

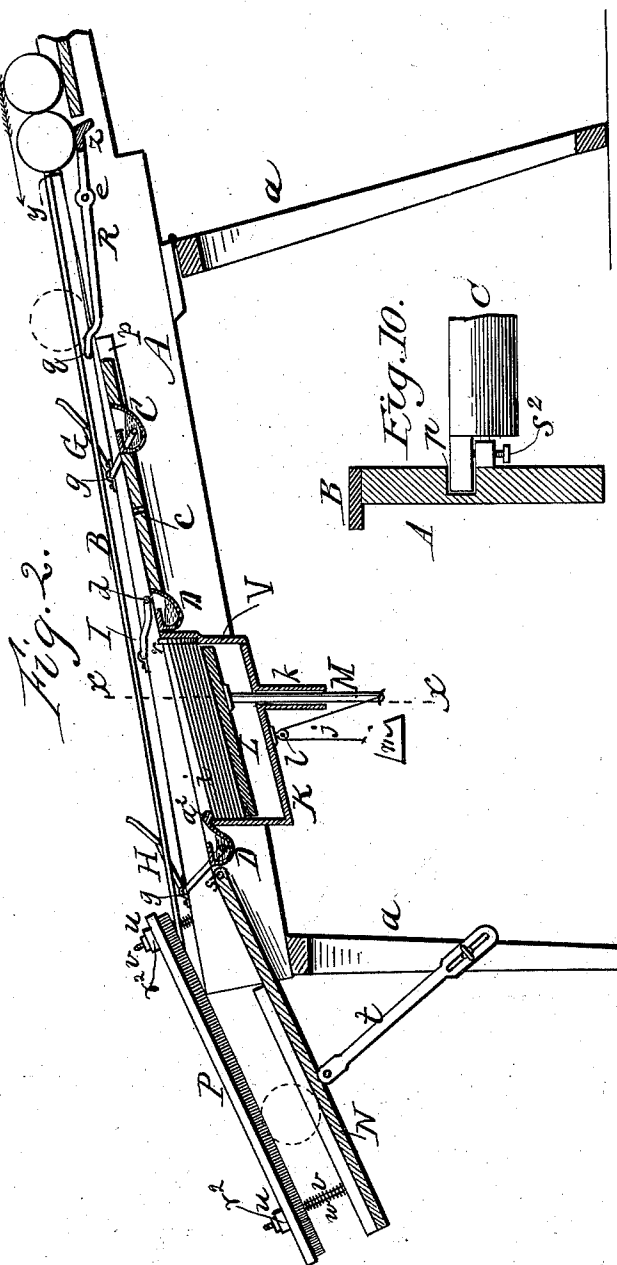
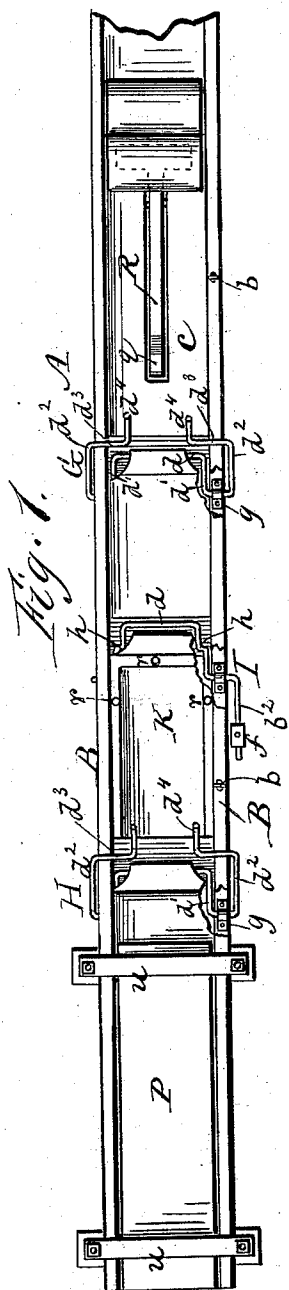
(No Model.)

2 Sheets—Sheet 1.

O. T. HOLBROOK.
LABELING MACHINE.

No. 558,907.

Patented Apr. 21, 1896.



Witnesses.

Chauncey Perry
F. B. Hutchinson

Inventor:

Oliver T. Holbrook,
for R. F. Osgood,
Atty

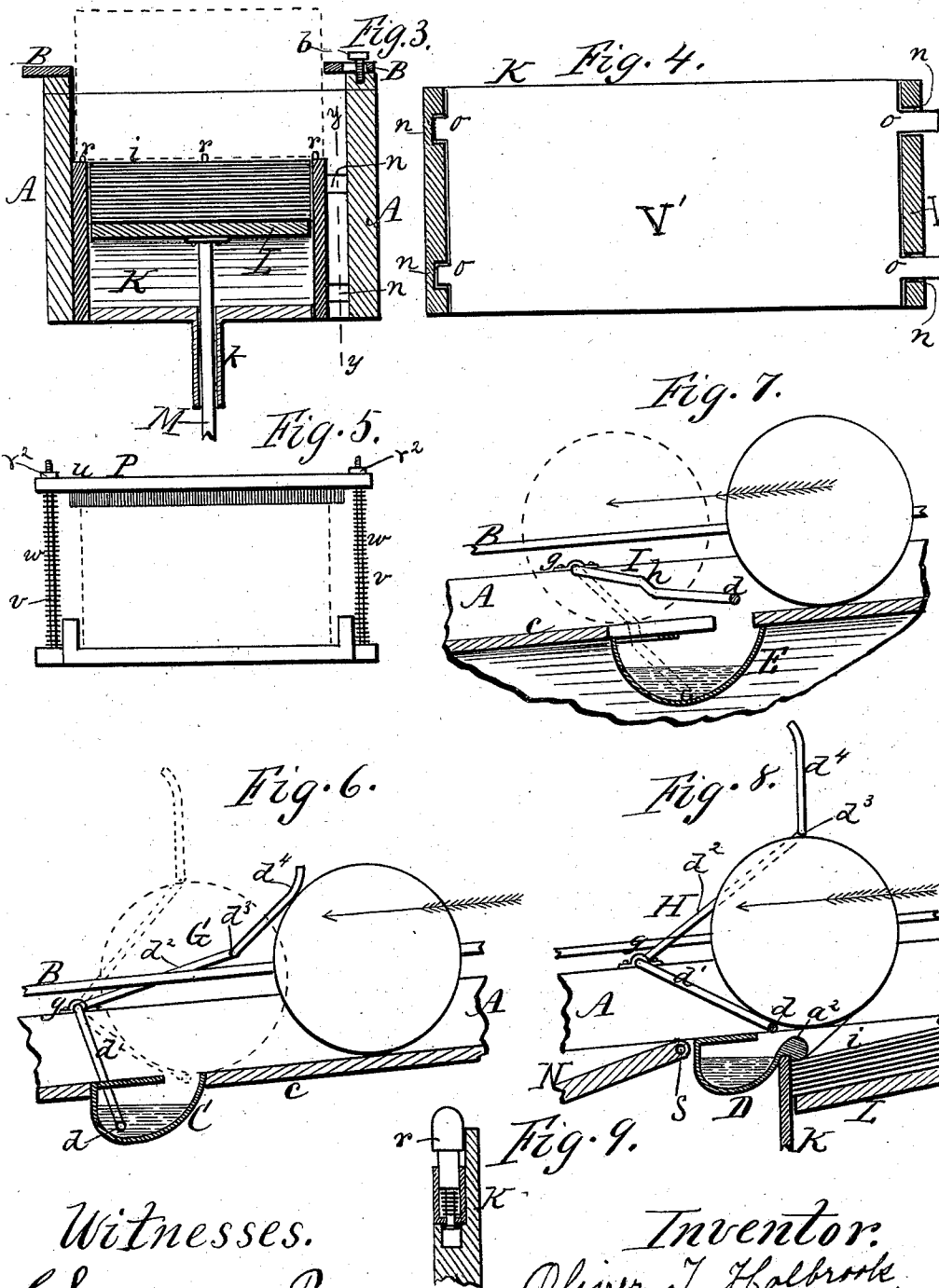
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UNITED STATES PATENT OFFICE.

OLIVER T. HOLBROOK, OF ROCHESTER, NEW YORK.

LABELING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 558,907, dated April 21, 1896.

Application filed May 6, 1893. Serial No. 473,214. (No model.)

To all whom it may concern:

Be it known that I, OLIVER T. HOLBROOK, of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Labeling-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the drawings accompanying this application.

My improvement relates to machines for labeling round packages.

It also relates to that class in which the package rolls down an incline, is pasted during its passage, and picks up the label, rolling it upon itself, and finally escapes completely labeled, and requiring no further manipulation.

The invention consists in the construction and arrangement of parts hereinafter fully described, and embodied in the claims.

In the drawings, Figure 1 is a plan view of the machine. Fig. 2 is a longitudinal vertical section of the same. Fig. 3 is an enlarged vertical cross-section of the label-box in line $x x$ of Fig. 2. Fig. 4 is a longitudinal vertical section in line $y y$ of Fig. 3. Fig. 5 is an enlarged end elevation of the brush attachment. Fig. 6 is an enlarged sectional elevation showing the upper pasting attachment. Fig. 7 is a similar view showing the middle pasting attachment. Fig. 8 is a similar view showing the lower pasting attachment. Fig. 9 is a sectional view showing one of the spring-bolts connected with the label-box. Fig. 10 is a cross-section of one side of the frame and an elevation of a portion of one of the paste-cups, showing the means of adjusting the same forward and back in the frame.

A indicates the bed down which the packages roll, the same consisting of a trough set in an inclined position and supported by suitable legs $a a$. The rear leg is preferably hinged at its upper end, by which means it can be swung out or in to adjust the bed to different inclines. Above the top edges of the bed are two rails B B, consisting of thin bars, which form guards to hold the packages in place as they roll down, thereby causing the label to roll up in a straight line on the package. One of these guards is attached fixedly in place, but the other is movable out

and in-laterally and is held at any adjustment by means of set-screws $b b$, as shown in Fig. 3. By this means the bed is adapted to receive packages of different lengths. The packages roll on a bottom c set between the side pieces of the bed.

C, D, and E are three paste-cups set into the bottom, and G H I are three pasters connected therewith. These pasters are made of wire of peculiar form, and each has a cross-wire d , which dips into the paste and then rises to come in contact with the package as it rolls over them. In their normal position the upper and lower pasters G H rest immersed in the paste-cups and rise to meet the package as it rolls over; but the middle one, I, rests normally raised and is depressed by the passage of the package over it. It is held upright by means of a counterweight f on its long arm b^2 outside the bed. The pasters are cranked, as shown, and pivoted in boxes $g g$. The upper and lower pasters G H are identically of the same construction, consisting of the cross-wires $d d$, forming the pasters proper, the inner cranked lengths d' , the outer cranked lengths $d^2 d^2$, which are returned on the others, the cross-lengths $d^3 d^3$, which are turned inward over the bed, and the two inclined ends $d^4 d^4$, which extend upward and backward, opposing the motion of the packages in running down.

The package in running down the incline strikes the inclined ends $d^4 d^4$ and turns the paster on its axis, thereby bringing the cross-wire d up against the bottom of the package. The package then runs under the side lengths $d^3 d^3$, and by its pressure thereunder draws the cross-wire up in firmer contact with the bottom of the package. The wires are made of sufficient elasticity to clasp the package as it goes through, but yield to allow it to pass, and therefore the pasting-wire is always brought in firm contact with the bottom of the package to insure its being properly pasted.

The middle paster I has two inclined offsets $h h$, one on each side, over which the ends of the package run, thereby depressing them and causing the paster to dip into the paste-cup. After the passage of the can the paster rises and holds the paste for pasting the next succeeding can.

K is the box for holding the labels i , the same being of rectangular form and the labels being laid therein bottom upward.

L is a follower in the box, moved upward by a rod M, to which it is attached, said rod passing loosely through a socket k and having connected with its lower end a cord j , which passes up over a pulley l and is provided with a counterweight m at its opposite end. By this means the labels are fed upward as fast as they are taken off by the packages. The ends of the label-box stand in a vertical line, while the bottom and the follower stand at an incline. By this means the pile of labels stand in shelving form, the upper ends (shown at the right in Fig. 2) overhanging, so that the paste which takes up the upper label each time shall not smear those beneath and cause them to stick together.

Provision is made whereby the label-box can be enlarged both longitudinally and transversely to receive labels adapted to large or small packages. This is shown in Figs. 3 and 4. The upper end V of the box and the side of the same V' adjacent to the side of the bed on which the rail B is made adjustable are movable forward and back. The end pieces of the box are made with cross-slots n , and the movable side piece is made with tongues o , which rest in these slots, the tongues at the upper end passing through the slots and projecting beyond, as shown in Fig. 4. The side piece can be moved out laterally by the sliding of the tongues in the slots, and the end piece can be moved longitudinally by sliding outward on the tongues. When the label-box is enlarged beyond the size of the follower, a loose plate of the desired size is placed on top of the follower fitting the size of the box. In order to extend the box longitudinally, the two upper paste-cups and the bottom c are also movable. This may be done in any suitable manner. In the drawings the edges rest in slots p of the sides of the frame and are tightened at any adjustment by means of set-screws s^2 , passing through stationary lugs of the frame, as shown in Fig. 10. Under ordinary circumstances the pasters G and I do not need adjustment, as the cups are of sufficient size to enable them to dip at any adjustment of the cups.

r r r are three spring-bolts, one in the upper end of the label-box and the other two in the sides of the same and flush with the interior of the box. These bolts spring up a little above the top of the box, and serve to hold the label in a square position as it is brought up by the rolling of the package over it, and also to center and hold the remaining labels in a square position. The package in passing over the bolts depresses them out of the way.

N is a chute or discharge board, pivoted at S to the main frame so as to be adjusted to any desired incline and held by a brace t , se-

cured by a set-screw to one of the legs of the apparatus. This chute is provided with four bolts v v v v , standing upward, as shown.

P is a long brush provided with cross-pieces u u , having holes in their ends, which slide freely on the bolts.

w w w w are coiled springs resting around the bolts, pressing upward against the cross-pieces, and r^2 r^2 are nuts screwing on the ends of the bolts above the cross-pieces, forcing the cross-pieces down against the springs. The brush P extends the whole length of the chute and in longitudinal line therewith, leaving space between them for the passage of the can.

By the means above described the chute with the brush attached can be given a greater incline than the bed over which the can has passed, thereby accelerating the motion of the can after it has been labeled and enabling it to overcome the friction produced in passing under the brush. This inclination can be varied as desired. The brush simply smooths the label, being of such length that the can makes a whole revolution and the whole surface of the label comes in contact with the brush before the can escapes. By this means also the brush can be adjusted bodily higher or lower to adapt it to large or small cans, and can also be adjusted higher at one end than the other to give greater pressure of the brush at any particular point. The downward adjustment is produced by turning the nuts down, and the upward adjustment by turning them up, the springs in the latter case forcing the cross-bars up against the nuts.

R is a tripping-lever at the upper end of the bed to control the feeding of the packages downward. It consists of a lever pivoted at e , its lower end q standing above the level of the track and its upper end having a platen z , on which the packages roll one by one, striking a stop y . At each passage of a package over the projecting end q the rear end of the lever is raised, throwing another package up on the track and allowing a succeeding one to take its place. In this manner the packages are fed forward one after another by the automatic action of the machine.

When the labels are in place in the label-box, the lower ends are clamped between the follower L and a projecting shoulder a^2 of the paste-cup D, while the upper ends are entirely free. The several paste-cups C D E are located at such distances apart that the package makes one rotation from the cup C to the point where the first end of the label is taken up, and then a second rotation over the label to the point where the last end is rolled up. The paste-cup E lies close to the end of the label-box, so that its pasting occurs just back of the point where the label is picked up. The further rotation of the package brings this pasted strip of the package near to the point where the final pasting is done by the paster H. Therefore the label

is pasted to the package intermediately between its ends and near to the end where the last edge is pasted down. During the rolling up of the label it is kept under tension by reason of the holding of its lower end under the shoulder a^2 , and the intermediate pasting just described secures the greater part of the circuit of the label on the can and holds it tight while the lower flap is being drawn out from under the shoulder a^2 and is being stuck in place. Were it not for the intermediate pasting the label might slip when released from the shoulder and be irregularly laid.

The final pasting by the paster H is applied outside of the blank edge of the label first pasted down and not upon the bare surface of the package. Therefore when the last end of the label is stuck in place it covers the blank edge first laid. The paster H comes up to do its work before the end of the label is released from the shoulder a^2 and retracts again before the last end is wound up. This is illustrated in the diagram, Fig. 8, where the paster is drawn up and the package is passing through to leave it, and the last end of the label is still held by the shoulder.

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

1. The combination, with the inclined track and the label-box and follower located therein, of a paster in advance and a second one in the rear of the box spaced relatively thereto so that the package makes one revolution after being pasted to pick up the label and a second to wind the same preparatory to the last pasting, and a third paster intermediate of the others and in advance of the box to apply paste to the package and fasten the

label in advance of the final pasting, as and for the purpose specified.

2. The combination with the inclined track down which the packages run, and with a paste-cup located beneath the track, of the intermediate paster consisting of the cross-wire d , the cranked ends pivoted at the sides of the track and provided with the offsets $h h$ and the long arm b^2 provided with the counterweight f , whereby the paster is kept in a normally-raised position, as herein shown and described.

3. The combination with the inclined track down which the packages run, a paste-cup set into said track, and a label-box for holding the labels, of a paster consisting of a cross-wire which comes in contact with the package, a bowed upper portion under which the package runs to raise the paster, and a shoulder at the edge of the paste-cup for clamping and holding the label while the paste is being applied, as herein shown and described.

4. The combination, with the inclined track, of the discharge-chute N pivoted thereto so as to be set at different inclines, the bolts $v v$ attached at its four corners, the brush P provided with cross-pieces $u u$ resting on said bolts, the springs $w w$ pressing against the cross-pieces, and the nuts $r^2 r^2$ screwing on the ends of the bolts, as shown and described and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

OLIVER T. HOLBROOK.

Witnesses:

R. F. OSGOOD,
CHAS. A. WIDENER.