(No Model.)

2 Sheets—Sheet 1.

F. MUELLER.

LABELING MACHINE.

No. 474,677. Patented May 10, 1892.

Fig. 1.

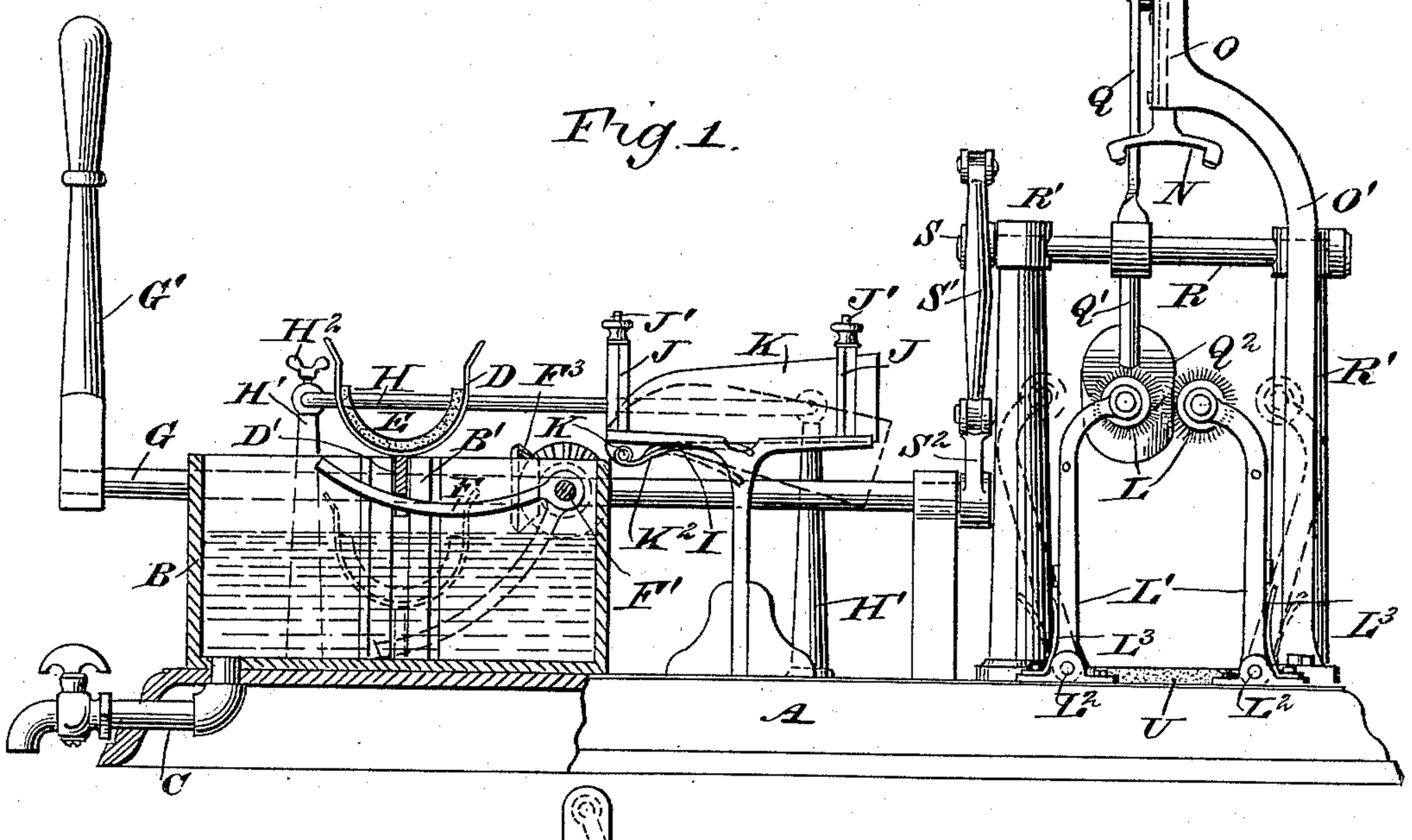
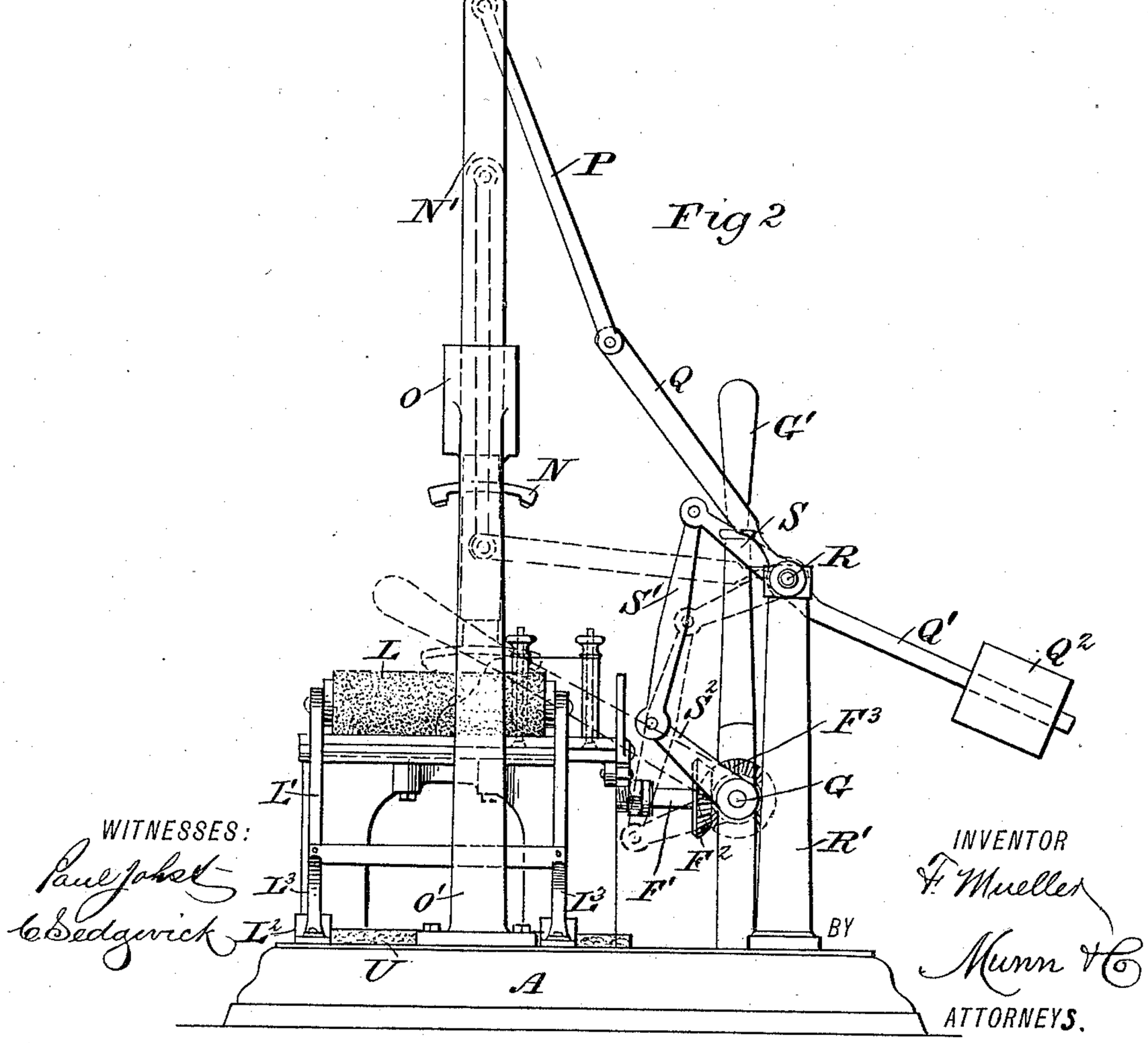


Fig 2.



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(No Model.) 2 Sheets—Sheet 2.

F. MUELLER.

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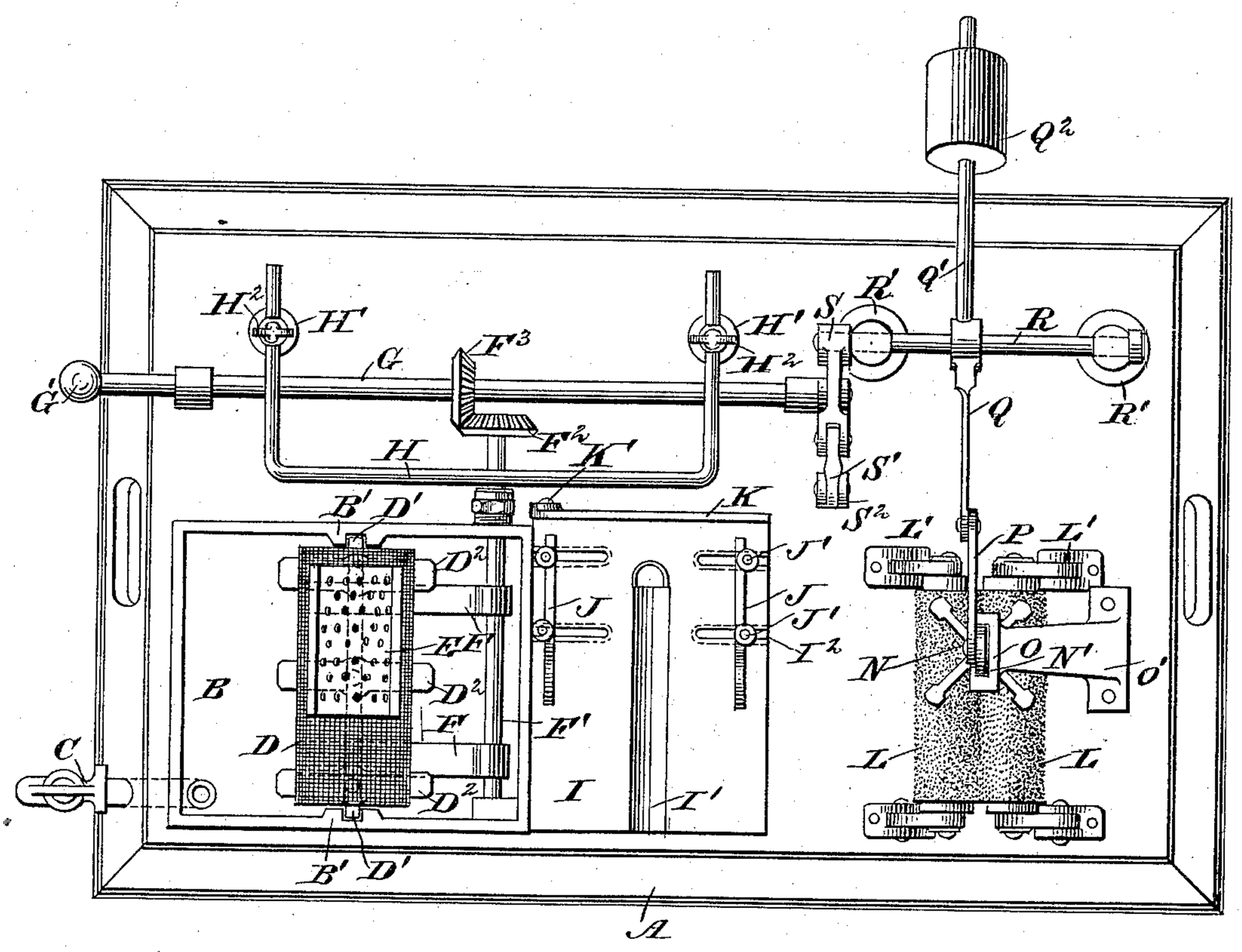
Fig 3



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UNITED STATES PATENT OFFICE.

FRANK MUELLER, OF ALBANY, NEW YORK.

LABELING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 474,677, dated May 10, 1892.

Application filed August 11, 1891. Serial No. 402,373. (No model.)

To all whom it may concern:

Be it known that I, FRANK MUELLER, of Albany, in the county of Albany and State of New York, have invented a new and Improved Labeling-Machine, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved labeling-machine which is simple and durable in construction, very effective in operation, and arranged to quickly, accurately, and securely attach labels to bottles, cans, and other receptacles.

The invention consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front view of the improvement with parts in section. Fig. 2 is an end elevation of the same, and Fig. 3 is a plan view of the same.

The improved labeling-machine is provided with a suitably-constructed base A, near one end of which is arranged a box B, containing paste or other adhesive matter, which fastens the labels to the bottle or can. The box B is provided with an outlet C for drawing off the paste or cleaning the box whenever desired.

In the front and rear ends of the box B are arranged vertical guideways B′, in which is fitted to slide a transverse bar D′ of a bottle or can receiver D, preferably formed of wire-netting bent to a semicircular shape and bound by iron bands D^2, as is plainly illustrated in Figs. 1 and 3. The receiver D is open at the ends and top and contains a pad E, bent to the shape of the receiver and of a size corresponding to the label to be gummed. The receiver D can be moved into the adhesive matter contained in the box B and lifted out of the same, so that the adhesive matter which passes onto the receiver while submerged drips out of the same back into the box, the pad E only retaining adhesive matter on its upper surface. Thus when a bottle is placed on the pad after the dipping the bottle is covered with the adhesive substance on top of the pad.

In order to raise or lower the receiver D, arms F are provided engaging the bar D′ and secured on a transversely-extending shaft F′, mounted to turn in suitable bearings in the box B and extending through the rear end of the same.

On the rear end of the shaft F′ is secured a bevel gear-wheel F^2 in mesh with a bevel gear-wheel F^3, fastened on a longitudinally-extending shaft G, mounted to turn in suitable bearings arranged on top of the base A in the rear of the box B. On the outer end of the shaft G is secured a handle G′ for conveniently turning the said shaft in its bearings, so that the shaft, by the gear-wheels F^3 and F^2, turns the shaft F′, which latter thus imparts a swinging motion to the arms F to raise or lower the bar D′, and consequently the receiver D.

In the rear of the box B, and slightly above the same, is arranged a gage-bar H, made U-shaped and having its ends fitted to slide transversely in posts H′, secured on top of the base A. The ends of the gage-bar H may be locked in place by set-screws H^2, screwing in the said posts onto the said ends. When the set-screws are loosened, the gage-bar H can be moved transversely, so that the middle part extends close up to or farther from the rear end of the receiver D to gage the length of the can or bottle placed into the receiver, the said can or bottle abutting against the middle part of the gage-bar. The latter can be adjusted to accommodate bottles and cans of various lengths, so as to bring that part of the bottle to be gummed and to contain the label into the proper position relative to the pad E.

At one side of the box B is arranged a table I, adapted to support the labels placed one on top of the other. In the middle of the table I is arranged a transversely-extending recess I′, which permits of bending the labels so as to conform as closely as possible to the round surface of the can-body or bottle. On top of the table I and at the sides thereof are arranged gage-plates J, extending transversely and held longitudinally adjustable by means of bolts J′, engaging longitudinal grooves I^2, formed in the table I. The gage-plates J are adjusted to suit the size of the label to be fastened onto the cans or bottles. On the rear end of the table I is held a back plate K, pivotally connected at one end at K′

to the table I. A spring K^2, secured to the under side of the table, presses on the lower or bottom edge of the said plate K to hold the same in an uppermost position and to permit of being moved downward, for the purpose hereinafter more fully described. On the plate K abut the rear ends of the labels supported on the table I.

Next to the table I are arranged two rotary brushes L, placed transversely, each journaled in arms L′, pivotally connected at their lower ends at L^2 to the base-plate A. Springs L^3 press against each set of arms L′, so that the two brushes rest one on the other, but permit of being pressed apart, the respective arms L′ swinging outward against the tension of the springs L^3. The bottle or can having the label temporarily attached is placed on top of the two brushes, and a plunger N, having a vertical movement, serves to press the bottle or can through the said brushes, so that the label is firmly secured to the bottle or can. The plunger N is preferably made with four arms adapted to conveniently engage the top of the bottle or can. The arms are attached to a plunger-rod N′, fitted to slide vertically in suitable guideways O, formed on a bracket O′, attached to the base-plate A. The upper end of the plunger-rod N′ is pivotally connected by a link P with an arm Q, secured on a longitudinally-extending shaft R, mounted to turn in suitable bearings arranged in posts R′, secured to the base plate A. The arm Q is extended rearward at Q′ and sustains a weight Q^2, so as to counterbalance the working parts and to assist in returning the latter to a normal position. One end of the shaft R carries an arm S, pivotally connected by a link S′ with an arm S^2, secured on the inner end of the shaft G.

The operation is as follows: When the several parts are in the position illustrated in the drawings and the box B is filled with an adhesive matter and labels are placed on the table I with their backs upward, then the operator proceeds by moving the handle G′ forward, so that the shaft G is rotated and a like motion is given to the shaft F′, which by its arms F causes the bottle-receiver D to slide down into the adhesive matter, so that the pad E receives a part of the adhesive matter. As soon as the operator relieves the pressure on the handle G′ the weight Q^2 moves the shaft G back to its former position, so that the receiver D ascends and surplus adhesive matter drips through the receiver, only that on the pad E remaining. The bottle or can to be labeled is now placed in the receiver, so that it rests on top of the pad E, the bottom of the bottle or can abutting against the gage-bar H, so that the part of the can or bottle corresponding to the size of the pad is covered with the adhesive matter. The bottle is then placed upon the plate K and pressure applied thereto, when the plate K will be depressed, so as to permit the bottle to come in contact with the top label. It is understood that the bottom of the bottle again abuts on the gage-bar H, so that the label passes upon the gummed part of the bottle and is temporarily attached thereto. The operator then moves the bottle with the label upon and between the brushes L, after which another motion is given to the handle G′, so that the plunger N in descending presses on top of the bottle and forces the same between the two yieldingly-mounted brushes L, which latter are thus caused to revolve and at the same time firmly press on the label, and thereby press the label firmly into contact with the bottle bearing the adhesive matter, so that the latter securely fastens the label in place on the bottle. The bottle then drops between and through the two brushes L upon a pad U below the brushes on top of the base-plate A. The labeled bottle is then removed. It will be seen that at each movement of the handle G′ the receiver D moves downward into the paste-box, so that its pad E receives a charge of the adhesive matter. At the same time the plunger N is moved downward it presses a bottle between the brushes L. Thus when the operator has removed the labeled bottle he can conveniently place a new bottle on the gummed pad E, so that the adhesive matter of the latter is transferred to the bottle, which latter is moved to the label-table to receive the label and then onto the revolving brushes, after which the operator actuates the handle G′ in the manner above described, so that the bottle is labeled. It will further be seen that by this machine one operator can conveniently handle a large number of bottles and firmly attach the labels thereto.

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

1. In a labeling-machine, the combination, with a box containing an adhesive substance, of a bottle-receiver of open-work construction fitted to slide in the said box and formed with a pad adapted to receive adhesive matter and arranged to support the receptacle to be labeled, substantially as shown and described.

2. In a labeling-machine, the combination, with a box containing adhesive substance, of a perforated bottle-receiver fitted to slide in the said box and formed with a pad adapted to receive adhesive matter and arranged to support the receptacle to be labeled, and means, substantially as described, for imparting a vertical sliding motion to the said receiver to cover the said pad with adhesive matter, substantially as set forth.

3. A labeling-machine provided with a label-table having a transverse recess and provided with transversely-extending gage-plates and a vertically-yielding end gage-plate, substantially as shown and described.

4. In a labeling-machine, the combination, with a bottle-receiver containing a pad adapted to be dipped into the adhesive matter, of

a gage-bar held adjustably in the rear of the said bottle-receiver, substantially as shown and described.

5. In a labeling-machine, the combination, with a label-table provided with side guide-plates and an end guide-plate mounted to swing, of a gage-bar held adjustably in the rear of the said table, substantially as shown and described.

6. In a labeling-machine, the combination, with a base, of brushes mounted in yielding supports above the base and a reciprocating plunger above the brushes, whereby provision is made for forcing a bottle between and through the brushes onto the base, substantially as described.

7. In a labeling-machine, the combination, with a base, of arms pivoted to the base, springs pressing against the arms, brushes mounted in the upper ends of the arms, a plunger above the brushes and having its rod sliding in guideways, a rock-shaft provided with a weighted arm, a link connecting the arm to the plunger-rod, and means for operating said shaft, substantially as described.

8. In a labeling-machine, the combination, with yieldingly-mounted brushes, of a paste-box and a sliding bottle-receiver in said paste-box, a plunger above the brushes, and means for simultaneously operating the bottle-receiver and plunger, substantially as described.

9. In a labeling-machine, the combination, with a paste-box, of a bottle-receiver containing a pad and adapted to be dipped in the said paste-box, a label-table arranged next to the said paste-box, revolving brushes arranged next to the said label-table, a plunger for pressing a bottle between and through the said brushes, and means, substantially as described, for imparting simultaneously a vertical sliding motion to the said receiver and to the said plunger, as set forth.

FRANK MUELLER.

Witnesses:
W. B. WACKERHAGEN,
CHARLES H. TURNER.