

4 Sheets—Sheet 1.

LABELING MACHINE.

Patented Apr. 10, 1894.

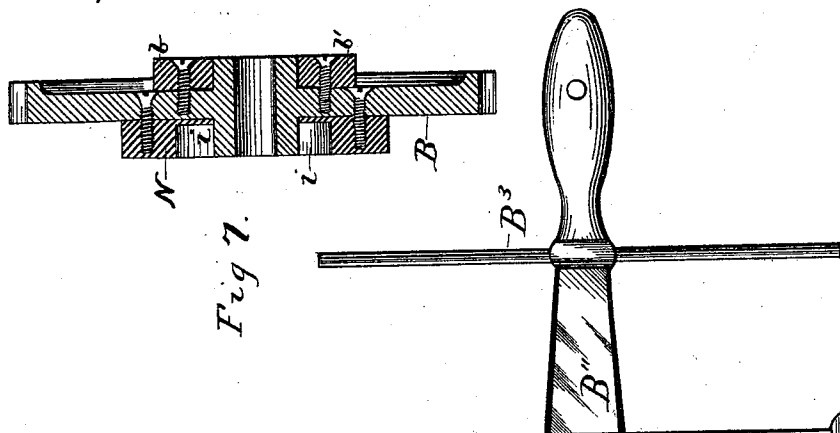


Fig. 7.

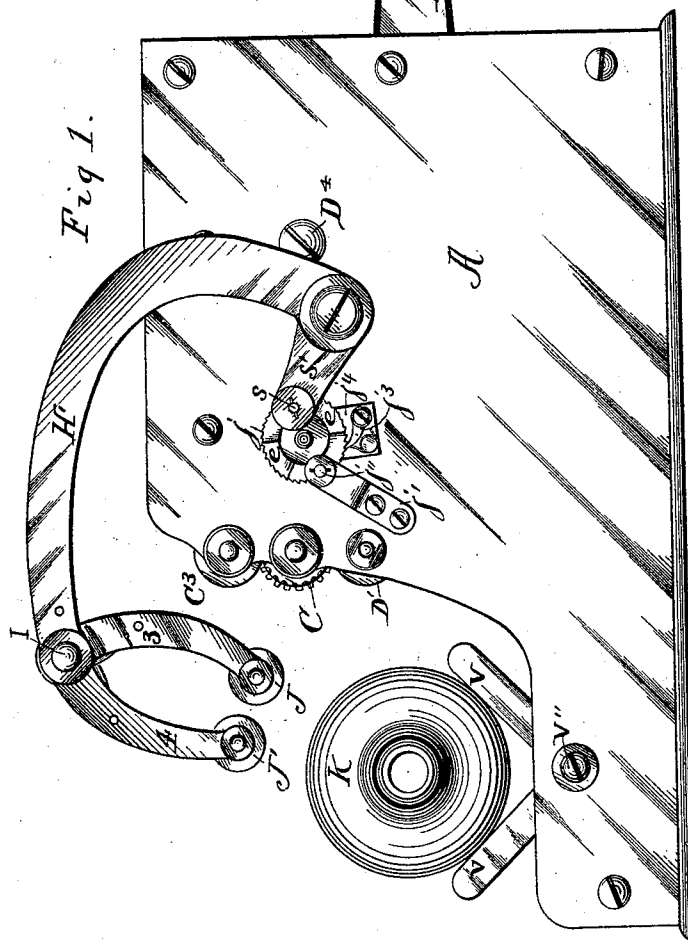


Fig 1.

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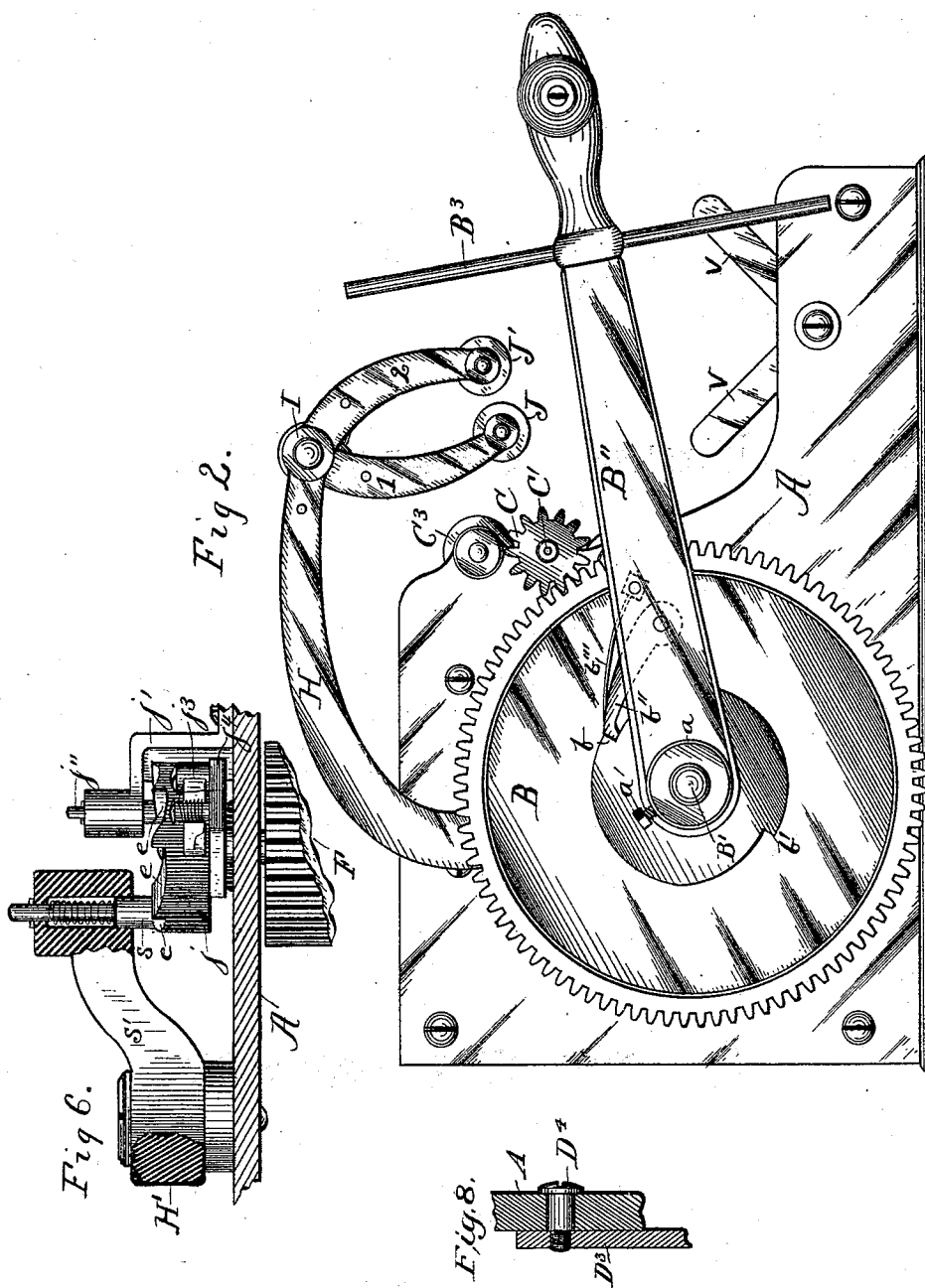
(No Model.) 4 Sheets—Sheet 2.
E. E. EUCHENHOFER, C. J. WEINMAN & A. L. STEVENS.
LABELING MACHINE.

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E. E. EUCHENHOFER, C. J. WEINMAN & A. L. STEVENS.
LABELING MACHINE.

No. 517,918.

Patented Apr. 10, 1894.



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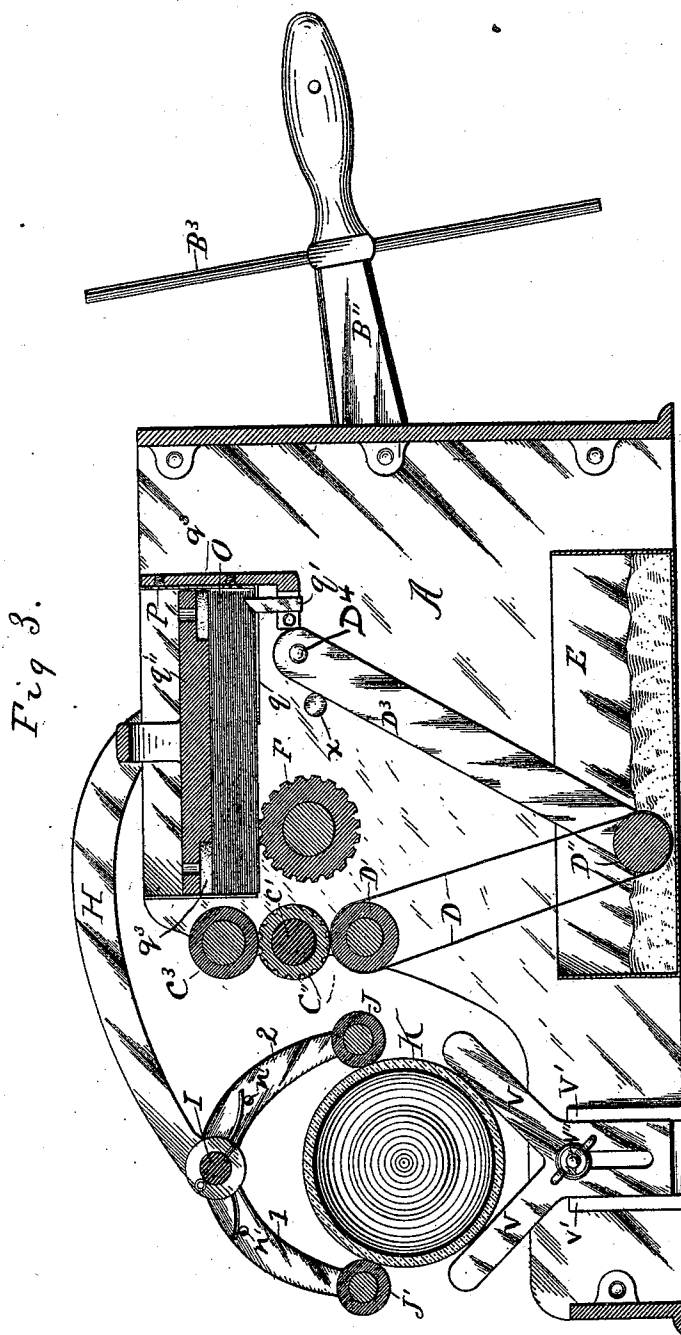
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LABELING MACHINE.

No. 517,918.

Patented Apr. 10, 1894.



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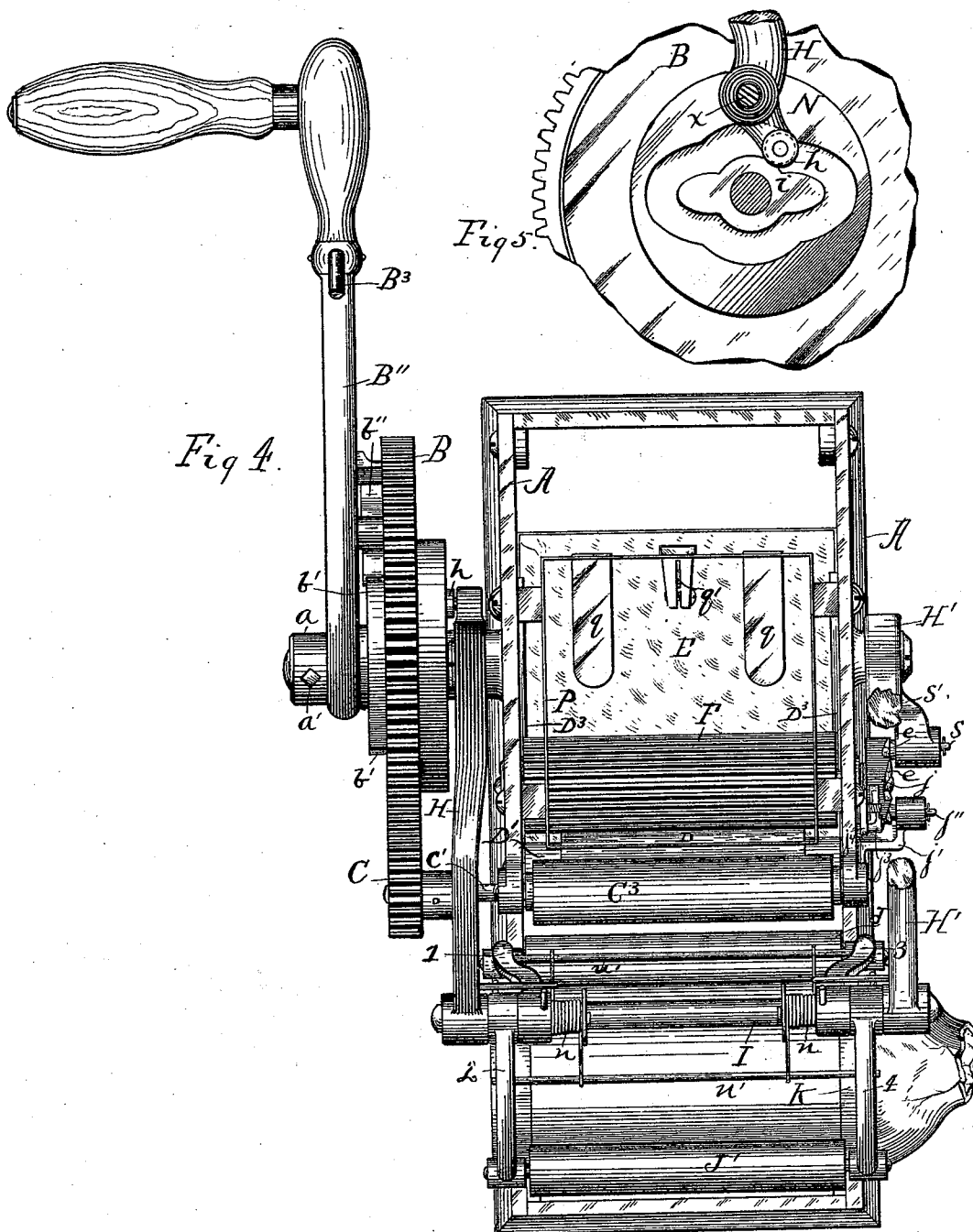
(No Model.)

4 Sheets—Sheet 4.

E. E. EUCHENHOFER, C. J. WEINMAN & A. L. STEVENS.
LABELING MACHINE.

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UNITED STATES PATENT OFFICE.

EDWARD E. EUCHENHOFER, CHRISTIAN J. WEINMAN, AND ALFRED L. STEVENS, OF DAYTON, OHIO; SAID EUCHENHOFER AND WEINMAN ASSIGNORS TO SAID STEVENS; SAID STEVENS ASSIGNOR OF TWO-THIRDS OF THE WHOLE RIGHT TO JNO. M. PHELPS AND CHRISTOPHER W. UTHBROK, OF SAME PLACE.

LABELING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 517,918, dated April 10, 1894.

Application filed April 10, 1893. Serial No. 469,836. (No model.)

To all whom it may concern:

Be it known that we, EDWARD E. EUCHENHOFER, CHRISTIAN J. WEINMAN, and ALFRED L. STEVENS, of Dayton, county of Montgomery, State of Ohio, have invented a new and useful Improvement in Labeling-Machines; and we do declare the following to be a full, clear, and exact description of the invention, such as 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 and figures of reference marked thereon, which form a part of this specification.

The object of this invention is to provide improved and useful means for labeling cans, bottles and other receptacles of similar shape in which it is customary to pack goods of various kinds.

Our improvements have reference to the manner of applying the paste to the label; to the manner in which the label is acted upon by the feeding mechanism; to the manner of cementing the label to the can or bottle, and to other points that will be hereinafter mentioned in the specification and which are illustrated in the drawings upon which similar letters and figures of reference indicate corresponding parts.

Figure 1. is a side elevation of the machine. Fig. 2. is a side elevation, of the other side of the machine; Fig. 3. a longitudinal section, taken centrally; Fig. 4. a plan view; Fig. 5. an enlarged detail view with parts broken away, of the inner side of the driving wheel; Fig. 6. a detached, detail plan view, enlarged, of the mechanism for operating the primary feeding roller. Said roller is broken away in this view; the vertical part of one of the reciprocating arms, the holder of the spring-actuated pawl, and part of the casing are shown in section; Fig. 7. a vertical section through the center of the driving wheel, the ratchet wheel, and disk *n* fixed thereto in section. Fig. 8 is a vertical section showing a portion of the casing, and a portion of one

of the bars *D*³ and the means by which said bars are adjusted.

As the driving mechanism to be hereinafter described performs, when actuated, two separate and distinct operations, to-wit: the pasting and feeding of a label from the label receptacle to the surface of the article upon which it is to be placed, and the securing of said label in a manner to prevent its coming off, by applying the necessary pressure thereto, while the label is in a moistened condition, we will describe the mechanism that performs each function, separately, to avoid ambiguity.

The letter *A* indicates a metal casing of the shape substantially as shown in the different views.

B indicates a toothed driving wheel mounted on shaft *B'* journaled into the side of casing.

B'' is a lever fulcrumed to the shaft *B'*, both wheel *B* and lever *B''* being maintained on said shaft by a collar *a*, tightened by means of a set-screw *a'*.

The letter *B*³ indicates a transverse gage or stop rod fixed to lever *B''*, to limit the throw of said lever, about which, more will be hereinafter said. The wheel *B* has fixed to its outer face, a wheel provided with ratchets *b—b'*, with which a pawl *b''* pivoted to the lever *B''*, engages; a spring *b'''* exerts constant pressure against said pawl and maintains it in contact with the periphery of said ratchet wheel.

C indicates a gear pinion meshing with the driving wheel, this pinion is fixed to shaft *C'*, journaled in the casing, upon which a feeding roller *C''* is carried.

*C*³ is a feeding roller having its journals provided with horizontal bearings in the casing adjacent to roller *C''*, by which it is rotated. The paste is applied to roller *C''* by means of a rotatable apron or friction belt *D*, belted to rollers *D'* and *D''*, the latter of which is journaled in two inclined bars *D*³. The upper ends of these bars are provided with

screw threaded apertures to receive the screw D⁴ which passes through an opening in the casing to enter said bars whereby means are afforded for adjusting the paste belt by moving the roller D'' to a higher or lower plane. Fig. 3 shows one of the bars D³ a fac simile of which is similarly located on the opposite side of the casing; by slightly adjusting these bars to the right or left, looking at Fig. 3, it will be seen the paste-applying belt D may be slackened or tightened around its rollers as necessity may require. The upper band roller D' is mounted in the casing horizontally below the feeding roller C'' and is acted upon thereby to rotate the paste-belt D. A primary feeding roller F to give the labels O, in the label receptacle P, an initial start, is mounted in the rear of roller C'', and immediately below the label receptacle P; this receptacle P has an open bottom so that the labels rest upon the roller; the rearward ends of the labels rest also upon strips q—q and upon the vertically fixed blade q' which blade is made to penetrate the labels, by the pressure of the weight q'' being thereupon, and prevents any but the bottom label being moved. In either end of the weight q'' a recess q³ is provided in which is placed a bit of rubber or other similar material, the object of which is to prevent the point of the blade q' from coming in contact with the hard surface of said weight when the labels become exhausted.

Coming now to the mechanism by which the primary feeding roller F is operated, the label secured to the bottle or other article, H and H' represent arms, provided with lug bearings α in the sides of the casing, and connected by a transverse shaft I, upon which fingers 1, 2, 3 and 4 are supported. Pressure rollers J and J' have their shafts journaled horizontally in the lower ends of these fingers. When under operation the arms H and H' are subjected to an intermittent reciprocatory motion which alternately brings the pressure rollers J and J' in contact with the surface of the bottle K, immediately after a label has been placed thereon; the continued depression of the arms causes the fingers bearing the rollers J and J' to divide or spread as seen in Fig. 3, thus securing the label upon the bottle while the latter remains in a stationary position in the support. When the fingers are withdrawn from the bottle by the upward movement of the arms, they close to their normal position as seen in Fig. 1, by means of tension created by coil springs n, n, on shaft I; the free ends of said springs exerting pressure against the transverse rods n'—n' extending from finger to finger as seen in Fig. 4. The arm indicated by H is provided with an anti-friction roller h extending outwardly from the arm at right angles, a sufficient distance to enter the cam slot i, in the disk N, fixed to the inner face of the driving wheel. It will be noted that arm H' will be effected equally with arm H by the joint operation of this cam slot and anti-fric-

tion roller by reason of the two arms being connected by the shaft I; the motion thus imparted to arm H' is conveyed to the primary feeding roller F in the following manner: on the shaft of this roller a crown wheel j having a ratchet on its face, is mounted. j' is an arm fixed to the side of the casing, in which arm a spring-actuated detent j'' is placed to bear against said wheel; the face of this wheel is provided with teeth e, e, best shown in Fig. 6, against these teeth a spring-actuated dog s provided with a horizontal bearing extension s' of arm H' exerts a constant pressure and engages therewith; the function of the detent j'' is to equalize the lateral pressure against the face of this wheel. The reciprocatory motion of these arms imparted through the medium of the anti-friction roller h and the cam slot i is just sufficient to move the wheel j to the extent of one of the teeth e; this in turn causes the primary feeding roller F to make about one third of a revolution, or to rotate only a sufficient extent to remove a label from the receptacle to the rollers C'' and C³ from whence it is passed to the bottle. A small detent j³ supported on a plate j⁴ fixed to the side of the casing, is adapted to engage the ratchet teeth on the periphery of wheel j to prevent the same from turning backward while the dog s is becoming engaged with the teeth e, e, to rotate said pinion.

The mechanism described in the foregoing specification is arranged and timed so as to apply a label upon every half revolution of the driving wheel, which revolution is accurately gaged by the rod B³, an end of which comes in contact with the table, or other support for the machine, when the lever B³ assumes a position on a horizontal plane with the axis of the driving wheel, as shown in Fig. 1.

V and V are slotted forks; supports for the bottle, supported in ways V' in the front of the casing and adjustable to accommodate bottles of different sizes in said ways by thumb-screws V''; as shown in Fig. 3; these supports remain stationary throughout the operation of applying the label.

Having described our invention, we claim and desire to secure by Letters Patent—

1. The combination of the driving wheel having the disk N with a cam groove, on its inner face, and a ratchet on its outer face, the arms H and H' the latter of which is provided with an anti-friction roller to engage with said groove, the pawl b'' to engage with said ratchet, the feed roller F and the crown wheel j mounted on the shaft thereof, the pawl s mounted in the extension s' of the arm H', and means for rotating the driving wheel, as is herein specified.

2. In a labeling machine, the combination with the driving wheel having the wheel with ratchets b and b' and the disk with cam slot i fixed thereto, the lever B'' with ratchet pawl b'', fulcrumed on the shaft of the driving wheel; of the arms H and H' connected

by the transverse shaft I, the fingers 1, 2, 3, 4 mounted on said shaft, the pressure rollers J and J' mounted in said fingers, the primary feed roller F and ratchet wheel *j* operated by the arm H', the feed rollers C'' and C³, and the paste-applying belt D on rollers D' and D'', as herein described.

3. In a labeling machine, the combination of the driving wheel having a ratchet wheel and a disk with a cam slot, fixed thereto, the reciprocating arms H and H' the former of which having anti-friction roller, movable in said cam slot, the feeding roller F, a crown wheel having a ratchet on its face, mounted on the shaft of said roller, the dog *s* engaging with said ratchet and operated by the arm H' substantially as described.

4. In a labeling machine, the combination

with the casing having label and paste receptacles therein, and the primary feed rollers F; of the rollers D' and D'', the apron D rotated by said rollers, the adjustable bars D³ in which roller D'' is mounted, the friction rollers C'' and C³ the former to receive paste from said apron, and in conjunction with roller C³ to receive the labels from feed roller F, substantially as described.

In testimony whereof we have hereunto set our hands this 3d day of April, 1893.

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Witnesses:

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