

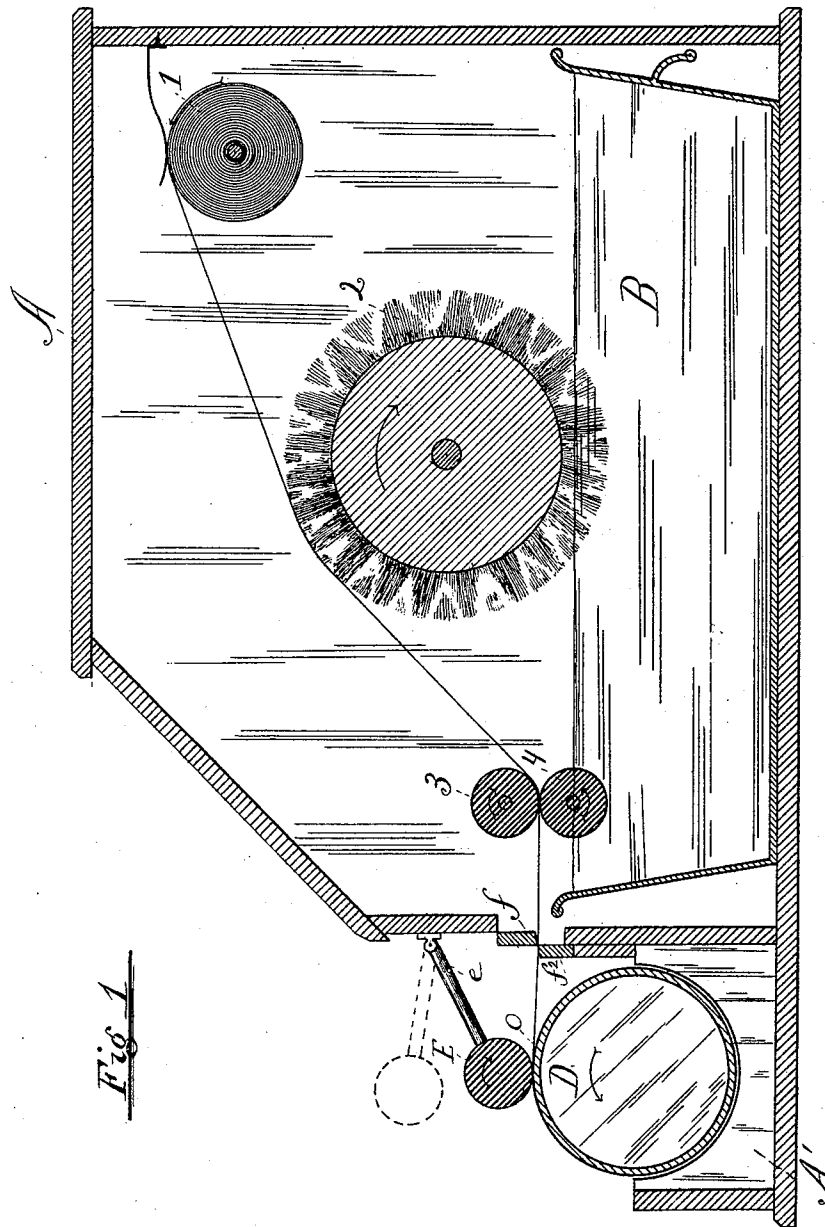
(No Model.)

4 Sheets—Sheet 1.

A. L. STEVENS.
BOTTLE LABELING MACHINE.

No. 511,281.

Patented Dec. 19, 1893.



WITNESSES:
John A. Hiller.
John Mulligan

INVENTOR,
Alfred L. Stevens.
BY
Toulmin W. Carty *Toulmin*
Hes ATTORNEYS

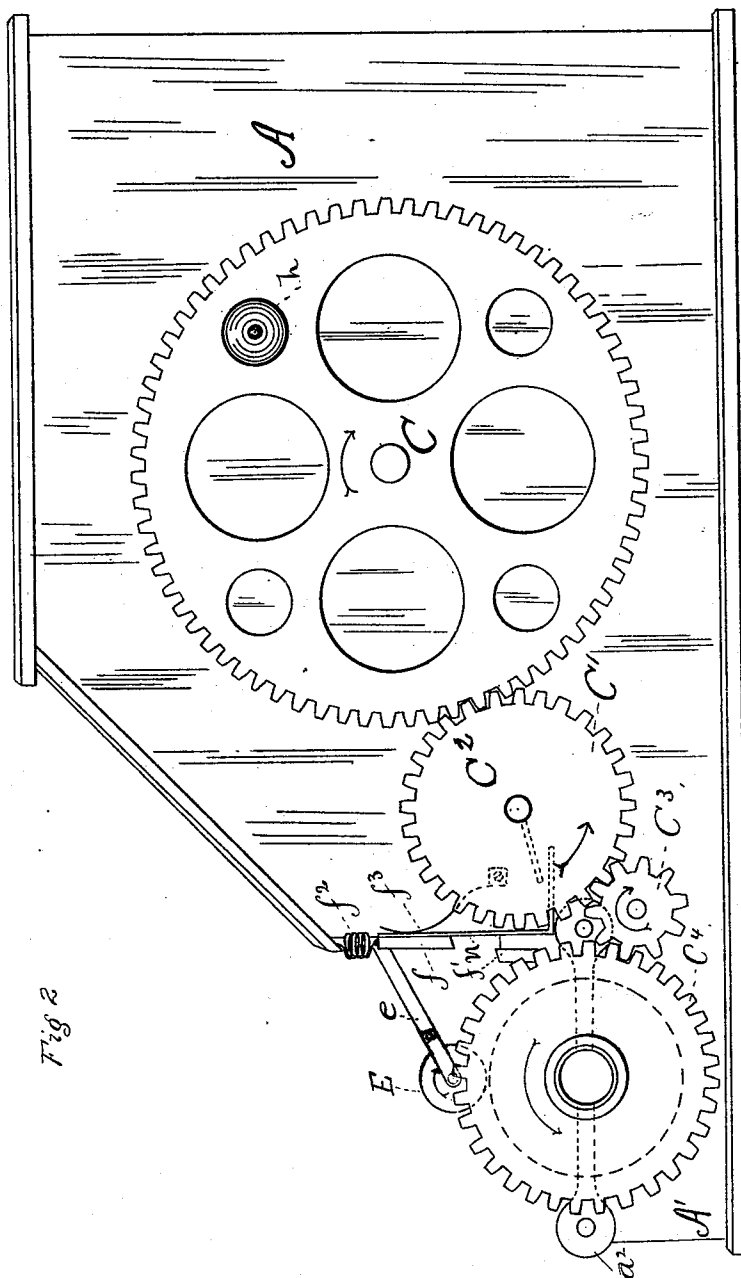
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WITNESSES:

John A. Miller
John C. Mulligan

INVENTOR,

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His ATTORNEYS

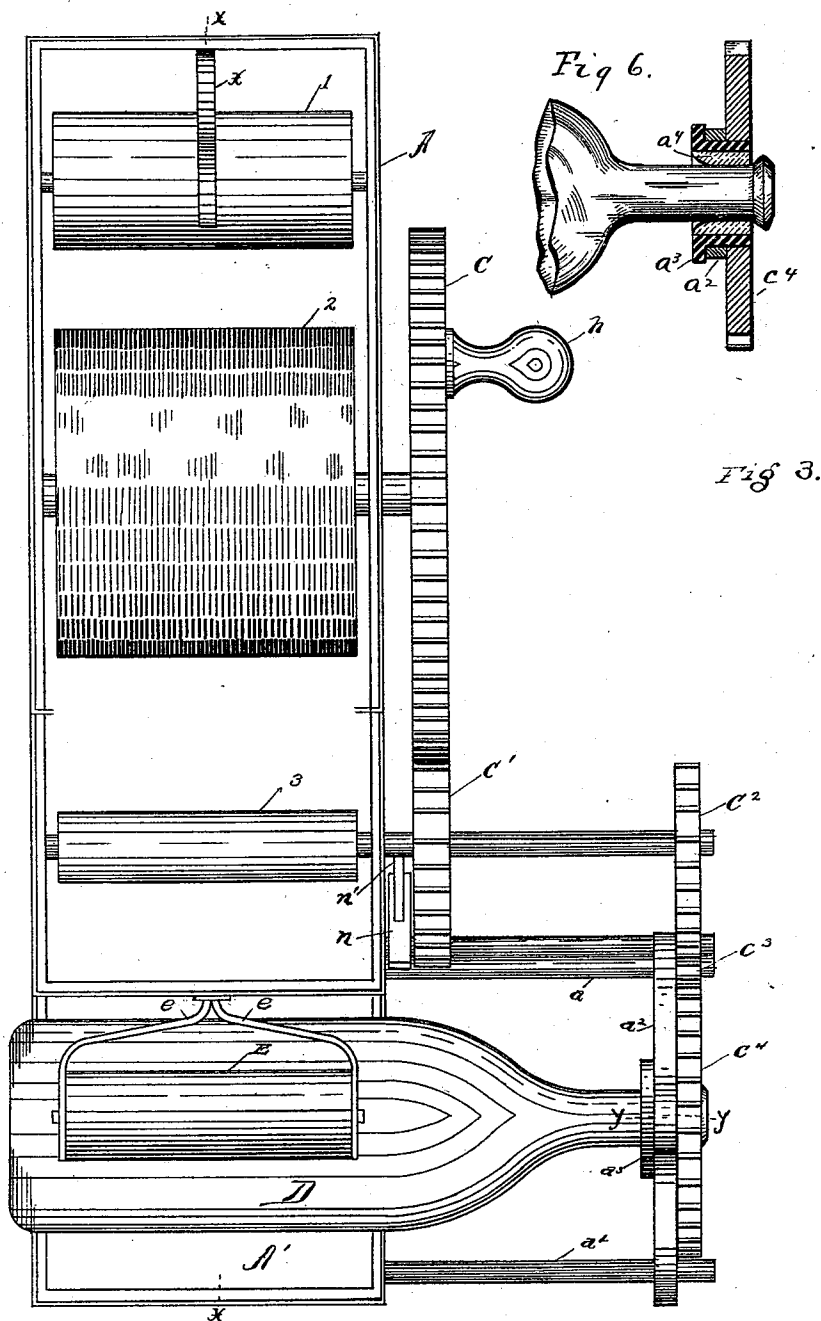
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WITNESSES.

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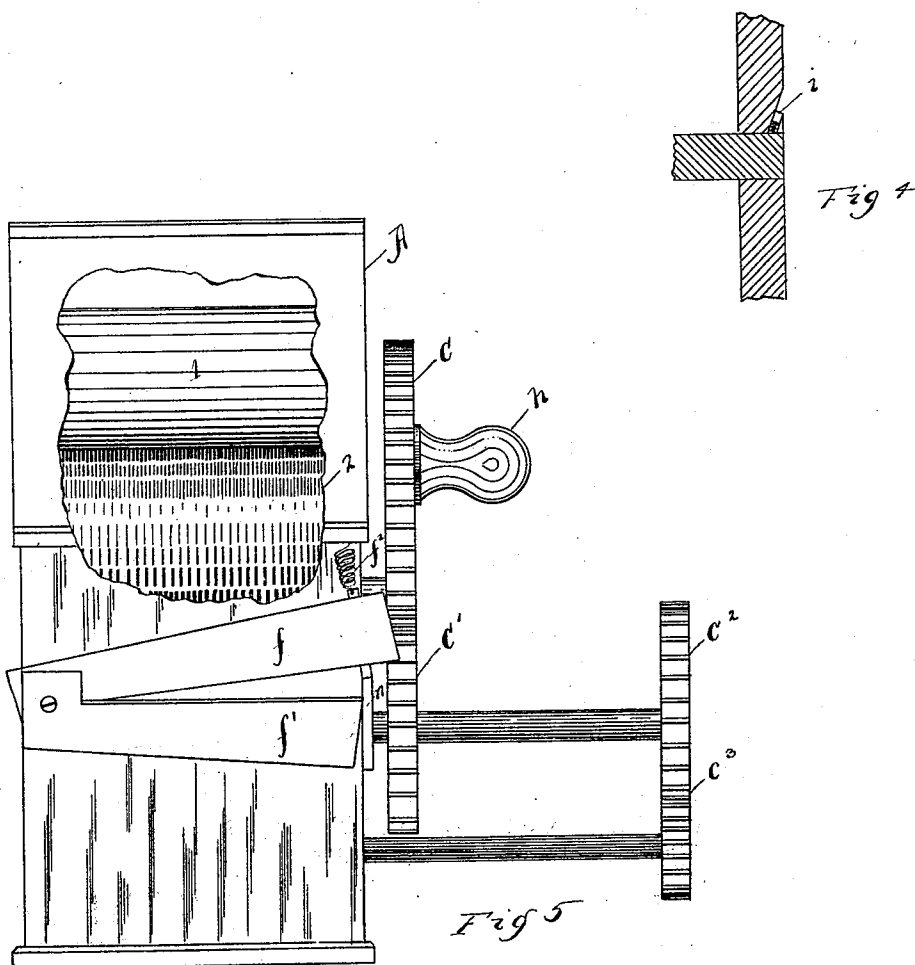
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Harley L. Dunn

INVENTOR.

Alfred L. Stevens
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ATTORNEYS

UNITED STATES PATENT OFFICE.

ALFRED L. STEVENS, OF DAYTON, OHIO, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, OF PART INTEREST TO JNO. M. PHELPS AND CHRISTOPHER W. UTHBROK, OF SAME PLACE.

BOTTLE-LABELING MACHINE.

SPECIFICATION forming part of Letters Patent No. 511,281, dated December 19, 1893.

Application filed October 31, 1892. Serial No. 450,595. (No model.)

To all whom it may concern:

Be it known that I, ALFRED L. STEVENS, of Dayton, county of Montgomery, State of Ohio, have invented a new and useful Improvement in Labeling-Machines, of which the following is a specification.

My invention relates to new and useful improvements in the means for pasting labels on bottles, cans, and any object having a cylindrical form, but is more especially adapted for the application of the former.

The objects of my invention are several, and relate principally to a construction and arrangement of parts, that jointly combined, furnish means for applying labels to the aforesaid articles, from a continuous roll, which is unwound, and passed over a pasting appliance, simultaneously.

In the accomplishment of the objects, my improvements have reference to points that will be hereinafter mentioned in detail and shown in the drawings, in which—

Figure 1 represents a section of the machine taken on the line X—X of Fig. 3. Fig. 2, is a side elevation of the machine; Fig. 3, a plan view with part of the cover and knife blades removed; Fig. 4, a detached sectional view of the adjustable gear wheels, showing the means of securing them at any desirable point; Fig. 5 a front elevation with some of the parts removed; a portion of the casing is broken away to exhibit the internal arrangement of the paste brush and label roll. Fig. 6 is a vertical section of the holding for the neck of the bottle, taken on the line Y—Y of Fig. 3; the neck of the bottle appearing therein.

Coming now to the minute description, reference is made to the various parts by letters and figures, and like letters and figures of reference represent the like parts throughout the various views.

"A," represents the casing, terminating at the front in a forward projection on bottle support "A'." This case is preferably constructed of metal, though it may be made of wood.

"1" is a continuous roll of labels wound upon a spindle journaled in a suitable manner in the casing.

"2" is a pasting brush having its shaft

journaled in the casing, and adapted to rotate in a manner to bring the brush in contact with paste contained in the receptacle "B," which may be made in the form of a drawer to be slid in and out of the casing, or the casing may be adapted to fit over it; or again, the paste receptacle may be constructed as an integral part of the casing.

"3" and "4" are a pair of anti-friction rollers journaled in a manner likewise to the spindle, of the label roll "1" and the shaft of the brush "2." The lower roller "4" is preferably constructed with a porous surface, and is placed in a position to bring it in contact with the paste in the paste receptacle to a depth a little below the axis thereof. The object of this is not to afford a pasting surface for the label, in addition to the brush, but the idea is to present the said roller "4," in a moistened condition, so as to prevent the removal of any of the paste previously applied by the brush to the label, as the latter passes through the feeders, as would be the case were roller "4" free from the necessary moisture.

"D" represents a bottle placed in a transverse position and resting in a trough or channel in the forward extension of the casing.

Coming now to the description of the driving or propelling mechanism of the apparatus, on the outer end of the shaft supporting the brush, a driving or main gear wheel "C," is secured, the teeth of which mesh into those of a smaller gear "C'" attached in a like manner on the shaft of the roller "4," and on an extension of this shaft, is placed, a gear wheel "C²," which is of the same size as "C'." The teeth of "C²" mesh into those of a smaller gear or idler "C³," and in turn the teeth of this idler mesh into those of a larger gear wheel "C⁴."

a and a' are shafts extending horizontally from the casing, to the outer ends of which is fixed a transverse bar a'' provided with a central circular opening in which a hollow bearing, having a flange a³ is placed; this bearing projects beyond the surface of the bar a'' a sufficient distance to afford the gear wheel C⁴ a substantial bearing, to which it is

fixed in any suitable manner. This bearing in addition to the foregoing object, is also adapted to receive the head of the bottle; by this means the bottle is turned sufficiently
 5 for the label to be pressed thereon by the roller E. It will be understood that this turn of the bottle is effected by the wheel C³ meshing with C⁴, in the bearing of which the bottle neck is placed. The hollow interior of
 10 the bearing can be made to fit the necks of any of the ordinary sizes of bottles, by applying an elastic cushion a⁴ therein, so as to give the bottle a snug fit in the said aperture and thereby adapt it to be turned by
 15 gear C⁴.

It will be understood that the various shafts supporting the train of gearing, as set forth in Fig. 3, are to suit the requirements, and while it is shown that wheels C¹, and C², are
 20 supported on a shaft journaled in both sides of the casing, and the shaft supporting the idler C³, is journaled in but one side thereof, yet I do not mean to say that the bearings are confined as therein shown.

By means of a set screw (i) as shown in Fig. 4, the gear wheels C², C³, and C⁴, may be adjusted at any required distance from the casing, to accommodate wheel C⁴, to bottles
 25 of different lengths. A roller E, having an elastic surface is pivoted to the center of the casing by means of arms (e) extending downwardly, to support the shaft of said roller; the object of this roller is to press the label
 30 evenly on the bottle, as the latter is turned on its axis.

We come now to the means of detaching or cutting off the label from the strip, after it has been put on the bottle. This is done by means of a pair of knife blades (f) and (f')
 40 pivoted to one side of the casing at the front; the normal position of these blades, is open to admit of the label passing through; in this position they are maintained by means of a spiral spring f², as shown in Fig. 5; the blade
 45 (f) is pressed outwardly into its proper position by the use of a spring f³, secured to the side of the casing. At the end of the knife, opposite the pivotal point, an arm (n) is attached to the blade (f) and extends down-
 50 wardly, terminating at right angles; against this arm, a pin (n'), attached to the shaft of wheels C¹ is brought to bear, in its downward course, and thereby closes the knife blades until the said pin releases the arm in the con-
 55 tinued rotation. I do not wish to confine myself to a pin in the accomplishment of this object as it may be seen that an involute cam may be employed for the same purpose, or I may dispense with both and use the hand to
 60 close the blades.

To complete the description of my invention, I will now refer to the manner of its operation. The continuous strip of labels on roll (1) is unwound therefrom and carried
 65 outwardly over the brush 2, and through the rollers 3 and 4, thence to the bottle as shown at "o." The main gear C, is rotated by the handle "h," and the gearing set in motion, the labels withdrawn from the roll, passed
 70 over the paste brush, fed through the rollers 3 and 4 out on to the bottle and cut after being attached thereto, by the knife as before stated.

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

1. In a labeling machine, the combination with the casing having a paste receptacle therein; of the feed rollers 3 and 4, the latter
 80 having a porous surface and adapted to rotate partially in the paste receptacle, a label roller from which labels are unwound by said feed rollers, a pressure roller to secure the label, a
 85 pair of knife blades f and f', the former of which is provided with an arm, a pin attached to the shaft of feed roller 3 adapted to actuate said arm when the roller is rotated and
 90 thereby close the blades to sever a label from the continuous roll, substantially as and for the purposes specified.

2. In a labeling machine, the combination with the casing having the forward extension or bottle support, and a paste receptacle; of
 95 the laterally projecting shafts a and a', and the bar a'' with a central opening fixed thereto, a hollow bearing with a flange a³, placed
 100 revolubly in said opening, the gear wheel C⁴ having its bearing on said hollow bearing, the idler C³ adapted to gear with wheel C⁴, and the feed rollers 3 and 4, substantially as and for the purposes specified.

3. In a label-pasting machine, the combination with the casing having the extension A'; of a paste receptacle, a rotating paste-applying
 105 brush journaled in said casing adjacent to the paste receptacle, feeding rollers adapted to withdraw labels from a continuous roll over said brush, and means for regulating the unwinding of said labels to conform to
 110 the capacity of the feeding rollers, the shafts a and a', the bar a'', the gear wheel C⁴ having a hollow bearing in said bar a'', and the intermediate gear or idler C³, substantially as and for the purposes specified.

In testimony whereof I have hereunto set
 my hand this 20th day of October, 1892.

ALFRED L. STEVENS.

Witnesses:

ALBERT EMANUEL,
 OLIVE JEFFERIES.