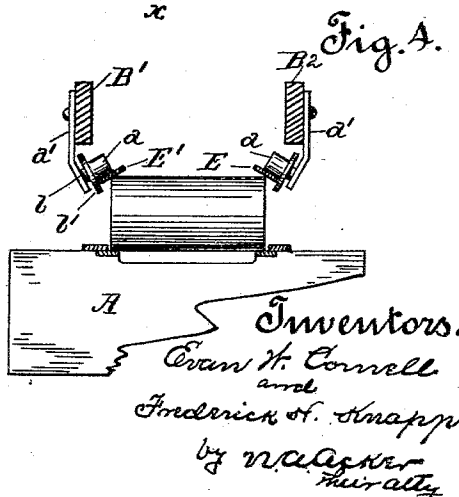
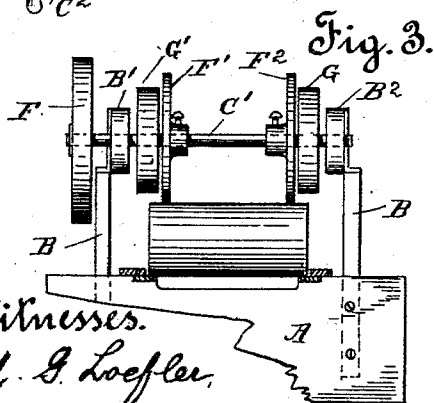
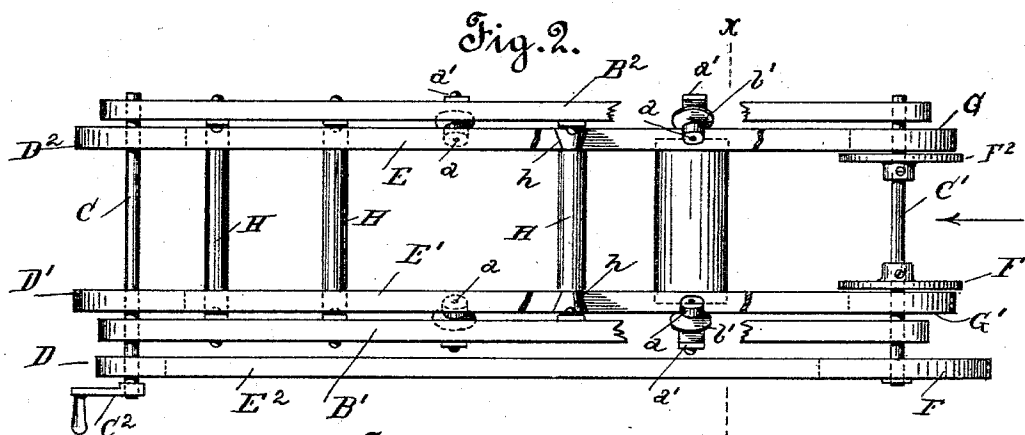
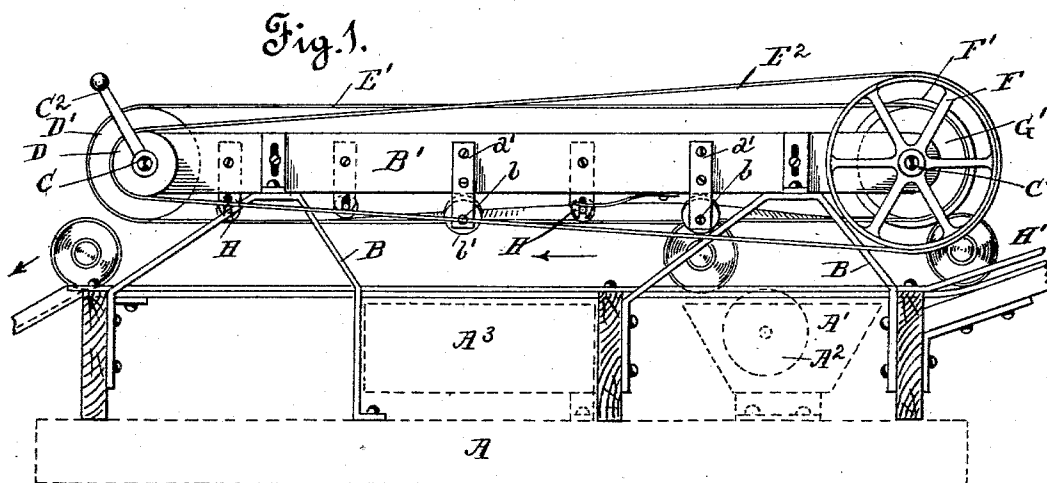


(No Model.)

E. W. CORNELL & F. H. KNAPP.
ATTACHMENT FOR CAN LABELING MACHINES.

No. 561,656.

Patented June 9, 1896.



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UNITED STATES PATENT OFFICE.

EVAN W. CORNELL AND FREDERICK H. KNAPP, OF ADRIAN, MICHIGAN.

ATTACHMENT FOR CAN-LABELING MACHINES.

SPECIFICATION forming part of Letters Patent No. 561,656, dated June 9, 1896.

Application filed October 4, 1894. Serial No. 524,925. (No model.)

To all whom it may concern:

Be it known that we, EVAN W. CORNELL and FREDERICK H. KNAPP, citizens of the United States, residing at Adrian, in the county of Lenawee and State of Michigan, have invented certain new and useful Improvements in Attachments for Labeling-Machines; and we do hereby declare the following to be a full, clear, and exact description of said invention, such as will enable others skilled in the art to which it most nearly appertains to make, use, and practice the same.

This invention relates to certain new and useful improvements in can-labeling machinery, as will be hereinafter more fully set forth in the drawings, described, and pointed out in the specification.

Our invention refers more especially to an improved spacing mechanism for the conveying of the cans over or through the machine, whereby the cans are maintained an equal distance apart, so as to prevent the crowding thereof upon one another and to provide against the cans following each other too closely over the labels, and to the arrangement of the conveyer-belt whereby the removal of the paste from the cans is obviated.

In order to more thoroughly understand our invention, reference must be had to the accompanying sheet of drawings, wherein—

Figure 1 is a view in side elevation of our attachment, showing same connected to the frame of a labeling-machine. Fig. 2 is a top plan view of the mechanism illustrated by Fig. 1. Fig. 3 is an end elevation of the mechanism set forth in Fig. 2, viewed in the direction of the arrow; and Fig. 4 is a cross-sectional elevation taken on line X X, Fig. 2.

The letter A is used to indicate the frame of a labeling-machine, within which are located the paste-holder A', paste-applying wheel A², and label-holding receptacle A³, all of which parts will be found set forth in Letters Patent No. 514,705, granted to E. W. Cornell February 13, 1894, and which form no part of the present invention.

Above the frame of the labeling-machine are supported, by brackets or straps B, the longitudinal side pieces B' B². Through the ends of these side pieces extend the cross-shafts C C'. To one end of the shaft C is fastened the crank-handle C², which constitutes this

shaft the drive-shaft. Upon the shaft C we rigidly secure the belt-wheels D D' D², over which travel the endless conveyer-belts E E' and drive-belt E². The drive-belt transmits the motion of wheel D to the wheel F, rigidly secured to shaft C'. Upon the shaft we rigidly secure the feed-disks F' F², which are driven by the rotation of said shaft. We also locate upon this shaft the belt-wheels G G', which are free to rotate thereover independent of the shaft. Motion is imparted to these wheels or rolls by means of the endless conveyer-belt E E', which travels thereover, and inasmuch as the wheels or rolls G G' derive motion direct from the shaft C, which is rotated at a higher speed than shaft C', inasmuch as its motion is derived from the power transmitted by a small wheel D to a large wheel F, it is obvious that the speed of the said rolls or wheels will be greater than that imparted to the disks F' F², which derive motion from shaft C'.

The diameter of the disks F' F² is greater than that of the rolls or wheels G G'. Consequently they extend beyond or below the periphery thereof and serve as feed-disks for the cans, as will be hereinafter more fully set forth.

In order that the paste deposited upon the traveling cans may not be removed by the endless conveyer-belts, which it would did the entire width of the belts bear upon the cans, we cause the same to be thrown at an angle thereto, whereby the belts only contact with the flange of the can heads or ends, thus not coming in contact with the body portion proper. For the purpose of throwing the conveyer-belts at an angle or incline we suspend below the side pieces B' B² of the conveyer-frame rolls *a*, which are held in place by the downwardly-extending straps *a'*. The end of these straps we bend inward at an angle, as shown by Fig. 4, and the rolls *a* are secured to shaft or axle *b*. The flange *b'* of the roll *a* serves as a keeper for the conveyer-belts, the outer edges of which bear upon the flange of the roll. The angle or inclination of these rolls, which we shall call "keeper-rolls," serve to maintain the under side or face of the endless conveyer-belts at an angle to the cans. Consequently the same only engages with the cans at their ends or edges. Consequently

the tops of the belts do not lie flat upon the cans. In order, however, to prevent the belts climbing off the keeper-rolls, we journal within the side pieces B' B² the ends of cross-rolls

5 H. These rolls have cone-shaped grooves *h* cut near the outer ends thereof, within which the endless conveyer-belts travel. By causing the belts to travel within the cone-shaped grooves *h* we not only release the keeper-rolls
10 of undue strain, but at the same time assist in maintaining the belt at the proper inclination.

The cans are supplied to the labeling-machine by means of the runway H'. This runway delivers the cans to the front or feed
15 end of the machine, beneath the disks F' F². These disks while being rotated bear upon the cans and convey the same to the labeling-machine and beyond the rolls G G', when they
20 are engaged by the conveyer-belts and carried the entire length of the machine and discharged thereby in the discharge-chute H² with the label applied thereto. Inasmuch as the conveyer-belt travels with greater speed
25 than the feed-disks it is obvious that after one can has been fed into the machine it will be carried quite a distance by the conveyer-belt before the feed-disks can have delivered the next can to such a point as to be received
30 by the conveyer-belts. Consequently the conveyer-belts maintain the cans an equidistance apart and prevent the crowding of one upon the other during travel through the machine. This is absolutely necessary, for were the cans
35 permitted to travel through the machine the same as they do within the runway H' they would jam against each other.

Having thus described our invention, what we claim as new, and desire to secure protection in by Letters Patent, is—

1. The combination with a labeling-machine, of a conveyer-frame supported thereabove, the drive-shaft secured at each end thereof, the feed-disks and drive-wheel rigidly
45 secured to the forward shaft, the belt-wheels loosely mounted upon said shaft, the belt-wheels and small drive-wheels rigidly secured to the rear shaft, a drive-belt for transmitting the motion of the small drive-wheel to
50 the large drive-wheel, the endless conveyer-belts for imparting the speed of the fixed belt-

wheels, and of mechanism for imparting motion to the rear shaft of the conveyer-frame.

2. The combination with a labeling-machine, of the conveyer-belts, mechanism for
55 imparting motion thereto, and of the keeper-rolls so arranged as to throw the conveyer-belts at an angle to the traveling cans, whereby the belts engage the cans at the ends thereof.

3. The combination with a labeling-machine, of the conveyer-frame supported thereabove, the endless conveyer working therein, and devices arranged at the sides of
60 the path of the cans for causing the endless conveyer to engage the edges of the cans at an angle to the ends.

4. The combination with a labeling-machine, the conveyer-frame supported thereabove, the keeper-rolls suspended therebelow at an angle, the endless conveyer-belts
70 working within the frame, said belts being thrown at an angle by means of the keeper-rolls so as to engage the cans at an angle and the rolls secured within the conveyer-frame,
75 said rolls having the cone-shaped grooves cut therein within which the conveyer-belts work.

5. In a labeling-machine the combination with the feed-disks, of the conveyer mechanism independent of the disks and of mechanism
80 for imparting greater speed to the conveyer mechanism than to the feed-disks, whereby the cans fed into the machine are automatically spaced while being carried through the machine.

6. In a can-labeling machine, the combination with a track, of a conveyer mechanism comprising endless belts, pulleys over which the belts pass, shafts on which the pulleys
90 are mounted, and feed-disks at the forward end of the machine mounted on the forward pulley-shaft and of a diameter greater than that of the pulley, and means for driving the belts and disks, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

EVAN W. CORNELL.
FREDERICK H. KNAPP.

Witnesses:

GEO. W. AYERS,
J. C. ROWLEY.