

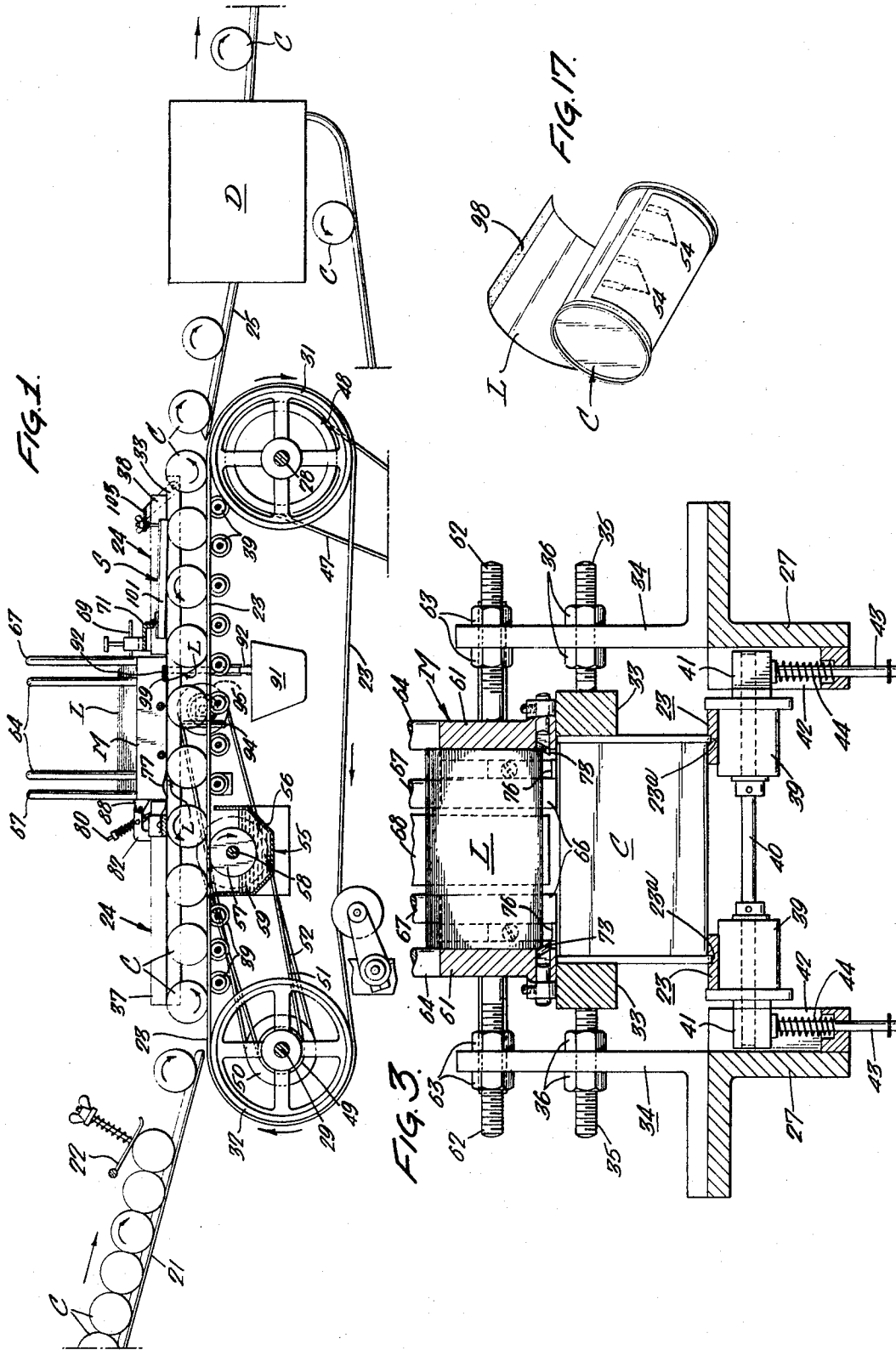
Oct. 14, 1969

E. C. HUTCHINSON
CAN LABELLING APPARATUS

3,472,722

Filed March 18, 1966

4 Sheets-Sheet 1



Oct. 14, 1969

E. C. HUTCHINSON
CAN LABELLING APPARATUS

3,472,722

Filed March 18, 1966

4 Sheets-Sheet 2

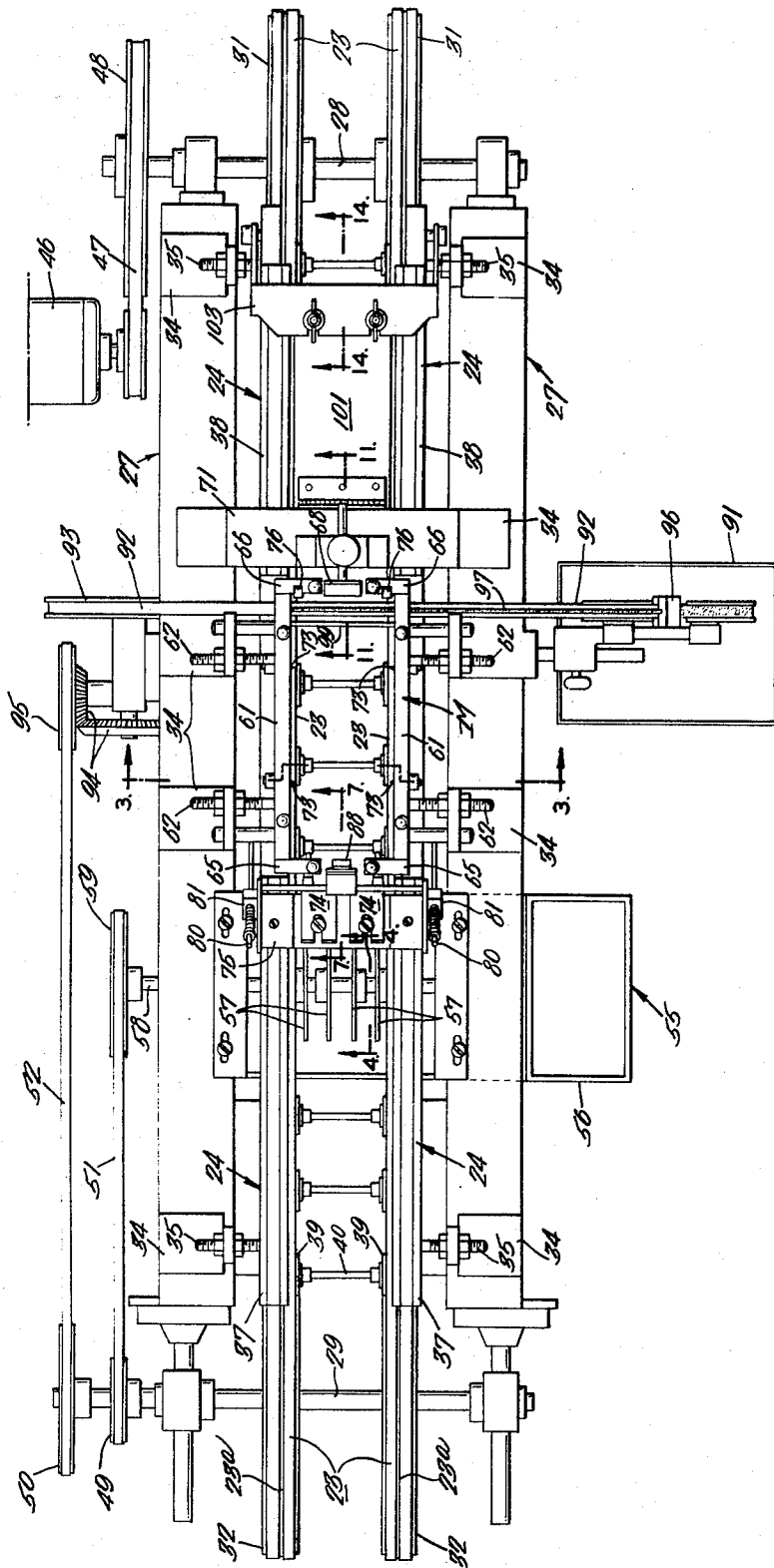


FIG. 2.

Oct. 14, 1969

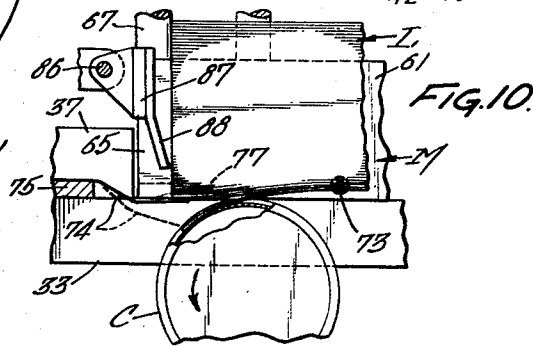
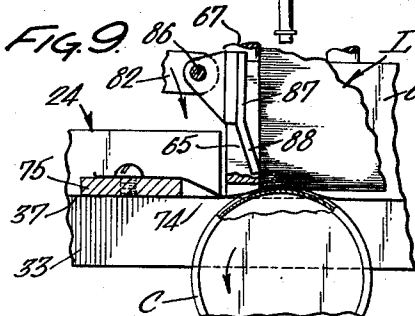
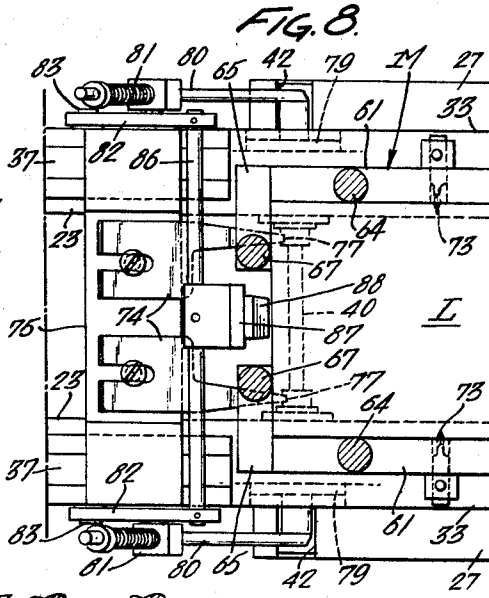
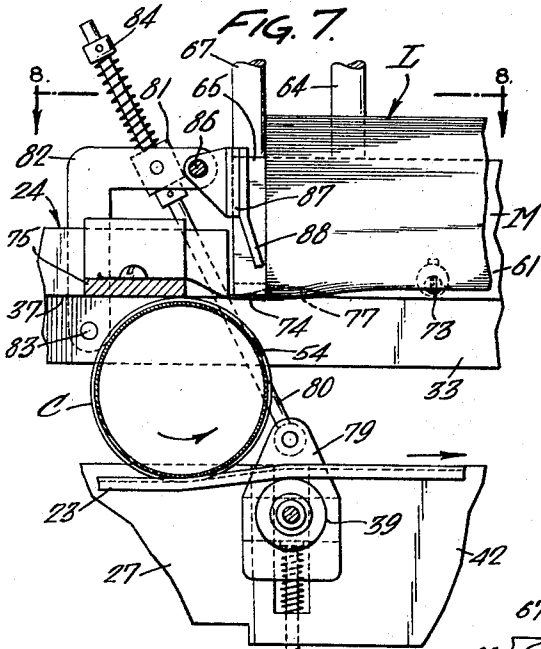
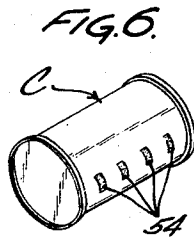
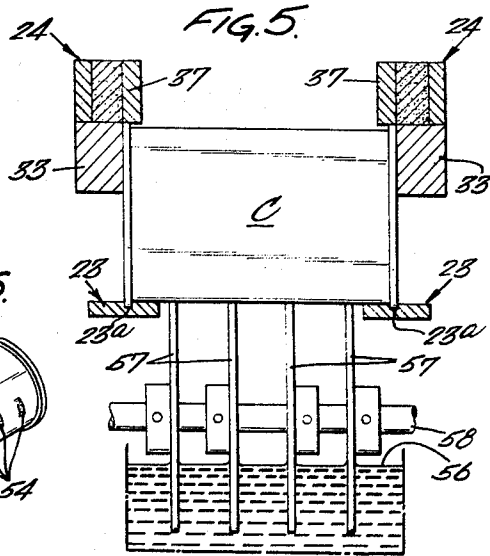
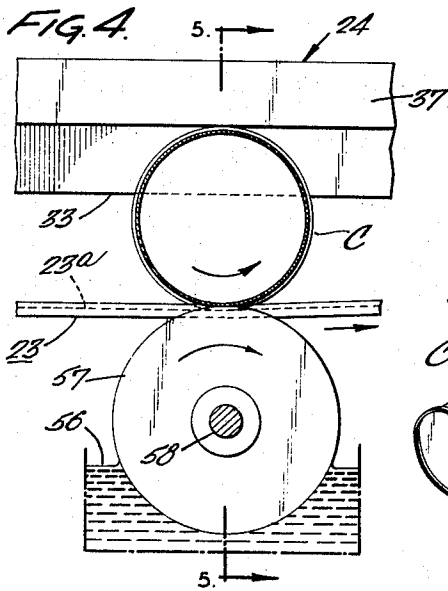
E. C. HUTCHINSON

3,472,722

CAN LABELLING APPARATUS

Filed March 18, 1966

4 Sheets-Sheet 3



Oct. 14, 1969

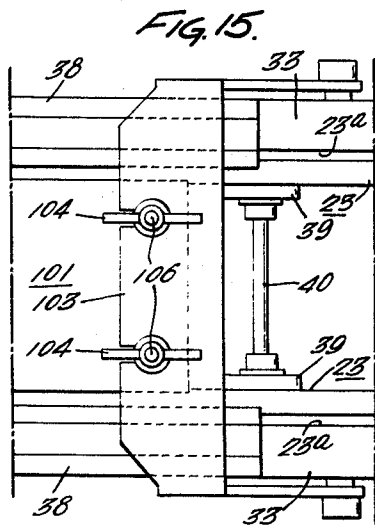
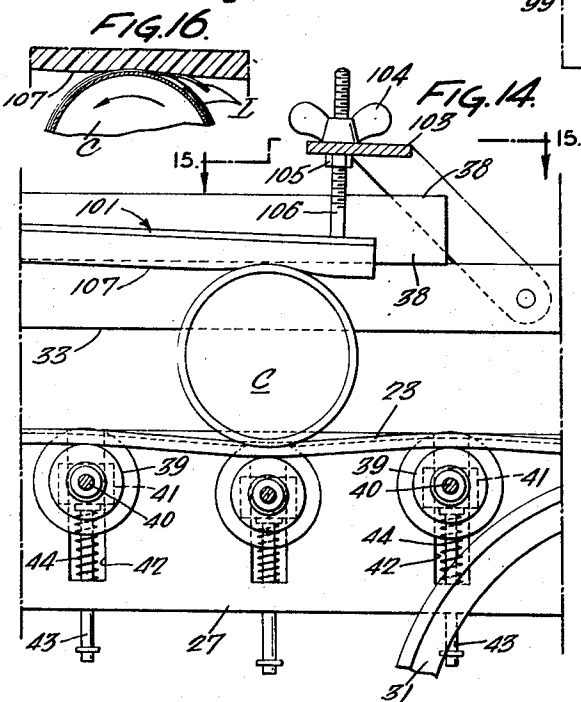
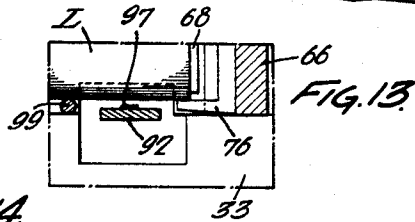
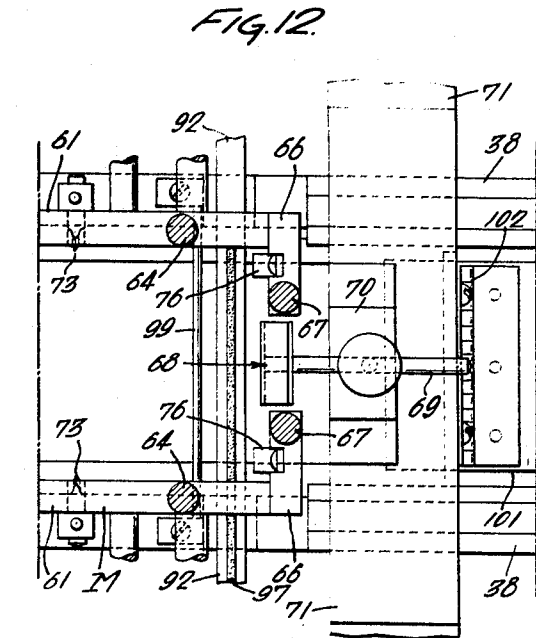
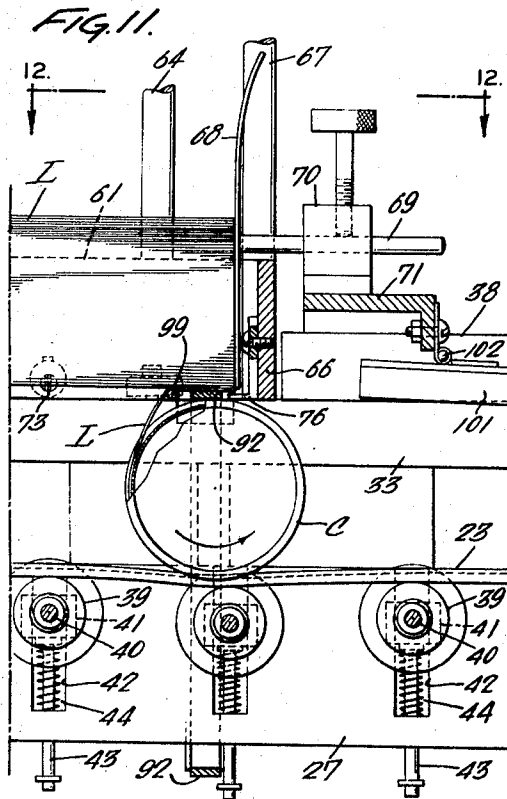
E. C. HUTCHINSON

3,472,722

CAN LABELLING APPARATUS

Filed March 18, 1966

4 Sheets-Sheet 4



1

2

3,472,722

CAN LABELLING APPARATUS

Edmund C. Hutchinson, deceased, late of Collingswood, N.J., by Elizabeth B. Hutchinson, executrix, Collingswood, N.J., assignor to Campbell Soup Company, Camden, N.J., a corporation of New Jersey
 Filed Mar. 18, 1966 Ser. No. 536,197
 Int. Cl. B65c 3/12

U.S. Cl. 156—455

14 Claims

ABSTRACT OF THE DISCLOSURE

Apparatus for applying labels to cans in which cans are caused to roll along the underside surfaces of magnetic rail members and pass beneath a label magazine. The magnetic rail members have sufficient magnetism to support the weight of the cans and the cans are driven along the rails by means of an endless belt in engagement with the underside of the cans. Glue applicators are provided to apply glue to preselected portions of the cans and to the trailing edge of the labels. As a can passes beneath the label magazine, the leading edge of the lowermost label in the magazine is first forced into contact with the glue on the can and the label is thereafter wrapped about the can causing the trailing edge of the label to overlap and adhere to the leading edge. Further movement of the cans through the apparatus causes the labels to be firmly pressed in place on the cans and as the cans leave the labelling apparatus, their direction of rotation is abruptly reversed.

The present invention relates to new and useful improvements in apparatus for applying paper labels to cans and more particularly to improvements in can labelling apparatus wherein the can is caused to pass beneath a stack of labels, pull the lowermost label from the stack and cause the label to be wrapped about the can and sealed in place.

In conventional can labelling apparatus, the labels are supported in a stack beneath the path of travel of the can and forced upwardly by spring pressure into contact with the cans. The supply of labels which may be maintained in the can labelling machine of this type is limited and the machine must be shut down at frequent intervals to replenish the supply of labels. Also, the labels and the feed and guide means for the labels are supported directly beneath the area where glue is applied to the labels and cans with the result that excess glue will drip onto the labels and label supply means requiring frequent cleaning of the machine.

According to the present invention, the label supply means is positioned above the path of travel of the cans so that the supply of labels may be replenished by the machine attendant whenever it becomes low without shutting down the machine. The cans are supported against a guide rail mounted above the path of travel of the cans and are caused to roll along the underside of the guide rail beneath the label magazine so that the labels and label feed means are all above the point of application of glue to the cans and to the lowermost label in the label magazine. The cans roll down a feed track and are directed at spaced intervals to the upper can guide rails. As the cans contact the upper guide rails, their direction of rotation is reversed and the cans roll along the under surface of the upper can guide rails through the labelling machine. After the cans leave the labelling machine, their direction of rotation is again reversed and the cans roll down a discharge track through conventional label inspecting apparatus such as a loose label detector. This reversal of direction of rotation of the cans will cause any loose labels to flag or

whip outwardly away from the can permitting a more accurate and complete inspection of the can label.

With the foregoing in mind, a primary object of the present invention is to provide novel can labelling apparatus wherein the labels are fed to the cans from a magazine positioned above the path of travel of the cans permitting a constant replenishment of the labels without halting operation of the can labelling machine.

Another object of the present invention is to provide novel can labelling apparatus wherein the direction of rotation of the labelled cans is caused to be abruptly reversed as the cans leave the apparatus permitting a more accurate inspection of the cans.

A further object of the present invention is to provide novel can labelling apparatus wherein the point of glue application to the cans and labels is beneath the label feed means so that any glue which might drip from the machine will not fall on the label supply or the label feed means.

Another object of the present invention is to provide novel can labelling apparatus in which the lead end of the lowermost label in the stack of labels is positively and firmly forced into contact with the glued can to insure good adherence of the label to the can.

A still further object of the present invention is to provide novel can labelling apparatus in which the cans, as they pass through the labelling apparatus, are supported against and roll along the lower surface of a pair of upper guide rails and are constantly maintained in contact with these guide rails.

Still another object of the present invention is to provide novel can labelling apparatus having the features and characteristics set forth above which is of relatively simplified construction, may be manufactured easily and cheaply, may be easily maintained and cleaned, and is entirely efficient and effective in operation and use.

These and other objects of the present invention and the various features and details of the operation and construction thereof are hereinafter more fully set forth and described with reference to the accompanying drawings, in which:

FIG. 1 is a side elevational view partially in section of can labelling apparatus made in accordance with the present invention;

FIG. 2 is an enlarged plan view of the can labelling apparatus illustrated in FIG. 1;

FIG. 3 is an enlarged fragmentary transverse sectional view through the label magazine taken on line 3—3, FIG. 2;

FIG. 4 is an enlarged fragmentary longitudinal sectional view illustrating the means for applying glue to the cans taken on line 4—4, FIG. 2;

FIG. 5 is a transverse sectional view taken on line 5—5, FIG. 4;

FIG. 6 is a perspective view of a can illustrating the point of application of the glue dots to the can;

FIG. 7 is an enlarged fragmentary longitudinal sectional view through the front end of the label magazine taken on line 7—7, FIG. 2;

FIG. 8 is a fragmentary plan view of the mechanism shown in FIG. 7 as viewed from the line 8—8, FIG. 7;

FIG. 9 is an enlarged fragmentary sectional view similar to FIG. 7 illustrating the can as it initially contacts the lowermost label in the label magazine;

FIG. 10 is a fragmentary sectional view similar to FIG. 9 illustrating the label being initially wrapped about the can;

FIG. 11 is an enlarged fragmentary longitudinal sectional view through the rear end of the label magazine taken on line 11—11, FIG. 2;

3

FIG. 12 is a fragmentary plan view of the rear end of the label magazine as viewed from the line 12—12, FIG. 11;

FIG. 13 is an enlarged fragmentary longitudinal sectional view at the lower rear end of the label magazine illustrating the means for applying a strip of glue transversely of the trailing edge of the lowermost label in the magazine;

FIG. 14 is an enlarged fragmentary longitudinal sectional view taken on line 14—14, FIG. 2, showing the means for pressing or ironing the labels onto the can;

FIG. 15 is a fragmentary plan view of the label ironing means viewed from the line 15—15, FIG. 14;

FIG. 16 is an enlarged fragmentary longitudinal sectional view illustrating a portion of the can and the pressure pad for ironing the label onto the can; and

FIG. 17 is a perspective view of the can and applied label prior to the trailing end of the label being wiped into engagement with the overlapped lead end of the label.

As illustrated in FIG. 1 of the drawings, filled and sealed cans C are initially fed into the can labelling apparatus of the present invention along a feed track 21 past a conventional adjustable, spring biased feed plate 22 which releases the cans at spaced intervals. As the cans leave the track 21, they are engaged by a pair of spaced parallel can drive belts 23, 23 which cause the cans to roll along the under surface of a pair of spaced parallel guide rail assemblies 24, 24 past a label magazine M and a lap sealer S where the labels L are first applied to the cans and then securely sealed onto the cans. After the cans with sealed labels applied thereto leave the lap sealer, the direction of rotation of the cans is reversed and the cans rolled down a discharge track 25 through a loose label detector D or other conventional inspecting device.

Referring more specifically to the drawings and particularly FIGS. 1, 2, 3 and 5 thereof, the can labelling machine of the present invention has an outer rigid support frame 27 on which is mounted at opposite ends thereof a drive shaft 28 and an idler shaft 29. Fixed to each of the drive and idler shafts 28 and 29, respectively, are pairs of can belt drive sheaves 31 and 32, respectively, about which the main can drive belts 23, 23 pass. The outer surface of each can drive belt has a longitudinal groove 23a therein in which the raised flanges at the opposite ends of the can body are received.

The can drive belts 23, 23 resiliently urge the cans into engagement with the guide rail assemblies 24, 24. Each guide rail assembly includes a side guide member 33 which extends longitudinally the entire length of the can labelling apparatus and serves to engage the can ends and guide movement of the cans through the can labelling apparatus. The side guide members are carried by a series of support brackets 34 spaced at intervals longitudinally of the main frame 27. Preferably, the side guide members are mounted for adjusting movement transversely of the machine to accommodate cans of different lengths. The lateral adjustment of the side guide members may be accomplished, for example, by threaded studs 35 fixed to the side guide members and positioned in apertures in the support brackets 34 and secured in the desired position relative to the support brackets 34 by a pair of nuts 36 threadedly received on the studs 35 and engaging opposite faces of the support brackets as shown in FIG. 3. Secured to the side guide members 33 and completing the guide rail assembly are pairs of inlet and outlet rail members 37 and 38, respectively, which project inwardly beyond the inner side edges of the side guide members 33, 33 and are engaged by the outer periphery of the can ends.

Preferably, the inlet and outlet rail members 37 and 38 are laminated as illustrated in FIGS. 2 and 5, and are strongly magnetic so that they are capable of supporting the weight of the can. This will insure good fric-

4

tional engagement of the can ends by the rail members 37 and 38, respectively, and insure positive rolling movement of the can along the underside of the rail members as the can passes lengthwise of the can labelling machine. Thus, with reference to FIG. 1, as the can passes down the feed track 21 from left to right, the cans will rotate in the clockwise direction. After the cans are fed into the can labelling machine and engage the under surface of the guide rail assemblies 24, 24, the cans are caused to roll along the under surface of these guide rail assemblies and accordingly, will rotate in the counterclockwise direction as they pass from left to right through the can labelling apparatus.

In accordance with the present invention, the can drive belts 23, 23 are maintained in engagement with the cans passing through the labelling machine by means of a series of upwardly biased belt support rollers 39. As shown in FIG. 3, the belt support rollers 39 are rotatably mounted on a support shaft 40 which has its opposite ends received with blocks 41 positioned in vertical slots 42 formed on the inner surface of the main longitudinal members of the support frame 27. Guide pins 43 project downwardly from the blocks 41 through guide openings at the base of the slots 42 and a resilient compression spring 44 surrounds each guide pin and is captured between the lower surface of the block 41 and a projecting lip from the main frame 27 to resiliently urge the blocks 41 and the belt support rollers 39 upwardly. During normal passage of a can through the can labelling apparatus, as a can passes above a belt support roller 39, that roller is urged downwardly approximately ¼".

The drive for the can drive belts 23, 23 and various other elements of the can labelling apparatus is from a common drive motor 46 through a drive belt 47 to a sheave 48 mounted on the drive shaft 28. Rotation of the drive shaft 28 causes rotation of the can drive belt sheaves 31, 31 thereby driving the can drive belts 23, 23. Driving of the can drive belts 23, 23 will cause rotation of the idler shaft 29. One end of the idler shaft 29 projects outwardly beyond the frame 27 and mounts a pair of sheaves 49 and 50 which, through drive belts 51 and 52, respectively, drive the can body glue applicator and lap glue applicator as more fully described hereinafter.

As the cans approach the label magazine M, a series of glue dots 54 are applied to the surface of the can body in a single line extending longitudinally of the can as shown in FIG. 6 by means of the can body glue applicator 55 mounted beneath the path of travel of the cans. The can body glue applicator 55 includes a glue pot 56 which is maintained partially filled with any suitable liquid adhesive. A series of continuously rotating glue applicator wheels 57 are partially immersed within the glue in the glue pot and are uniformly spaced apart transversely of the path of travel of the cans through the can labelling machine, for example, as shown in FIGS. 4 and 5. The glue applicator wheels are carried by a continuously rotating shaft 58 which extends transversely of the machine and mounts at its outer end a sheave 59 driven by the drive belt 51.

As illustrated in FIGS. 2 and 5, the glue applicator wheels 57 are spaced between the can drive belts 23, 23 and terminate adjacent the plane of the upper surface of the can drive belts 23, 23 so that they contact the peripheral surface of the can body as the can passes through the can labelling machine. The contact of the glue applicator wheels 57 with the can body extends only a short portion about the periphery of the can body and during this contact, glue picked up from the glue pot by the glue applicator wheels is transferred onto the peripheral surface of the can body in the form of a series of short glue dots 54 aligned longitudinally of the can as shown in FIG. 6.

In accordance with the present invention, a stack of labels L is supported in the label magazine M above the

path of travel of the cans and spaced downstream of the labelling machine from the can body glue applicator so that a can body with glue dots 54 applied to it is presented to the label magazine in a position to engage and receive the leading edge of the lowermost label in the label magazine.

The label magazine includes a pair of side plates 61, 61 which engages the upper surface of the side guide members 33, 33 and extend longitudinally of the can labelling apparatus between the trailing edge of the inlet rail members 37, 37 and leading edge of the outlet rail members 38, 38. These side plates of the label magazine inwardly overlie the side guide members 33, 33 and the lower surface thereof forms a continuation of the lower surfaces of the inlet and outlet rail members 37 and 38 to engage and guide cans past the label magazine. In addition, the side plates 61, 61 are adjustable transversely of the path of travel of the cans along with the adjustment of the side guide members 33, 33 to accommodate cans of different heights and labels of different widths. The lateral adjustment of the side plates 61, 61 may be accomplished, for example, by threaded studs 62 fixed to the side plates and positioned in apertures in the support brackets 34. The studs 62 are adjustably secured in the desired position relative to the support brackets 34 by a pair of nuts 63 threadedly received on each stud 62 and engaging opposite faces of the support brackets as shown in FIG. 3.

Extending upwardly from the side plates 61, 61 of the label magazine are a plurality of guide rods 64 which engage the side edges of the labels carried by the label magazine to hold the labels in the desired position relative to the label magazine. These guide rods 64 may be of any desired length to accommodate the desired quantity of labels. Front and rear wall segments 65 and 66, respectively, are secured to opposite ends of the side plates 61, 61, projecting inwardly toward the longitudinal axis of the label magazine carrying additional vertical guide rods 67 which serve to position the labels longitudinally of the label magazine. An adjustable spring guide plate 68 is positioned between the rear wall segments 66 and normally urges the lowermost labels in the label magazine forwardly into engagement with the front wall segments 65. This spring plate 68 is carried by a support rod 69 adjustably mounted in a guide block 70 carried by a cross frame member 71 secured to the main frame 27. This permits adjustment of the spring guide plate 68 longitudinally of the label magazine M to accommodate labels of different lengths.

The stack of labels in the label magazine M are supported from the bottom of the magazine so that the lowermost label in the stack of labels may be readily removed from the magazine. The side edges of the lowermost labels in the stack of labels is supported on sharpened knife edges 73 which are carried by the side plates 61 at spaced intervals longitudinally of the side plates 61 and project inwardly beyond the inner surfaces of the side plates into engagement with the lowermost label in the stack of labels as shown in FIG. 3. The leading edge of the lowermost labels in the stack of labels is supported by the forward tips of a pair of thin resilient spring fingers 74, 74 projecting inwardly of the label magazine beneath the front wall segments 65, 65 of the label magazine. The spring fingers 74, 74, in turn, are adjustably carried by a support plate 75 extending transversely between the side rail members 33, 33. In a similar manner, the trailing edge of the lowermost labels of the stack of labels engages and is supported by inwardly projecting lips 76, 76 supported adjacent the lower edges of the rear wall segments 66, 66 as shown in FIGS. 11 and 12. By this arrangement of knife edges 73, spring fingers 74 and supporting lips 76, it will be seen that the under surface of the lowermost label in the stack of labels is supported only at selected portions of its outer periphery and may be very easily removed from the bottom of the label magazine.

It is important that, as a can advances through the can labelling machine, the glue dots 54 applied to the can by the can body glue applicator are positioned immediately beneath the leading edge of the lowermost label in the label magazine as the can rolls beneath the magazine. Accordingly, the relative position of the can body glue applicator and the label magazine is such that when the can is rotated 180° after application of the glue dots, the glue dots on the can will be directly beneath the leading edge of the lowermost label in the label magazine as illustrated in FIG. 9.

An important feature of the present invention is the provision of means to insure uniform, positive contact of the lowermost label in the stack of labels with the can passing beneath the label magazine regardless of the height or weight of the stack of labels in the magazine. As the rim of the can body leaves the inlet rail members 37, it is engaged and rides along the lower surface of the side walls 61, 61 of the label magazine. When the can approaches the leading edge of the lowermost label in the label magazine, the rim of the can enters a slight concave recess 77 formed in the lower surface of the side walls 61 of the label magazine and the portion of the can body surface containing the glue dots 54 is raised upwardly toward the lowermost label in the label magazine. Simultaneously, with the can entering the recess 77, the can passes over a belt support roller 39 and depresses the roller 39 against the force of its supporting spring 44. Depression of the roller 39 positioned beneath the recess 77 will, in turn, cause the bottom few labels in the stack of labels carried by the label magazine to be forced downwardly so that the lowermost label in the label magazine is caused to firmly press against and be adhered to the glue dots 54 on the surface of the can body.

One way in which this may be accomplished according to the present invention is illustrated in FIGS. 7 to 10, inclusive, of the drawings. In this form of the invention, a connecting yoke 79 is carried at opposite ends of the belt support roller shaft 40 and a connecting link 80 is pivotally secured at its lower end to each yoke 79. Each of the connecting links 80 pass through guide blocks 81 carried at opposite sides of a crank arm 82 which is pivotally mounted to the opposite side guide rails 33 as indicated at 83.

Each connecting link 80 extends upwardly beyond its guide block 81 and has a shaft collar 84 fixed to its outer end. A compression spring is positioned between the shaft collar 84 and guide block 81 about the connecting link 80 and as the lower ends of the connecting link 80 are pulled downwardly by downward movement of the belt support roller 39, the crank arm 82 is rotated in the clockwise direction about its pivot 83 under the resilient force of the compression spring 85.

Extending between the forward ends of the opposite crank arms 82 and securely fixed thereto is a support rod 86 which has a snubber plate 87 fixed to it at its midpoint. The snubber plate 87 has a forwardly and downwardly inclined snubber finger 88 thereon which, in the normal position of the crank arms 82, terminates adjacent the lower leading edge of the stack of labels carried by the label magazine. It will be seen that as the belt support rollers 39 beneath the leading edge of the label magazine are depressed, the lower edge of the snubber finger 88 is moved forwardly and downwardly into engagement with the leading edge of the lowermost labels in the label magazine forcing the under surface of the bottom label in the label magazine firmly into engagement with the glue dots 54 on the can body. This causes the leading edge of the lowermost label in the label magazine to firmly adhere to the can body.

As shown in FIGS. 7 and 8, the snubber finger 88 is positioned midway between the supporting spring fingers 74, 74 so that the midportion of the lower labels in the stack is forced downwardly beyond the upper surface of the spring fingers 74, 74 with the leading edge of the

lowermost label firmly engaging the glue dots 54 in the middle of the can body.

Continued forward rotation of the can past the label magazine will cause the leading edge of the lowermost label in the label magazine to pull the spring fingers 74, 74 downwardly as shown in FIG. 10, and become disengaged from the spring fingers 74, 74. As the cans move further along beneath the label magazine, the label attached to the can is pulled downwardly beneath the knife edges 73 which support the side edges of the labels with the knife edges 73 slicing through the side edges of the labels leaving minute imperceptible cuts in the side edges of the label.

Prior to the can passing beneath the label magazine and pulling the label completely out of the magazine, a strip of glue is applied to the trailing edge of the label by a lap gluer. The lap gluer is shown in FIGS. 1, 2, 11, 12 and 13 of the drawings. The lap gluer includes a glue pot 91 through which an endless glue belt 92 is directed by means of a series of sheaves. The upper run of the glue belt 92 passes beneath the trailing edge of the lowermost label carried in the label magazine and adjacent the path of travel of the uppermost segment of a can passing beneath the labelling magazine. The glue belt then passes over a drive sheave 93 which is rotated by means of a pair of bevel gears 94 from a sheave 95 driven by the drive belt 52.

After the glue belt 92 leaves the drive sheave 93, it passes beneath the can labelling apparatus and is immersed in the bath of glue contained in the glue pot 91. The surface of the glue belt is coated with glue as it leaves the bath of glue and, in order to apply a thin strip of glue to the underside of the lowermost label in the label magazine, wipers, as indicated at 96, are provided which wipe the belt clean except for a thin strip of glue which remains on the upper surface of the belt as indicated at 97. Thus, the glue belt 92 constantly travels beneath the trailing edge of the lowermost label in the label magazine carrying on its upper surface a thin strip of glue 97.

Prior to the can passing beneath the label magazine pulling the label attached to it completely out of the magazine, the rims of the can engage the underside of the glue belt 92 and elevate the glue belt into contact with the trailing edge of the label secured to the can. This transfers glue from the glue belt 92 to the trailing edge of the label attached to the can as indicated at 98 in FIG. 17.

Continued forward movement of the can away from the label magazine will lower the glue belt out of contact with the label and pull the label away from engagement with the lips 76, 76 at the rear end of the label magazine. The trailing edge of the label is then pulled over a curling rod 99 which is mounted transversely beneath the rear end of the label magazine in front of the glue belt 92 as shown in FIG. 11. Pulling the trailing edge of the label over the curling rod 99 will spread the glue applied to the trailing edge of the label evenly over the label and also provide a slight inward curl to the trailing edge of the label toward the can body.

After the can with the glued label wrapped around it leaves the label magazine, the can flanges are engaged by the outlet rails 38, 38 and caused to roll along these rails beneath the lap sealer. The lap sealer consists of an adjustable plate 101 pivotally secured, for example, by means of a hinge 102 to the cross frame member 71 at one end and having its other end adjustably secured to a support bracket 103 which extends transversely of the can labelling machine between and above the opposite side guide rails 33, 33. The vertical position of the rear edge of the plate 101 may be adjusted relative to the can body passing beneath the lap sealer by means of wing nuts 104 and lock nuts 105 which engage against opposite sides of the support bracket 103 and are threadedly received on studs 106 fixed to the plate 101. The underside of the plate carries a sealing bed 107 formed of soft rubber or

the like which presses downwardly against the label wrapped about the can and insures good adhesive contact of the glued trailing edge of the label to the leading edge of the label thereby completing the labelling operation.

As the labelled can leaves the rear end of the guide rail assemblies 24, 24, its direction of rotation is abruptly reversed and it rolls down the discharge track 25 through a loose label detector D or other conventional inspecting device. This reversal in the direction of rotation from the direction in which the can was rotating during application of the label will cause any loose corners or edges of the label to flag outwardly away from the can so that a loose label may be more readily detected by the loose label detector. The completed cans which pass inspection by the loose label detector will thereafter be conveyed to some further can handling apparatus while rejects will be returned for correction of any defects in the application of the label.

From the foregoing it will be observed that the present invention provides novel can handling apparatus in which the labels are applied to the cans from a label magazine positioned above the path of travel of the cans thereby permitting constant replenishment of the supply of labels without halting operation of the can labelling machine and provides can labelling apparatus which is of relatively simplified construction and may be easily maintained and cleaned.

I claim:

1. Can labelling apparatus for applying labels to cans comprising: spaced parallel magnetic rail members having an underside surface thereon along which the cans roll, the rail members having sufficient magnetism to be substantially capable of supporting the weight of the can, can drive means adapted to engage the can passing through the can labelling apparatus and cause the cans to roll along the underside surface of said rail members in a predetermined path through the apparatus, a label magazine adjacent said rail members and adapted to hold a stack of labels above the path of travel of the cans, means to apply adhesive to selected portions of the can body passing through said apparatus prior to the can passing beneath said label magazine, means to apply adhesive to the lower surface of the trailing edge of the lowermost label in the label magazine, means to cause engagement between the leading edge of the lowermost label in the label magazine and the adhesive on the can body to cause the label to adhere to the can body and be removed from the label magazine and wrapped about the can body, and means to overlap the adhesive-coated trailing edge of the label with the leading edge thereof and adhere the trailing edge to the leading edge.

2. Can labelling apparatus in accordance with claim 1 wherein a resilient sealing pad is mounted between said guide rails downstream of said label magazine adapted to resiliently press against labels applied to said cans and securely force the trailing edge of the label into overlapping engagement with the leading edge thereof.

3. Can labelling apparatus in accordance with claim 1 wherein said spaced parallel rail members include a side portion adapted to engage the opposite ends of the cans passing through said apparatus and a rail portion having an underside surface thereon on which the cans roll, the rail portion thereof being magnetic.

4. Can labelling apparatus in accordance with claim 1 wherein said label magazine includes a pair of spaced parallel side walls which interrupt the underside surface of said rail members, said side walls having an underside surface thereon formed as a continuation of the underside surface of said rail members and along which said cans roll as said cans pass beneath the label magazine.

5. Can labelling apparatus in accordance with claim 4 wherein recesses are provided in the underside surface of said side walls of said label magazine in which the can is received to cause the can to move toward the leading edge of the lowermost label in the label magazine as the can passes beneath said leading edge.

6. Can labelling apparatus in accordance with claim 1 in which said means to cause engagement between the leading edge of the lowermost label and the label magazine and the adhesive on the can body comprises a snubber finger mounted adjacent said label magazine and terminating adjacent the leading edge of the stack of labels in said label magazine in close proximity to the lowermost label, said snubber finger being movable inwardly toward said stack of labels and downwardly to engage the bottom few labels in said label magazine as a can passes beneath the leading edge of the lowermost label in said label magazine to force the leading edge of the lowermost label in the label magazine into firm contact with the adhesive on the can body.

7. Can labelling apparatus in accordance with claim 6 wherein a movable member is provided adapted to be moved by the can as the can reaches a position adjacent the leading edge of the lowermost label in the label magazine, and means interconnecting said movable member with said snubber to cause said movement of said snubber.

8. Can labelling apparatus in accordance with claim 7 wherein said can drive means comprises a movable belt positioned beneath said cans and adapted to force said cans upwardly toward said underside surface and wherein said movable member includes a roller positioned beneath said belt and adapted to be depressed by the can as the can reaches said position beneath the leading edge of the lowermost label in the label magazine.

9. Can labelling apparatus in accordance with claim 7 wherein a pair of spaced apart spring fingers contact side portions of the leading edge of the lowermost label in the label magazine to support the same, and wherein said snubber is mounted between said spring fingers adapted to engage the midpoint of the leading edges of the bottom few labels in said magazine.

10. A label magazine for can labelling apparatus comprising: a pair of spaced apart side walls, a can guide surface along one edge of each of said side walls, means to support labels in the label magazine with the first label in the magazine lying in a plane close to the plane of said guide surfaces, a movable snubber finger mounted adjacent said label magazine and terminating adjacent the leading edge of the stack of labels in said label magazine close to said first label, and means operable as a can engages said guide surfaces adjacent the leading edge of said first label to actuate said snubber finger in a direction inwardly of said labels and toward said first label to force said first label into firm contact with a portion of the peripheral surface of said can.

11. A label magazine in accordance with claim 10

wherein a recess is provided in the can guide surface along said one edge of each side wall adjacent the leading edge of said labels in which the can is received to move the can toward the leading edge of said first label.

12. A label magazine in accordance with claim 11 wherein a movable member is provided adapted to be moved by the can as said can reaches a position adjacent the leading edge of said labels, and means interconnecting said member with said snubber finger to cause said actuation of said snubber finger as said member is moved by said can.

13. A label magazine in accordance with claim 12 wherein said movable member comprises a depressible roller over which said can passes.

14. In can labelling apparatus for supplying labels to cans; can infeed means along which cans fed to said labelling machine roll in a predetermined direction of rotation, can outfeed means from said can labelling machine along which cans with labels applied thereto roll in said predetermined direction of rotation, label supply means for said can labelling machine to support a stack of labels for application to cans passing through said machine, first glue applicator means to apply glue to preselected portions of the bodies of the cans passing through said labelling machine, and second glue applicator means to apply glue to a preselected portion of said labels, the improvement comprising; a pair of spaced parallel magnetic rails extending beneath said label supply means having an underside surface thereon along which the cans roll, said rails having sufficient magnetism to be substantially capable of supporting the weight of the cans as the cans roll along the underside surface of said rails, and can drive means in engagement with underside portions of cans rolling along said rails and moving in the direction of movement of said cans through said labelling machine to cause said cans to roll along said rails with a direction of rotation opposite said predetermined direction of rotation.

References Cited

UNITED STATES PATENTS

1,108,583	8/1914	Johnson et al. -----	156—570
1,981,278	11/1934	Mudd -----	156—566 XR
2,517,395	8/1950	Lewis -----	156—453 XR

HAROLD ANSHER, Primary Examiner

M. E. McCAMISH, Assistant Examiner

U.S. CI. X.R.

156—563, 566, 570, 573; 198—41