

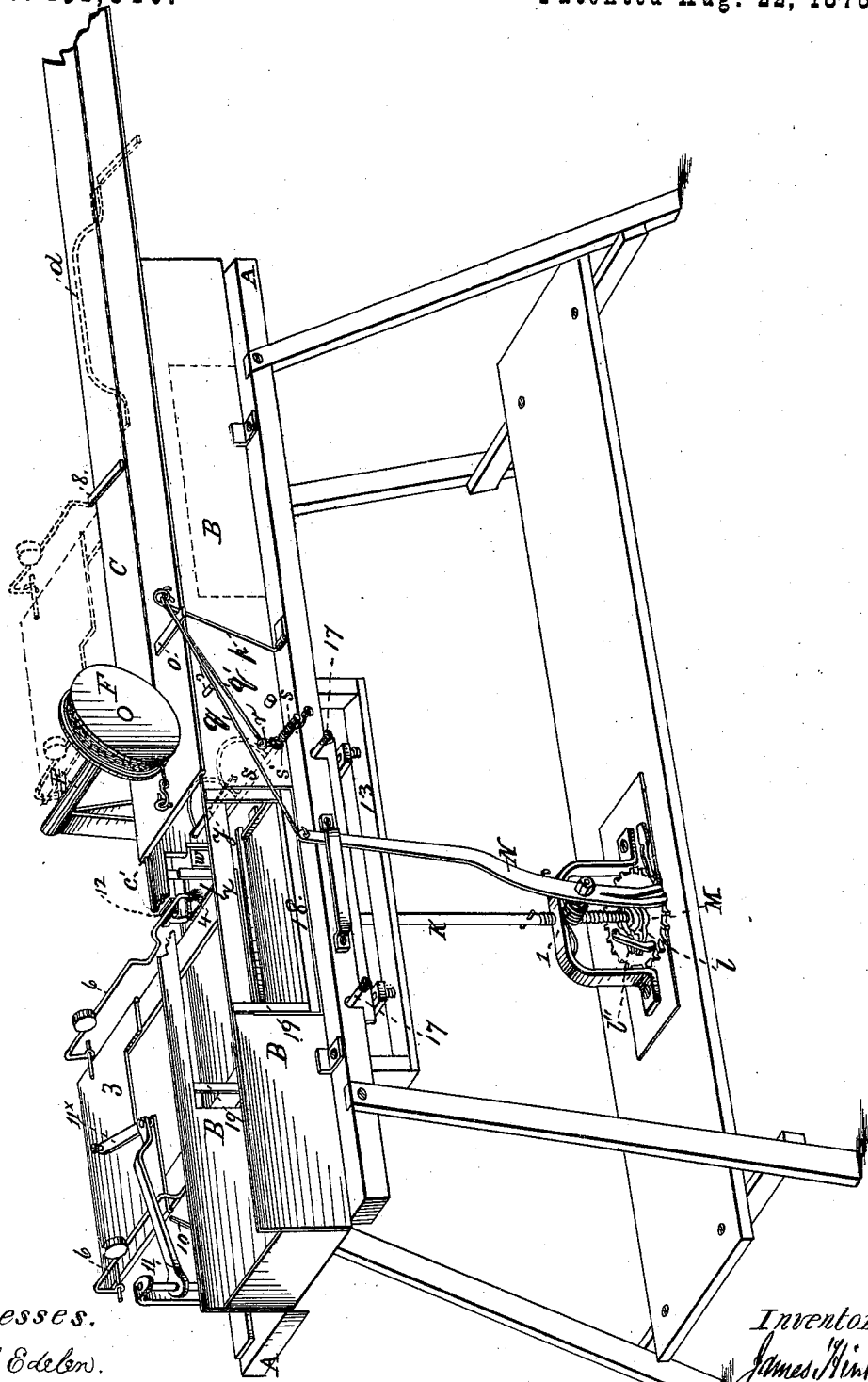
J. HINKLEY.

MACHINES FOR LABELING FRUIT-CANS.

No. 181,340.

Patented Aug. 22, 1876.

Fig. 1.



Witnesses.

W. R. Edelen.

Pennington Halsted

Inventor.

James Hinkley

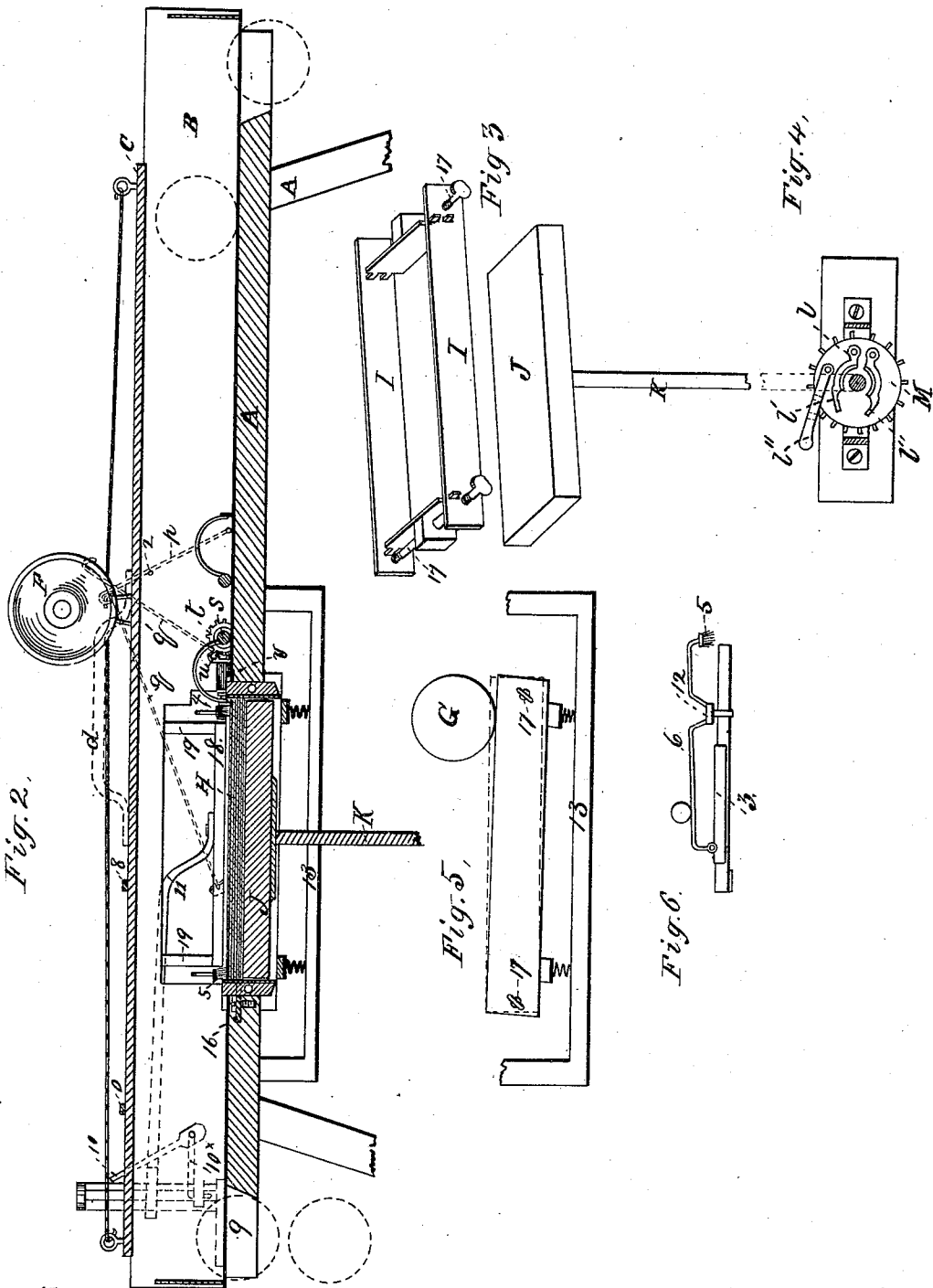
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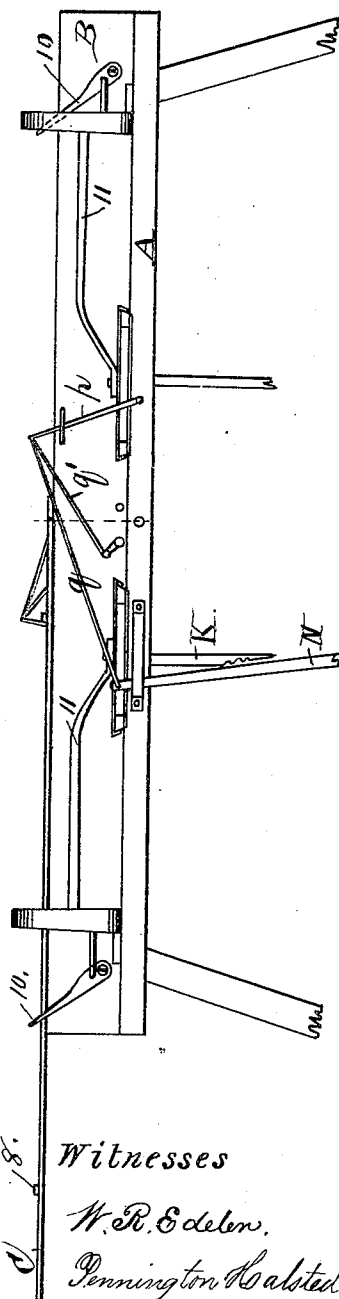
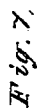
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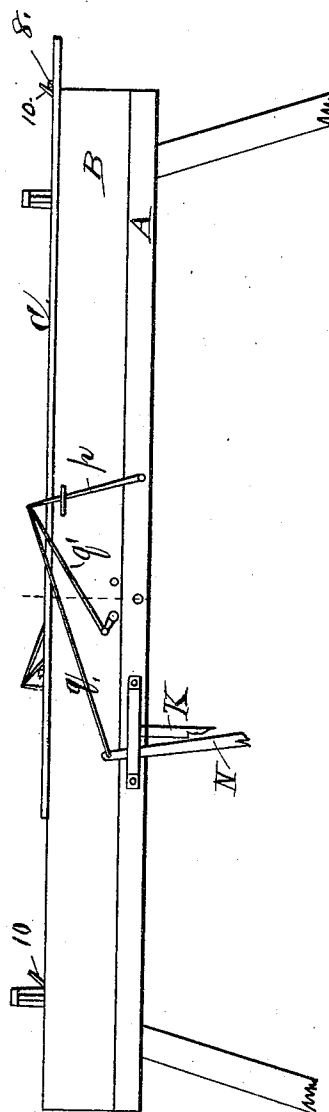
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Witnesses

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Pennington Halsted



Inventor.

James Hinkley
by John J. Malated
his Atty.

by John J. Halsted
his Atty.

His Atty

UNITED STATES PATENT OFFICE.

JAMES HINKLEY, OF ROCKFORD, ILLINOIS.

IMPROVEMENT IN MACHINES FOR LABELING FRUIT-CANS.

Specification forming part of Letters Patent No. **181,340**, dated August 22, 1876; application filed June 5, 1876.

To all whom it may concern:

Be it known that I, JAMES HINKLEY, of Rockford, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Machines for Pasting or Affixing Labels to Fruit-Cans and other cylindrical vessels or bodies; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My improvements consist in a special and novel construction of devices for affixing or pasting labels to cylindrical objects, such as fruit or other cans or boxes, the can being actuated by means of a reciprocating slide, which bears down upon its upper surface, and the movements of the slide serving to roll the can forward, and also to actuate the pasting-brushes and other mechanism, all as hereinafter more particularly described.

In the drawings, which illustrate a machine embodying my invention, Figure 1 is a perspective view; Fig. 2, a side elevation, partly in section; Fig. 3, the label-box in detail view; Figs. 4, 5, and 6, detail views.

Upon any appropriate frame or table, A, is supported a horizontal guideway or trough, B, provided with a sliding or reciprocating piece or cover, C, having longitudinal grooves *c'* on its under side, adapting it to be slidden forward and backward upon the edges of the sides of the trough. This slide C may be worked by hand by means of handle *d*, (shown in dotted lines,) or by means of a treadle or other means or power applied to the shaft E of the band-wheel F, the band of which is secured to the wheel, and also to the ends of the slide. G represents a can in position to be moved forward by the slide over the pile of labels H, placed in the box I, whose movable bottom or platen J is automatically lifted to a height equal to the thickness of a single label, after each label, successively, has, as hereinafter stated, been applied to a can. This platen is raised by its post K, whose lower end is screw-threaded, and provided with a

split nut, *l*, mounted on a toothed or ratchet wheel M, which is actuated by a spring-pawl lever, N, this lever being operated through the agency of a pin or projection, *o*, on the slide C, as it moves backward, the pin forcing back the rod *p*, which is connected to the lever N by a connecting-rod, *q*. The same backward movement of the slide C and rod *p* also carries backward the link or rod *q'*, which connects with a crank or arm, *r*, on a geared rock-shaft, *s*, provided with a reacting-spring, *s'*, the gear *t* of which shaft engages with the gear *u* of a small rock-shaft, *v*, which carries a tipping-pan, *w*, which is located between the trough and the paste-box or cup *x*, and serves, in connection with the cross-bar *y*, on bent arms extending from shaft *s*, to prevent paste from getting between the edges of the labels, the bar *y* assisting at the proper periods to press down upon and keep the ends of the pile of labels in place.

The split nut has its two parts each formed as a pivoted lever, *l'*, these two parts being adapted to be held in engagement with the thread or post K by means of a notched locking-lever, *l''*. The release of this lever from the levers *l'* allows the nut to open, and the rod K and platen to drop, or to be adjusted to any required position.

The rod *p*, after being released from the action of the pin *o*, is returned to its former position by a reacting-spring, *1*, operating upon lever M and link *q*, and then rests until again forced backward by the backward movement of slide C. Instead of the spring *s'*, a cord and weight may be employed.

A sliding brush-carriage, 3, is placed at the side of the machine, and opposite the label-box I, and it carries two brushes, 4 5, each supported on a vertically-movable rod or arm, 6, the duty or function of each of these brushes being to dip into its respective paste-cup *x*; then to move forward toward the top label in the label-box I, and to move across the label at its end, and to paste such end crosswise, thus leaving the body of the label free from paste, except at and near its ends. These peculiar movements are effected as follows: On the slide C is a lateral pin or projection, 8, which, at the proper stage, and after a pasted label has been affixed to the can, (and the lat-

ter carried forward by the slide beyond the label-box and pile of labels contained therein, and discharged, or ready for discharge, through the opening 9,) comes in contact with and operates a spring-lever, 10, which, by means of link 10*, rock-lever 11, and link 11*, causes the brush-carriage 3 to move inward. When the can has reached the end of the label-box, and the pin 8 strikes the spring-lever 10, it carries this lever back until the paste-brushes have reached the farther edge of the label. At this stage the pin passes over and beyond the lever, bending it down and riding over it, and its own resilience causes it to react or spring back a little, so that when the slide C is moved back again after a can is discharged the pin, on its return movement, again strikes the lever, (but on its opposite side,) and the continued back movement of the slide operates the lever until the paste-brushes are drawn out, and permitted to drop into their respective paste boxes or dishes, when the pin again rides over the spring-lever and releases it, and it again springs up to its normal position, as before described, ready for a repetition of these movements upon another reciprocation of the slide. The inward movement of the brush-carriage causes the arms 6 6 to move forward, appropriate bends or crooks in the arms serving as cams to lift them at the proper junctures, in order that the brushes may take up the paste, and rise and pass over the tipping-pan *w*, and then, dropping again by gravity, distribute the paste in a path across the end of the paper. The arms 6 6 rest and ride on fixed studs or guide-posts 12, which may be provided with friction-rollers.

The label-box I rests on springs directly, as shown, or on cross-bars which rest upon springs, and in either case it is supported by side bars 13; and this construction allows the box to be tilted at its ends by the weight of the can upon the sides of the box. As the can rests upon and rolls over the box its weight is sustained mainly by the box, and it presses but slightly on the labels.

The object of the springs is to lift the top edges of the label-box very slightly above the top surface of the pile of labels, and thus to aid in keeping them to place, but in no wise to obstruct the operation of taking up and carrying away the top label as it is rolled upon and affixed to the can, which is rolled over it by the sliding cover, this cover, by the way, in order to insure a good and efficient frictional action upon the can, being provided on its under side with a cloth, rubber, felt, or other covering, or strips of any desired thickness.

The action of these springs and of the box is as follows, viz: When an unlabeled can is placed in position for labeling, the rear part of each end bears against a side bracket, and its axis will then be at right angles to the sides of trough B and the paper, and it is then rolled forward by slide C, and with a tendency, in case of need, to press the labels

slightly forward against the forward end of the box, which still remains slightly raised above the level of the labels, and thus prevents their being shoved unduly forward; but as soon as the can has been rolled forward a little way, the cross-bar *y* is forced down upon the rear end of the pile of labels and clamps them, helping to hold them in place when the other end of the box is forced down by the weight of the can as it rolls over it.

By this arrangement the can moves forward on firm bearings, to wit, the upper edges of the sides of the box.

When the can is placed in the form or trough B, the upper label being previously pasted across its ends, as above described, it adheres to the can as the latter is rolled over it, and both are carried forward by the slide C, the label coming between the slide and the can, and thereby being smoothly laid and evenly pressed over the surface or periphery of the can.

In order to insure a true alignment or adjustment of the label-box, I provide an adjusting-gage, 16, whereby the box may at will be placed at right angles to the axis of the can, or otherwise.

The available width of the box may be varied at will to suit cans of different lengths by means of rods 17, provided at their respective ends with a right-hand and a left-hand screw-thread. The turning of these rods, by means of their handles or thumb-pieces, moves the sides of the box nearer to or farther from each other.

On each side of the label-box is hung a bar, 18, suspended on springs 19. These bars serve to bear against the ends of the passing can and assist to insure its moving forward in a straight line, their most important function being to throw the can against the side brackets by its own weight.

A can should revolve one and a half time to receive the most efficient action while being labeled. This insures that the pasted ends of the encompassing label shall receive the pressure of the sliding cover C directly upon them, in addition to the pressure they will have already received at the time when the can first rolled upon them and took them up. The action of the slide, beyond the complete revolution of the can, serves to wrap the label more tightly and snugly on the can—in fact, detaching and repasting the last end of the label taken up, as the pressure of the slide bears upon it.

Another most important feature of my invention is that its construction adapts it for double action—that is, to apply a label to a can, and to discharge it at the forward movement of the slide C, and to apply another label to another can and to discharge it by the backward movement of the same slide. To effect this, the trough B, it will be observed, is made of sufficient length, and at both sides of its center its mechanism needs but to be duplicated, the same slide C actu-

ating both sets of similar mechanism. It is unnecessary to illustrate fully, in duplicate, the same mechanism; but both sets occupy substantially the same position, relatively, on each side of the center of the trough—each set feeding the can alike from the center to the discharging end. The pasting devices for both sets are, for convenience, placed on the same side of the frame or table. Thus double work may be done within the same time that a single machine could be operated.

The machine may be operated either by a treadle or by any other power which shall impart the proper motion to the band-wheel F; but, when desired, such wheel and band may be dispensed with, and the slide C may be operated by hand by means of the handle 20.

If desired, the feeding rod or lever *p* and the brush-operating lever 10 may be operated without moving the slide C. The operator stands on that side of the machine which is opposite the pasting devices, and the cans are placed by him in the machine, when it is worked by hand or treadle. A boy or girl can readily do this work.

When pasting and discharging at both ends of the machine, the attendant may stand at the center of machine and supply both sets of cans; or two attendants may be employed, and each supply those which are to be discharged at his end.

The brush-operating devices for both sets of labels are placed on the same side of the machine, so as to be out of the way of the operator. The same slide C, however, actuates both in precisely the same manner, and when the pulley and cord are employed to drive the slide, the pulley and its shaft should, of course, be located midway between the two sets of mechanism.

The tipping pan or pans *w* is raised out of the way of the can at the proper periods by the action of the rock-shaft *v*.

Fig. 7 illustrates the connections in a double machine on the pasting side, and the positions of the slide C, spring-levers, and paste-carriages when a can is fully labeled. Fig. 8 shows the opposite side, with the slide moved back to the point where the pin 8 strikes the spring-lever 10. In these figures, lever 10 is located nearer to the end of the machine than in the other figures.

I claim—

1. In a labeling-machine, the combination, with a can-holder, and with label-pasting devices, substantially as described, of a reciprocating slide, C, operating to bear upon and roll the can or box forward through the machine.

2. In a labeling-machine, a reciprocating

slide, provided with projections or pins, combined with the operative mechanism for feeding forward the can, pasting the label, affixing it to the can, and discharging the labeled can, substantially as described.

3. In a labeling-machine, the combination, with a reciprocating slide adapted to roll and feed a can or box, at each forward and backward movement, of a guideway or trough, B, constructed to receive cans, and to discharge them at both of its ends, or in opposite directions, substantially as described.

4. The combination, with the slide C, and its pin *o*, of the label-lifting platen J, and intermediate devices, substantially as described, serving to lift the platen intermittently by the action of the pin *o* upon the rod or lever *p*, substantially as and for the purpose set forth.

5. The combination, with slide C, and its pin *o*, of the rocking gear-shaft *s*, and its spring, the rocking-shaft *v*, and tipping-pan *w*, substantially as and for the purposes set forth.

6. The combination, with slide C, and its pin *o*, of the rocking-shaft *s*, and its clamping cross-bar *y*, substantially as and for the purpose set forth.

7. The combination, with the slide C, and its pin 8, of the spring-lever 10, link 10*, rock-lever 11, link 11*, and reciprocating brush-carriage 3, substantially as and for the purpose described.

8. The combination, with the reciprocating brush-carriage 3, of the bent lever-arms 6, the guide-posts 12, paste-cups *x*, and tipping-pans *w*, substantially as and for the purpose set forth.

9. In combination with the trough or can-holder B the side bars 18, each suspended on yielding supports or springs 19, substantially as and for the purpose set forth.

10. In combination with the label-box I, the adjusting device 16, substantially as and for the purpose set forth.

11. In combination with the label-box I, the adjusting-rods 17 17, provided with right and left screw-threads, substantially as and for the purpose set forth.

12. In combination, the platen J, its threaded rod or post K, gear M, lever N, and its reacting-spring 1, link *q*, rod *p*, and slide C, as and for the purpose set forth.

In testimony that I claim the foregoing as my invention I affix my signature in presence of two witnesses.

JAMES HINKLEY.

Witnesses:

JOHN M. BUELL,
J. C. HARKNESS.