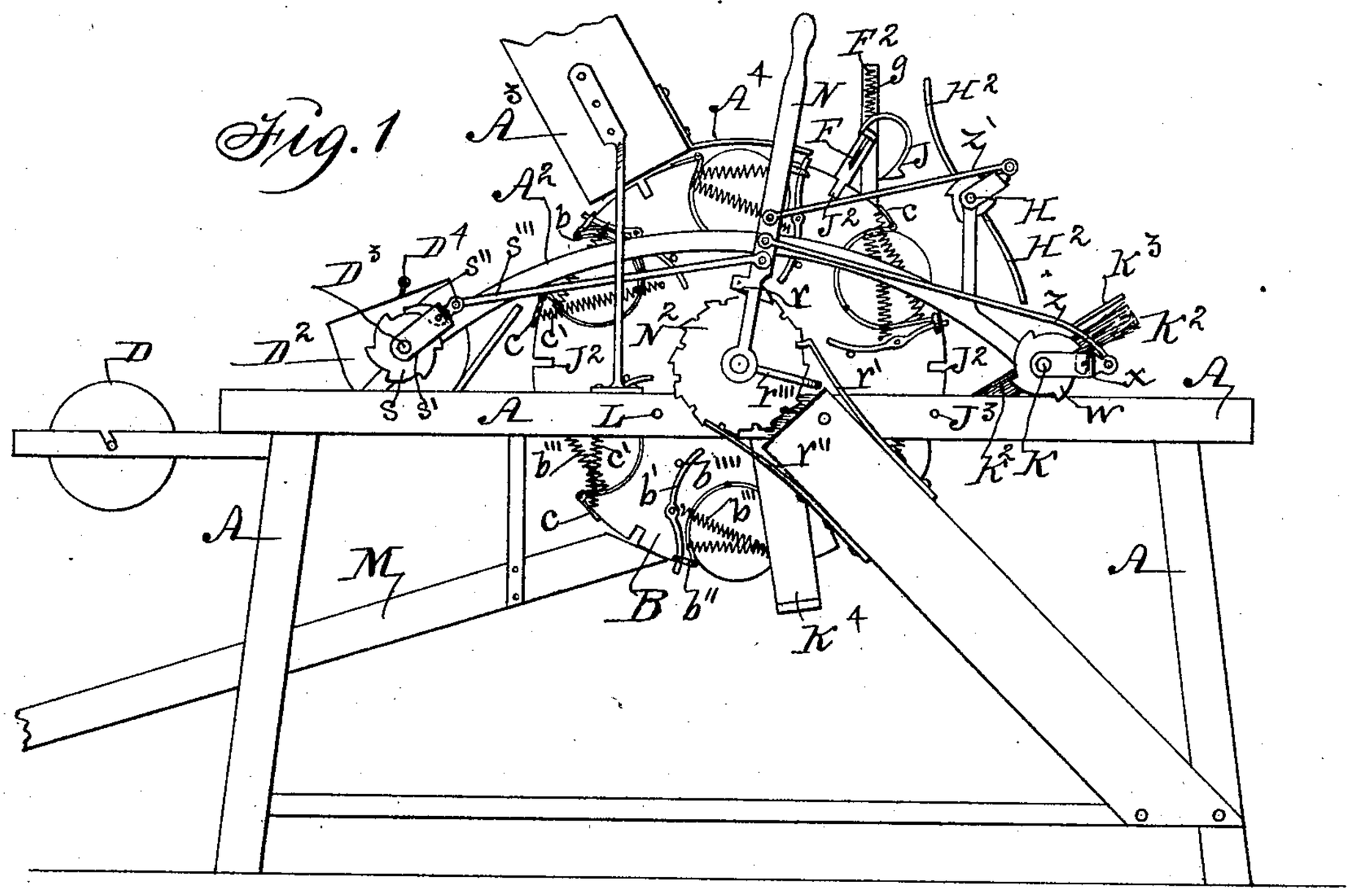
(No Model.) 3 Sheets—Sheet 1.

W. A. & F. M. DUNN.

CAN LABELING MACHINE.

No. 500,566. Patented July 4, 1893.

Fig. 1



Witnesses:
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R. H. Orwig.

Inventors:
Wilbur A. Dunn,
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(No Model.)

3 Sheets—Sheet 2.

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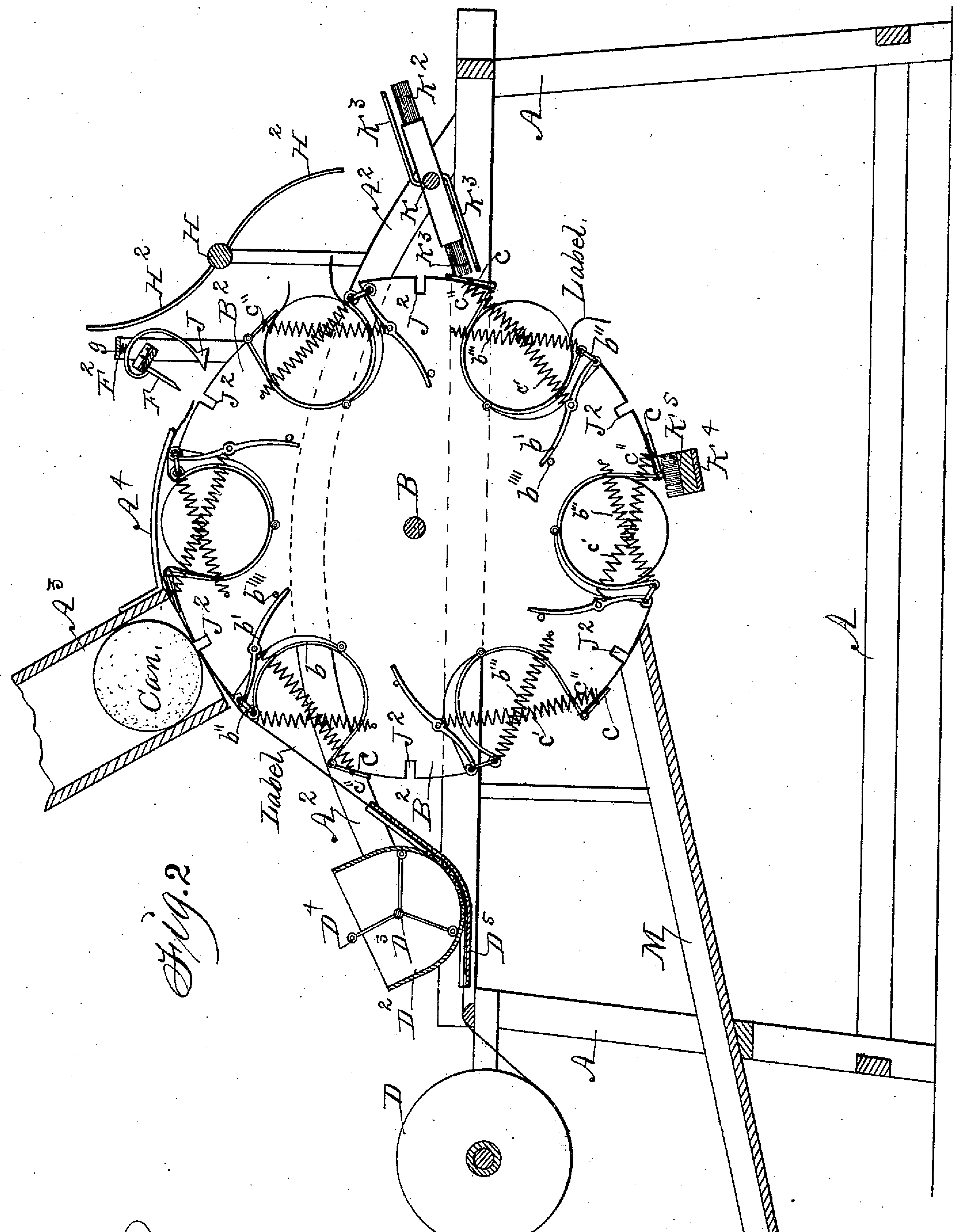

Fig. 2

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(No Model.) 3 Sheets—Sheet 3.

W. A. & F. M. DUNN.

CAN LABELING MACHINE.

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Fig. 3

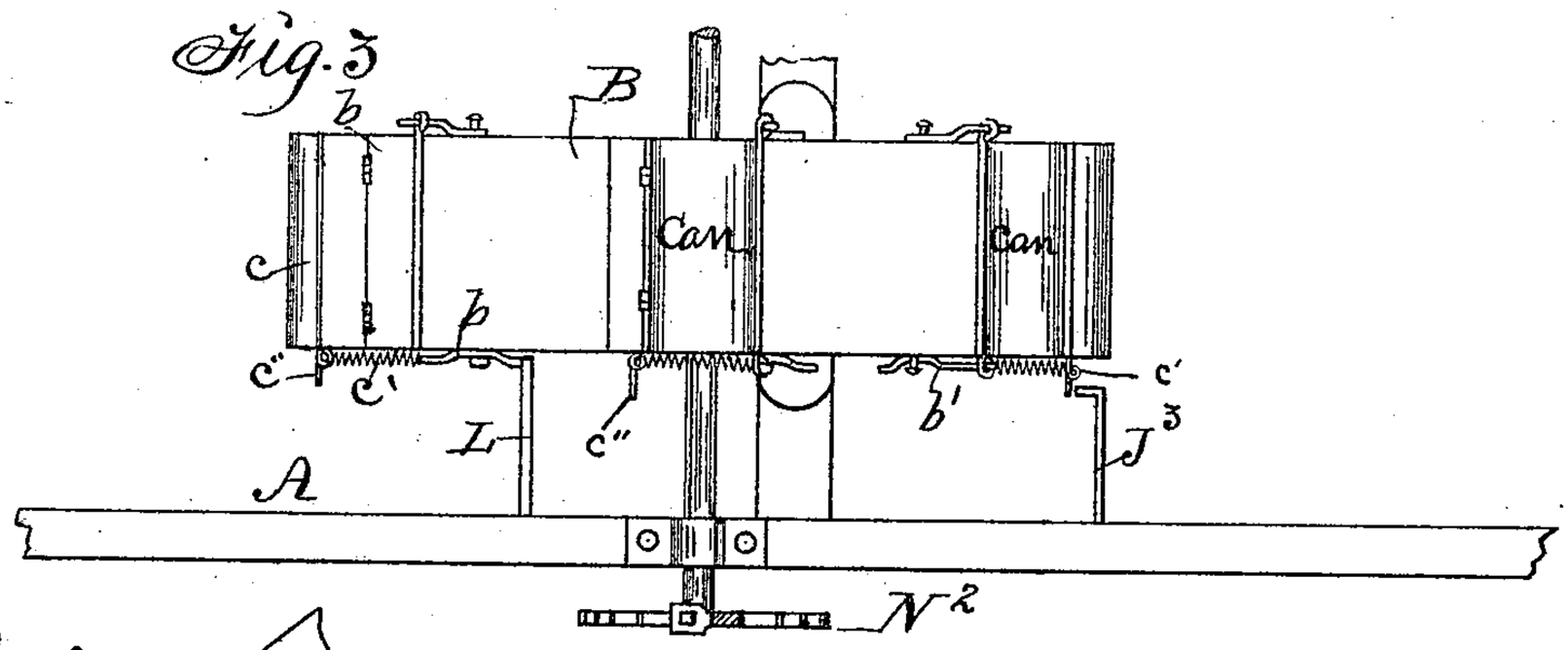

Fig. 5

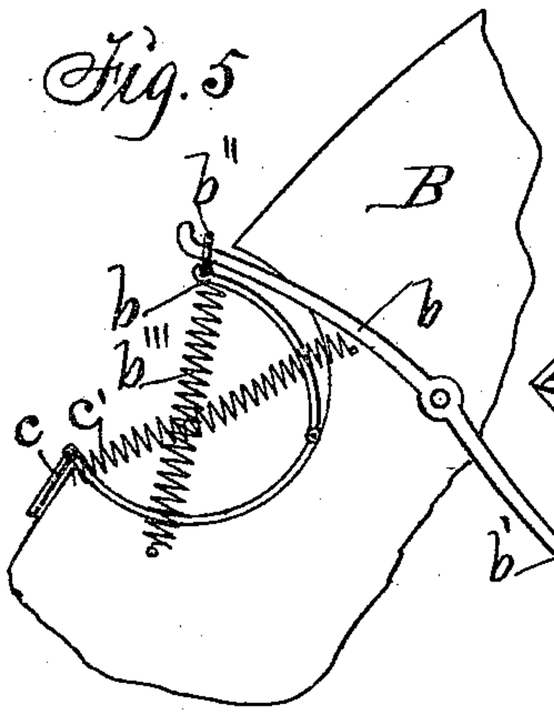

Fig. 4

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UNITED STATES PATENT OFFICE.

WILBUR A. DUNN AND FRANK M. DUNN, OF NEWTON, IOWA.

CAN-LABELING MACHINE.

SPECIFICATION forming part of Letters Patent No. 500,566, dated July 4, 1893.

Application filed April 20, 1891. Serial No. 389,703. (No model.)

To all whom it may concern:

Be it known that we, WILBUR A. DUNN and FRANK M. DUNN, citizens of the United States of America, residing at Newton, in the county of Jasper and State of Iowa, have invented a new and useful Can-Labeling Machine, of which the following is a specification.

Our object is to paste labels on cans by means of automatic mechanism to economize time, labor and expense in preparing canned goods for the market.

Our invention consists in the construction and combination with a suitable frame, of a rotating can-holder and carrier, a can-delivering tube on top of the holder and carrier, label-holding and feeding mechanism, a paste distributing mechanism, a label cutter, a rotating brush for pressing the wet labels to the cans, and an inclined plane for conveying the labeled cans, as hereinafter set forth, pointed out in our claims and illustrated in the accompanying drawings in which—

Figure 1 is a side view of the machine and Fig. 2 an enlarged vertical and longitudinal sectional view thereof. Fig. 3 is a detail view showing the means for reversing the label and can-holding plates having a hinged connection with the rotatable can-carrier. Fig. 4 is a perspective view of the machine. Fig. 5 is an enlarged detail view showing a portion of the can-carrier and the means for retaining cans in the carrier.

A represents a frame adapted to support the operative mechanisms. It consists of a rectangular portion that has legs, and arches A^2 on its top.

B is a cylindrical rotating carrier in bearings formed in or fixed to the central portions of the parallel sides of the frame. It has a series of transverse openings in its periphery adapted to admit cans and can-clasping and holding devices. A plate *b*, adapted in shape to engage a can, is hinged in the bottom of each of said openings and a lever *b'* is pivoted at each side of the carrier and its outer end extended through an eye or ring *b''* at the outer edge of the plate.

b''' is a spring attached to the carrier and to the plate in such a manner that it will, in its normal condition, draw the plate and lever jointly toward the opposite side of the opening as required to clasp a can in the opening.

b'''' are fixed pins on the ends of the carrier that engage the levers *b'* and restrict the movement of the spring-actuated clasping plate *b*.

A straight flat plate *c* is hinged to the edge of each opening and *c'*, is a spring connected therewith and the carrier in such a manner that it will prevent the plate from standing out radially from the carrier, and its function is to turn the edge of a label over the can in the opening as hereinafter described.

c'' are projections on the ends of the hinged plates *c* that engage a pin extending from the frame A as required to reverse the plate after a label has been pasted thereon, and also as required to allow a labeled can to be discharged from the carrier.

The positions of the springs *c'* and *b'''* relative to each other may vary. In Figs. 1 and 4 they are spanned across the openings in the can-carrier without crossing each other and in Figs. 2 and 5 they are shown in crossed position. Their functions are the same notwithstanding their precise locations relative to each other, and it is therefore obvious that they may extend across the openings in the can-carrier at different angles to actuate the plates *c* and levers *b'*.

A^3 is a can receptacle in the form of an open-ended spout that is rectangular in its cross section and fixed to the frame A in such a manner that it will extend vertically and allow a can to pass direct from its lower end into an opening in the periphery of the can-carrier.

D is a roller in bearings fixed to the front end of the frame A, adapted to support a continuous strip of paper labels.

D^2 is a paste receptacle that has a perforated concavo-convex bottom. It is fixed to the frame in such a manner that the strip of labels on the roller D will be brought in contact with the perforated bottom as it is advanced to be applied to the cans successively.

D^3 is a rotating shaft extending through the

central portion of the receptacle and D^4 are stirrers or wipers that extend radially from the shaft to facilitate the discharge of the paste through the perforated bottom as required to reach the labels as they are advanced in contact with said bottom.

A^4 are fenders fixed to the bottom and rear side of the tube A^3 to extend over the can and label as required to keep one end of the label turned away from the can to allow the other end of the label to be pasted to the can first.

F is a label cutter connected by means of a hinge or pivot to a post F^2 that extends above the arch A^2 of the frame to which the post is fixed. The cutter extends horizontally across the can carrier B.

g is a spring attached to the post and connected with the cutter in such a manner that it will, in its normal condition, hold the cutter elevated.

H is a rotating shaft in bearings fixed to the arches A^2. It has curved arms H^2 that engage the top of the cutter and press it down as required to cut off a label from the continuous strip at the proper time. The cutter is preferably V-shaped or so formed that the center of the label paper will be met first by the cutter and the inclined cutting edges cut outward as the cutter descends.

J is a hook carried by the cutter in such a position that when the cutter descends through the label paper and into a groove J^2 in the can carrier B, the cam will engage the projection *c''* on the end of the hinged plate *c* and then on the upward motion of the cutter will reverse the position of the plate as required to press the free end of the label upon the can under the end of the label.

J^3 is a pin projecting inward from the frame A and engages the projections on the ends of the plates *c*, as they successively come in line therewith, and again reverses their position as required to allow them to pass under the continuous strip of labels.

K is a rotating shaft in bearings fixed to the arches A^2.

K^2 are brushes fixed to the shaft to project in diverse directions therefrom for the purpose of pressing the end of the label to the surface of a can as it is carried downward in the carrier B.

K^3 are wire frames projecting from the shaft J in such a manner that they will engage the free end of a label and press it toward a can before the brush wipes and presses the label to the surface of the can as required to make a label wet with paste adhere to a can.

L is a pin projecting inward from the frame A in such a manner and position as to engage the levers *b'* at the proper time required to counteract the force of the spring *b'''* so as to relax the pressure of the hinged plate *b* that clasps and holds the can and to allow the finished labeled can to drop from the opening in the carrier B.

M is an inclined plane fixed to the frame A to convey the labeled can from the machine to a suitable receptacle at the end of the machine.

N is a hand lever pivoted to the axle of the rotating carrier B and N^2 is a ratchet wheel fixed to the end of the same axle and has double the number of teeth that the carrier B has openings for cans. The drawings show six such openings and twelve ratchet teeth.

r is a pawl carried by the lever in such a manner that it will engage the ratchet wheel, when the lever is pressed forward, as required to rotate the wheel, axle and carrier B.

r' and *r''* are spring latches fixed to the frame to engage the ratchet wheel as required to hold the wheel stationary during the backward motion of the lever.

r''' is a finger projecting from the lever to engage and lift the latch *r'* during the forward motion of the lever as required to allow the ratchet wheel to rotate.

s is a ratchet wheel, having six teeth, on the end of the shaft D^3 in the paste receptacle D.

s' is a lever pivoted to the end of the shaft and carries a pawl *s''* to engage the wheel.

s''' is a rod connecting the lever *s'* with the lever N to transmit motion as required to actuate the paste-distributing mechanism in the receptacle D.

w is a ratchet wheel, having four teeth, fixed to the end of the shaft K.

x is lever pivoted to the shaft and carries a pawl *y* to engage the wheels.

z is a rod connecting the lever *x* with the lever N as required to rotate the shaft N and the label-brushing devices attached to the shaft.

z' is a rod connecting lever *n* on the end of the shaft H with the lever N, by means of a ratchet and pawl connected with the end of the shaft H as clearly shown in Fig. 4.

To operate our invention we place a roll of labels in a continuous strip on the roller D and extend the free end of the paper under the paste receptacle and under the open end of the tube A^3 and over the rotating can-carrier B. We then place cans that are to be labeled in the tube so that the under one will be pressed into the coinciding opening in the periphery of the carrier to be partially enveloped by the label paper and to fasten the paper. By then imparting motion to the carrier, by means of the lever N, all the operative devices will be actuated in concert as required to apply paste to the paper as it advances under the paste-receptacle, to advance the cans successively, to cut off a label for each can, to brush the ends of the label to make them adhere to the cans, and to discharge the finished labeled cans from the machine.

In view of the detailed description and function of each element and sub-combination of the machine the unitary action of all

the parts and the practical operation of the complete invention will be readily understood by machinists.

We claim as our invention—

1. In a can-labeling machine, the combination of a rotating cylindrical can-carrier, having transverse openings in its periphery, adapted to receive and retain cans and can-clasping plates hinged in said openings, and an open-ended tube mounted in a vertical position, and adapted to contain cans and to drop them successively into the said openings of the rotating carrier, in the manner set forth.

2. In a machine for labeling cans a rotating cylinder and can-carrier, having concave openings adapted to admit cans, and concave spring actuated plates hinged in the said openings to clasp a can in the manner set forth for the purposes stated.

3. In a can-labeling machine the plate *b* hinged in the transverse can-receiving opening in the periphery of a rotating can-carrier, the lever *b'* and the spring *b'''* and means for actuating said lever, arranged and combined to operate in the manner set forth for the purposes stated.

4. In a rotating can-carrier having an opening across its periphery to admit a can, a plate *c* hinged to the edge of said opening and a spring *c'* fixed to the plate and to the can-carrier to span across the opening, and means for automatically and alternately reversing the position of the plate relative to said opening in the rotating can-carrier.

5. The cutter F pivoted to the post F^2 the spring *g* and the rotating shaft H having arms H^2, arranged and combined with the rotating can-carrier having transverse openings or can-receptacles and slots, J^2, in the periphery, to operate in the manner set forth.

6. The rotating shaft K carrying brushes K^2 and frames K^3, in combination with a rotating can carrier having transverse openings to admit cans, and hinged plates *c*, substantially as shown and described for the purposes stated.

7. The cutter F carrying a hook J, and the plate *c* hinged to the can-carrier B, arranged and combined with a rotating can-carrier having transverse openings J^2 to operate in the manner set forth for the purposes stated.

8. A can-labeling machine comprising a rotating can-carrier having transverse openings in its periphery to admit cans and can clamping devices in said openings, a paper holding plate hinged to the edge of each of said transverse openings, a can-holding tube having an open bottom for delivering cans into the opening of the carrier, a roller for supporting a roll of labels in a continuous sheet, a paste receptacle for distributing paste on the top surface of the connected labels, a cutter for severing the labels, a rotating brush for pressing the labels on the cans and means for actuating the operating devices in concert, arranged and combined with a frame to operate in the manner set forth for the purposes stated.

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