roll it around the can and finally glue or paste the free end of the label.

The invention consists also in providing a suitable compression device whereby the label is tightly held to the can and the invention consists also in adjustable feeding means arranged in connection with the label holder whereby as each label is moved the holder can be moved upwardly so as to always maintain the topmost label in the proper position to be picked up by the can.

The invention consists also in various details of construction and novelties of combi-

nation all of which will be fully described hereinafter and pointed out in the claims.

In the drawings forming a part of this specification:—Figure 1 is a side elevation of a machine constructed in accordance with my invention. Fig. 2 is a longitudinal sectional view of the machine. Fig. 3 is a top plan view partly in section. Fig. 4 is a transverse sectional view on the line 4—4 of Fig. 1. Figs. 5 and 6 are detail perspective views of the label holder.

In carrying out my invention I employ an inclined runway A, which consists of two parallel beams supported at one end upon legs A' and having tracks A² arranged upon their upper edges and between which the can B, is adapted to travel. The rear or discharge end of the runway is given a considerable incline as shown at A³, the purpose of which will appear hereafter.

The can B, is fed to the upper end of the inclined runway and passes through the machine by its own weight depending entirely upon the force of gravity to give it the sufficient momentum and as it passes through the machine, it is first supplied with paste or glue and then picks up the label, wraps it about the can and finally seals the remaining end of the label just before the can is discharged from the end of the machine, and I shall now describe in detail the various elements and the manner in which they operate.

For the purpose of starting the can into the machine perfectly straight, I employ two straightening fingers C, which are connected to a spring actuated lever C' pivoted at C² and normally held in position by means of a spring C³. These fingers C project upwardly a short distance above the track so that as the can comes into the machine it will strike these two fingers and in case it has not already traveled perfectly straight these fingers will serve to bring the can around to a proper position. Adjustably arranged upon the free end of the lever C' is a tripping finger D which projects upwardly into the path of travel and is depressed as the can travels thereover and when this tripping finger is depressed it carries down with it straightening fingers C and the can behind it is therefore permitted to continue its passage through the machine.

Adjacent the tripping finger D is a paste roll E, which is journaled between the side

beams of the runway and operates in a suitable trough or reservoir E' , which is adapted to contain a definite amount of paste, glue or any other suitable adhesive. The upper face of the roll extends just a sufficient distance into the path of travel to come in contact with the face of the can as it passes thereover and this roller is of such size with reference to the can and the label to be attached thereto, that it imparts to the can a strip of paste or glue twice as wide as the marginal portion of the label which is ordinarily left free or unprinted for the purpose of attachment to the can, and the object of applying this extra wide strip will appear hereinafter.

As the can passes behind the pasting or gluing roll it engages a rock arm E^2 of a shaft E^3 which is connected to the pawl E^4 which operates upon a ratchet wheel E^5 mounted upon the end of the paste roll shaft so that as each can passes over said paste roll, the said roll will be turned a definite amount thereby presenting the fresh surface to each and every succeeding can.

The can after having the glue or paste applied thereto continues its downward course through the machine and soon reaches the stack of labels F , held in the label holder G , and the label holder is so arranged with reference to the paste or gluing roll that one-half of the pasted portion of the can will come into contact with the end of the label, and inasmuch as the can is rolling at this time the end of the label will be picked up and carried on around the can as it rolls along the inclined runway, and as labels are ordinarily made slightly longer than the circumference of the can, to which they are to be attached, this extra length of label is intended to overlap the marginal end which is first applied to the can, and I construct my holder in such a manner that the glued or pasted portion of the can which has not already been covered will come into contact with the other end of the label, wipe a certain amount of the said paste or glue upon said end so that it can overlap and be made to adhere to the marginal end first applied, and as the can passes over the label with a series of spring actuated pressing rolls H , each one independent of the other and journaled between the beams H' supported by standards H^2 adjustably connected to the side beams of the runway, said rollers being so arranged with reference to the inclined runway that a can can pass beneath them but will be subjected to a pressure while doing so whereby the label will be held tightly to the can as it passes under these pressing rolls.

The rearmost roll H^3 is placed somewhat closer to the inclined runway than the others so that just before the can passes from the machine it will be subjected to a somewhat greater pressure than the other rolls have

performed and this roll is so arranged with reference to the other parts of the machine that its pressure will be exerted upon the joint of the label, thereby firmly compressing the glued or pasted margins to the can.

As before stated the rear end of the runway is inclined more than the remaining portion, said drop occurring just after the can passes behind the label holder and the purpose of this extra incline is to give the can an increased speed so as to rapidly discharge it from the machine and to prevent any possibility of its interfering with the can next behind it.

As each label is picked up, by the can passing over the holder, the entire holder is adjusted one step so as to sufficiently elevate the next label to the proper position to be picked up and in order to provide for this I construct the holder with a slightly concaved bottom G' which is connected to two side-pieces G^2 the ends of which are inclined and slide upon inclined guide-ways G^3 arranged upon the inner faces of the side beams of the runway.

A cross piece G^4 connects the side pieces G^2 and passing therethrough is a threaded rod G^5 carrying the nut G^6 upon the threaded end thereof and upon the rear side of the cross piece G^4 . The opposite end of the rod passes through a cross piece G^7 and carries a ratchet wheel G^8 upon the end thereof, said ratchet being operated by a pawl G^9 carried by an arm of the rock shaft G^{10} , which projects into the path of travel and is depressed as the can passes thereover, and at each depression the rod will be given a partial turn and which will cause the label holder as a whole to be moved slightly upwardly as it will be readily understood that the inclined end of the label holder riding upon the inclined strips G^3 will serve to elevate the label holder, and the threaded rod and the pawl and ratchet are so constructed as to elevate just the proper amount at each operation of the can.

The concaved bottom G' is formed with a downwardly extending end G^{11} which rests upon an inclined crosspiece I , and in order to hold the extreme end of the label a short space of time while the glue or paste is being wiped thereon I provide a plate K , having angular fingers K' at its upper ends which fingers are adapted to be brought into contact with the edges of the label and are so spaced as to leave the remaining end portion of the label blank or uncovered so that the paste or glue can be applied thereto, and in connection with this plate K I employ another plate L , which has a lip L' projecting upwardly between the angular fingers K' , said plate L being arranged next to the inclined end G^{11} of the holder and the plate K rests upon this plate L . The plate K has a rectangular shaped opening K^2 punched therefrom and adjacent its lower end has an aper-

tured tongue K^3 punched upwardly as most clearly shown.

The plate L has a tongue portion L^2 punched upwardly therefrom and to which a stud L^3 is attached. This stud L^3 and the tongue L^2 are adapted to be passed upwardly through the opening K^2 and the stud L^3 passes downwardly through the apertured tongue K^3 and a coil spring L^4 is arranged about this stud and between the tongues L^2 and K^3 the normal tendency of this spring being to hold the lip L' projected a short distance above the end of the labels. As the can passes along it comes into contact with this lip L' , exerts pressure thereon and causes the fingers K' to bind against the end of the label so that said label is held while the surplus portion of glue or paste is applied to the extreme end of the label and inasmuch as the label is longer than the circumference of the can, I make the bottom of the label holder curved or concaved so that a loop will be formed in the label so as to allow the can to be brought into contact with the free end of the label before it is completely released from the holder and in this manner I am able to apply the proper amount of paste or glue to the extreme end of the label which overlaps the end previously attached to the can, and all of these operations take place while the pressing rolls are exerting their pressure upon the can with the label wrapped thereon so that the label will be held extremely tight during the final affixing operation.

It will thus be seen that I provide an exceedingly simple and efficient machine, one in which all of the operations are carried out by the can traveling through the machine, said can being caused to move entirely by the force of gravity and furthermore, it will be noted that each can as it passes through the machine prepares the way and adjusts all of the mechanism for the next succeeding can.

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

1. In a can labeling machine, an inclined runway, straightening fingers arranged in said runway, a tripping finger for releasing said fingers, a paste affixing device arranged therein, and a label holder also arranged in said runway and pressure rolls arranged above the said runway for the purpose described.

2. In a can labeling machine, an inclined runway, a label holder having a curved bottom, and a paste affixing device, together with means for raising said paste affixing device, so as to apply the paste as the can passes therethrough and means operated by the can for holding the extreme end of the label in the label holder.

3. In a can labeling machine, an inclined runway, a label holder arranged in said runway having a curved bottom, and means for intermittently adjusting said holder, said

means being operated by the passage of the can.

4. In a can labeling machine, a label holder having a concaved bottom, means for intermittently adjusting said holder, a plate provided with angular gripping fingers arranged at the end of the label holder together with spring actuated means for bringing the angular fingers into contact with the edges of the label.

5. In a can labeling machine, an inclined runway along which a can travels, a spring actuated lever carrying straightening fingers, and a tripping finger, a pasting roll and means for actuating the same, a label holder and means for adjusting the same, and the series of pressing rolls arranged above the runway and label holder, the rear end of the runway being inclined to a greater degree than the main portion thereof, and the rearmost pressing roll being arranged closer to the runway than the other roll, as set forth.

6. In a can labeling machine, a label holder comprising a concaved bottom, side pieces and a cross piece, the forward ends of the side pieces being inclined, the side members of the runway provided with inclined strips upon which the inclined ends of the label holder travel, a threaded rod having a ratchet wheel at its forward end, and a nut upon the rear end, the rock shaft and pawl for actuating the ratchet wheel, substantially as described.

7. In a can labeling machine, the inclined runway having the straightening fingers extending into the line of travel of the can, the tripping finger operatively connected with the straightening fingers, the pasting roll and reservoir arranged also in the runway, the intermittently adjustable label holder arranged in the runway provided with means for retaining the rear end of the label until the can has passed thereover, and the spring actuated pressing rolls arranged above the runway and label holder, all of said parts being constructed and operated substantially as set forth.

8. In a can labeling machine, a label holder having a concaved bottom, and downwardly projecting rear end, a plate resting upon said end and having an upwardly projecting lip, said plate also being provided with a tongue carrying a stud, and a second plate having a rectangular shaped opening and an apertured tongue, and angular fingers projecting from the upper ends of the plate, the stud being adapted to pass through the apertured tongue, and a spring surrounding said stud between the tongues, of all said parts being adapted to operate for the purpose described.

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Witnesses:

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