United States Patent [19]

Dullinger

[11] **3,859,155**

[45] **Jan. 7, 1975**

[54] **AUTOMATIC LABEL WRAPPER**

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[22] Filed: **July 26, 1973**

[21] Appl. No.: **383,029**

Related U.S. Application Data

[63] Continuation of Ser. No. 120,513, March 3, 1971, abandoned, which is a continuation-in-part of Ser. No. 663,289, Aug. 25, 1967, Pat. No. 3,586,580.

[52] **U.S. Cl.** **156/212,** 156/444, 156/447, 156/568

[51] **Int. Cl.** **B65c 3/16,** B65c 9/28

[58] **Field of Search** 156/444, 567, 447, 568, 156/458, 358, 481, 212, 218, 217

[56] **References Cited**

UNITED STATES PATENTS

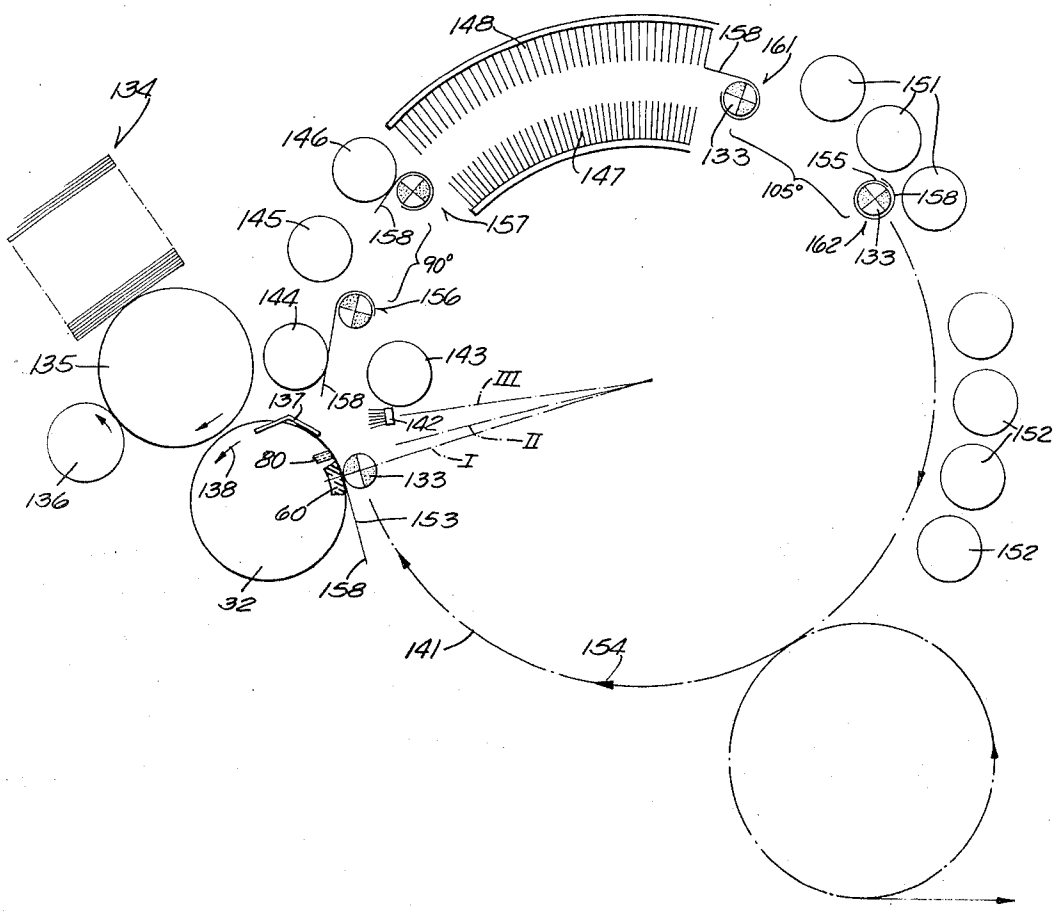
1,445,321	2/1923	Johnson et al.	156/456
2,315,349	3/1943	Oslund	156/567
2,495,174	1/1950	McClatchie	156/456
2,773,617	12/1956	Weiss	156/568
2,936,921	5/1960	Schulz	156/568
3,001,660	9/1961	Carter	156/444
3,049,166	8/1962	Clark	156/489
3,116,193	12/1963	Ehlenbeck	156/215
3,247,044	4/1966	Pechmann	156/447
3,379,601	4/1968	Pagay	156/571

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[57] **ABSTRACT**

A method of applying to containers such as bottle necks labels or decorative foils which are longer than 180° of the container circumference, and usually are more than 360° of the container circumference. The containers are advanced on a path past a label applier and past label pressing apparatus. The middle part of the label is applied to a container leaving label wings extending away from the container. At least one wing is blown at least partially around the container and the container is then rotated intermittently as it passes the label pressing apparatus, thus to wipe the wings around the container.

4 Claims, 10 Drawing Figures



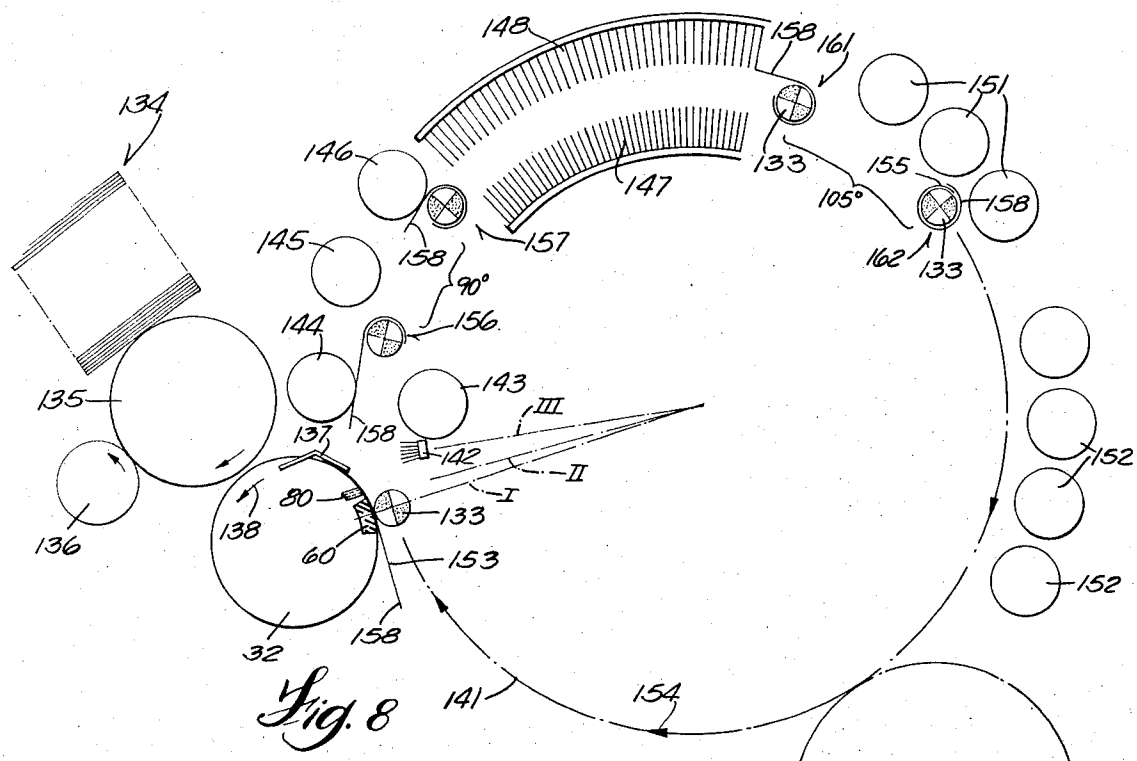


Fig. 8

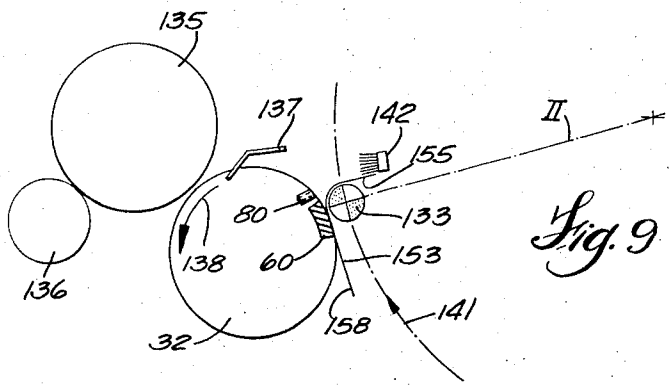


Fig. 9

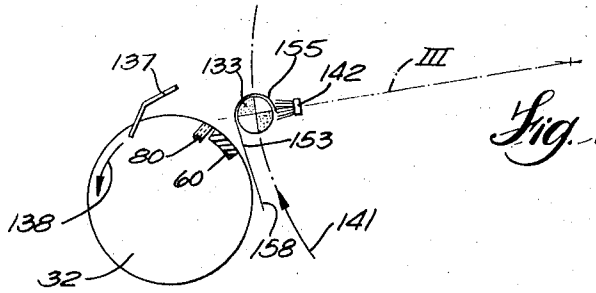


Fig. 10

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FIGS. 1-7 APPEAR IN U.S. PATENT 3,586,580

AUTOMATIC LABEL WRAPPER

CROSS REFERENCE TO RELATED APPLICATIONS

This application is a continuation of my copending U.S. patent application Ser. No. 120,513 filed March 3 1971 now abandoned, which in turn is a continuation-in-part of my then copending U.S. patent application Ser. No. 663,289 filed Aug. 25 1967, now U.S. pat. No. 3,586,580 granted June 22, 1971.

SUMMARY OF THE INVENTION

In accordance with the present invention, labels or decorative foils which are longer than 180° of the container circumference and which may be longer than 360° of the container circumference are applied to the container without the need for complicated label pressing and wiping apparatus. The middle part of the label is applied to the container, leaving label wings extending away from the container. One or both wings is then blown at least partially around the container. The container is then advanced past the stationary label pressing apparatus and the container is rotated intermittently in the course of this advance, thus to wipe the label wings around the container.

In one embodiment the container is rotated in opposite directions. In another embodiment the container is intermittently rotated, always in the same direction.

DESCRIPTION OF DRAWINGS

FIGS. **1** through **7** are shown and described in said copending U.S. Pat. No. 3,586,580.

FIG. **8** is a diagrammatic plan view of modified apparatus adapted to perform the method in whcih the container is intermittently rotated always in the same direction.

FIG. **9** is a fragmentary plan view illustrating position II of the container.

FIG. **10** is a fragmentary plan view illustrating position III of the container.

DESCRIPTION OF PREFERRED EMBODIMENTS

Although the disclosure hereof is detailed and exact to enable those skilled in the art to practice the invention, the physical embodiments herein disclosed merely exemplify the invention which may be embodied in other specific structure. The scope of the invention is defined in the claims appended hereto.

The entire disclosure of said copending U.S. Pat. No. 3,586,580 is incorporated herein by reference.

FIGS. **8, 9** and **10** illustrate a modification in which the containers **133** are rotated on the pallets intermittently in the same direction, namely, clockwise. In these views the containers are illustrated with four sectors which are alternately shaded white and black to visually portray the relative rotative position of the containers from one station to the next.

As in the previously described embodiment, the labels are taken from a magazine **134** by a rotary transfer drum **135** which rotates past glue roller **136** and transfers the containers to the label applying turret **32** which is of the same general construction shown in FIGS. **3** and **4** and in which there is but a single label clamp **137** at the leading edge of each sponge pad **60** and also a single air jet nozzle **80** also at the leading edge of the pad **60**, with reference to the direction of rotation of the turret as indicated by arrows **138.**

Disposed along the path of the containers indicated by line **141** are fixed label pressing devices such as the fixed brush **142**, fixed rollers **143, 144, 145, 146,** paired curved brushes **147, 148** and sets of following rollers **151, 152.**

In this modification the label **153** is brought to position I, shown in FIG. **8,** with its leading edge engaged by clamping finger **137.** Pad **60** applies the middle portion of the label to the container **133.** Additional rotational movement of the label applying turret **32** in the direction of arrow **138** and movement of the container **133** on its path **141** in the direction of arrow **154** will bring the turret **32** and container **133** to their position II shown in FIG. **9.** At this point the clamp finger **137** releases the leading label wing **155** and a jet of air blown through nozzle **80** will blow the leading wing **155** partially around the container **133.** This will bring the wing **155** in range to be contacted by the stationary brush **142** when the container reaches its position III, shown in FIG. **10.** In its respective positions I, II and III the container **133** has not been rotated but has simply been advanced along its path **141.**

Brush **142** will wipe the leading label wing **155** around the container. Continued travel of the container **133** on its path **141** will sweep the container past the stationary label pressing rollers **143, 144** to further wipe and smooth the label against the container.

Between its positions indicated at **156** and **157** the container support pallet will turn clockwise through approximately **90** degrees, thus to rotate the container as it passes the stationary label rollers **145, 146** to bring the trailing wing **158** almost completely aroung the container.

Between its position shown at **157** and its position shown at **161,** the container will not be turned but will simply be advanced on its path **141** between the brushes **147, 148** to wipe and smooth those portions of the label wings which have already been pressed against the container.

Between its positions shown at **161** and **162** container **133** will be rotated clockwise through another **105** degrees approximately as it passes a set of stationary label rollers **151,** thus to complete the wipe of the trailing wing **158** completely around the bottle and in ovelapped relationship to the leading wing **155.** Rollers **151** could be replaced by brushes, if desired.

The container then proceeds further along its path **141** without turning and while the set of brushes or rollers **152** continue to smooth and press the label wings into overlapped relation.

While a wing leading clamp finger **137** is illustrated in FIGS. **8** through **10,** it is an optional feature of the invention that a set of two clamping fingers, one at the leading edge and one at the trailing edge of the label, be incorporated in the turret **32,** as illustrated in FIGS. **3** and **4,** in the event of especially long labels.

I claim:

1. A method of applying labels around the outside of a container, said method comprising the steps of advancing a series of containers on a path past a label applier and past label pressing apparatus, applying the middle of a label to a side part of a container but leaving leading and trailing label wings extending away from the container, first blowing the leading wing at least partly around the containers, pressing said leading wing against the container, rotating said container for the first time in one direction while pressing a portion

of the trailing wing against the container, advancing the container while it is not rotating and concurrently pressing portions of both wings against the container, rotating the container for the second time in the same direction while pressing the remaining portion of the trailing wing against the container and overlapping it against the said leading wing.

2. The method of claim **1** in which the container is rotated for the first time through about 90°.

3. The method of claim **1** in which the container is rotated for the second time through about 105°

4. The method of claim **1** followed by the steps of further pressing the overlapped wings together.

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