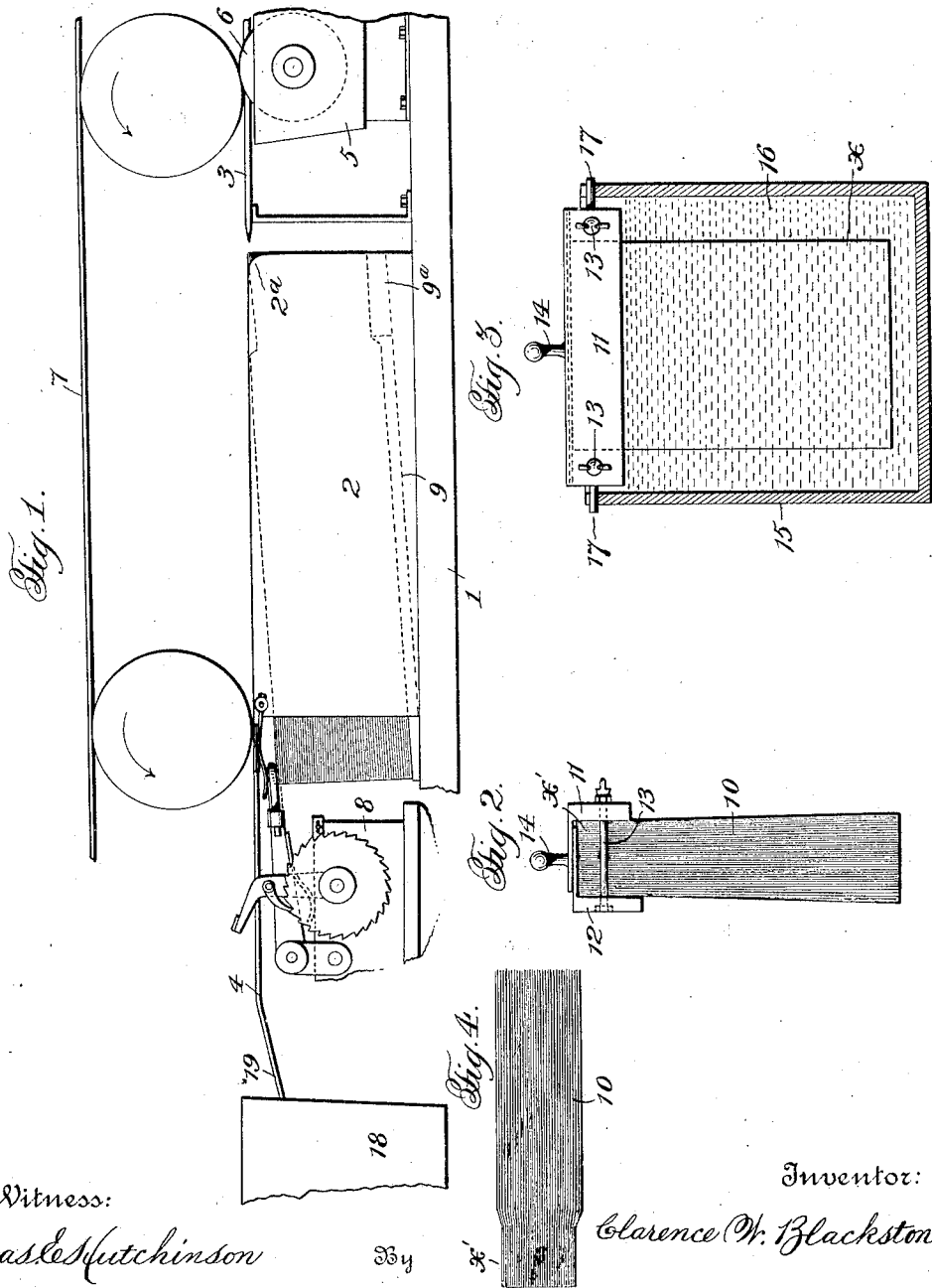


C. W. BLACKSTONE.
 METHOD OF TREATING LABELS AND APPLYING THE SAME TO CANS OR THE LIKE.
 APPLICATION FILED NOV. 27, 1915.

1,329,696.

Patented Feb. 3, 1920.



Witness:

Jas. E. Hutchinson

By

Fig. 4.

Fig. 5.

Inventor:

Clarence W. Blackstone

Macomber & Co. Attorneys:

UNITED STATES PATENT OFFICE.

CLARENCE WILLARD BLACKSTONE, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE FRED H. KNAPP CO., OF BALTIMORE, MARYLAND, A CORPORATION OF MARYLAND.

METHOD OF TREATING LABELS AND APPLYING THE SAME TO CANS OR THE LIKE.

1,329,696.

Specification of Letters Patent.

Patented Feb. 3, 1920.

Application filed November 27, 1915. Serial No. 63,879.

To all whom it may concern:

Be it known that I, CLARENCE WILLARD BLACKSTONE, citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Methods of Treating Labels and Applying the Same to Cans or the like, of which the following is a specification, reference being had therein to the accompanying drawing.

This invention relates to methods of treating labels and applying the same to cans, cartons or the like.

In the can labeling art, much difficulty has been experienced in prior efforts to so apply the labels to the cans that they will be devoid of wrinkles and snugly fit about the periphery of the cans.

The present invention is designed to overcome existing objections in prior can labeling methods, and contemplates primarily a novel treatment of the labels previous to the application of the same to the cans, the treatment being designed to properly condition or temper the labels through the medium of moisture whereby to permit the label to expand previous to its application to the can, so that when subsequently applied to the can, the same will shrink upon drying and tightly conform to the periphery of the can in an unwrinkled condition.

The improved method is of a character making possible the simultaneous treatment of a large quantity of labels, to the end that after treatment, the supply of labels, properly conditioned, may be placed in a label holder or receptacle, to be taken up one at a time and applied to the cans as the latter are moved over the same, as is usual in this class of inventions, and well illustrated in the patent to Leister and Schaeffer, No. 1,101,200, dated June 23, 1914, and the patent to F. H. Knapp, No. 1,108,188, dated August 25, 1914.

It is further contemplated by the present invention to maintain a relatively dry zone on the treated label, preferably adjacent the forward edge or end thereof whereby to facilitate the application of the label to the can.

More particularly, the method may be characterized as one wherein a supply of labels is wet or moistened for the major portion thereof, leaving an unwet zone, whereby the individual labels may be read-

ily separated from the supply and pasted to the can, with the result that the applied label on becoming dry will not only tightly embrace the can but will present a smooth and neat appearance. In the application of the labels to the cans, while the entire body of the label may be pasted to the can, it is preferred by the present method to apply paste at the ends only of the label, thus involving a saving of paste, and because of the tight engagement of the label, incident to the treatment above referred to, the function and advantages of pasting the label all over are largely preserved without the usual wrinkling resultant from complete pasting.

In the practice of the last mentioned feature of the method, it is contemplated to preferably apply a strip of paste to the periphery of the can and to allow said pasted area of the can to contact with the unwet portion of a label whereby in the rolling movement of the can the uppermost label will be separated from the supply and caused to wrap about the can, paste being applied to the lap end of the label, whereby said lap end of the label will overlie and be pasted to the previously pasted unwet portion of the label. The wet portion of the label intermediate the pasted ends thereof will shrink or contract as it becomes dry, and to facilitate the drying action and prevent rusting of the cans, it is proposed to subject the labeled cans to a suitable drying agency.

Again, the method contemplates pasting, cementing, or otherwise attaching the ends of a label to a can, and shrinking the intermediate portions of the label tight on to the can.

While in the description of the method herein involved the term "can" or "cans" is usually referred to as the article to be labeled, it is to be borne in mind that this term is to be construed as a general one and not by way of limitation, since obviously the method is equally applicable and of advantage in the labeling of various types of packages, cartons, bottles, etc.

For a correct understanding of the method, reference is directed to the accompanying drawings wherein the several steps are diagrammatically illustrated, it being noted in this connection however that any suitable means or mechanism may be employed in carrying out the process, and

the means appearing in the drawing is for illustrative purposes only.

In the drawings, Figure 1 is a side elevation of a machine for labeling cans, a supply of labels treated according to the improved method being positioned in the label receptacle or support.

Fig. 2 is an elevation of a supply of labels supported by suitable clamping means, previous to treatment.

Fig. 3 is a sectional view of a receptacle for water or the like, the clamped supply of labels being positioned in the receptacle with an edge portion of said labels out of contact with the water.

Fig. 4 is a supply of treated labels.

With more particular reference to the drawings, wherein like reference numerals refer to corresponding parts, 1 illustrates diagrammatically an elevation of the framework of a machine, the same having mounted thereon a suitable label receptacle 2 the top of the side walls thereof forming suitable run-way sections substantially in line with run-way bars 3 and 4 respectively arranged forwardly and rearwardly of the label receptacle. The side walls of the label receptacle have a forward inclined cut-away portion 2^a at the top thereof whereby to expose the forward end of the top-most labels. 5 is a suitable paste receptacle arranged forwardly of the label receptacle and having mounted therein a paste applying roll 6 projecting at its periphery slightly above the run-way bars 3 whereby to contact with a can and apply a strip of paste thereto substantially from end to end thereof. A suitable belt 7 broken away is adapted to impart rolling movement to the cans along the runway. A lap end pasting mechanism generally illustrated at 8 is positioned at the rear end of the label receptacle, and said mechanism may be of any approved type. The label receptacle has positioned between the side walls thereof a movable bottom or follower 9 with a raised portion 9^a adapted to support the supply of labels and said follower is preferably arranged at a downward inclination toward the rear end of the label receptacle to accommodate for the increased depth of the supply of labels toward the rear end due to the conditioning process about to be described. A suitable drying chamber 18 is diagrammatically illustrated at the discharge end of the machine, the chamber being heated in any desired manner, and positioned to receive the labeled cans from the discharge chute 19.

Referring more particularly to Figs. 2 and 3 of the drawings a supply of labels 10 is illustrated as positioned between opposed clamping members 11 and 12 suitable thumb screw bolts or the like 13 projecting between the clamping members at a point beyond the sides of the labels whereby to draw the

clamping members toward one another thus compressing this end or edge of the labels to maintain the labels at this point in tight contact. A suitable handle or the like 14 may be provided for grasping the supply of labels and positioning the same within an open receptacle 15 adapted to contain a supply of water or other moistening agent 16. Suitable lugs or the like 17 preferably project from the ends of the clamping means whereby to engage the upper edge of the receptacle 15 to thereby guide the operator in dipping the supply of labels into the water, it being noted in this connection that a major portion only of the labels is submerged.

In carrying out the method, the operator places a supply of labels between the clamping members and after compressing this end of the supply of labels between the clamping members, the labels are positioned in the liquid receptacle 15 as illustrated more particularly in Fig. 3, the major portion x (Fig. 3) of the labels being submerged. An unwet portion x' is maintained at the upper edge of the labels due not only to the fact that this portion of the labels is not submerged, but also because of the tight binding action incident to the application of the clamping members. The labels are preferably maintained within the water for a sufficient interval to allow the body portion thereof to become soaked with the moistening agent, water being preferably employed, but other moistening means being within the scope of the invention. The labels in this condition will expand and the supply of labels will assume a swelled appearance at the wet portion thereof. (See Fig. 4). The clamps being released, the supply of labels is positioned on the follower 9 in the label receptacle, the inclined position of which will accommodate for the enlarged depth of the wet portions of the labels as previously described. The follower is of construction to periodically elevate whereby to position the uppermost label in proper relation to the run-way. A can in passing over the paste roll will receive a strip of paste lengthwise of its periphery and in the continued rolling movement thereof, said pasted portion of the can will contact with the upper surface of the unwet end or edge of the label, and because of the unwet condition thereof, the label at this point will readily separate from adjacent labels and be picked up by the can in the usual way. The can in its further movement will cause the label to wrap about the periphery thereof, it being noted in this connection that the opposite or lap end of the label has previously been supplied with paste through the medium of mechanism such as 8. The can with the label applied thereto then moves into contact with a suitable pad or the like whereby the label is ironed about the can, and the

labeled can is thereupon discharged into the heated container or drier 18, thus causing a quick evaporation of the moisture, and preventing rusting of the can.

On becoming dry it will be found that the swelled portion of the label intermediate the attached ends will have shrunk and will snugly fit about the periphery of the can and present an unwrinkled, or substantially unwrinkled appearance. It will also be appreciated that because of the shrunken condition of the label, the same will practically seal that type of can wherein a slit cover is used.

The result of the process above described is a close or tight application of the label to the can throughout, without injuring the label, or permitting the can to rust.

In the claims wherein the term "paste" may be referred to, it is to be understood that this term is a general one and includes within its scope any suitable label attaching means, such as cement, etc.

What is claimed as new is:

1. The method of applying labels to cans consisting in soaking in water or the like the major part of the label, leaving a dry end, applying paste to a can, causing the pasted portion of the can to engage the dry end of the label, wrapping the label on to the can, and securing the lap end of the label.

2. The method of applying a label to cans or similar packages, consisting in soaking the major portion of the label in a wetting agency, while maintaining free from contact with said wetting agency a dry zone of limited area adjacent one end of the label, positioning a can relative to the label, pasting the said dry portion or zone of the label to the can, and finally securing the opposite end of the label to said can.

3. The method of treating labels and applying the same to cans which consists in wetting the major portion of the label, maintaining an unwet portion at the pick up end only of the label, picking up the label at the unwet portion, and applying the same to a can while in wet condition.

4. The method of treating labels and applying the same to cans which consists in wetting the major portion of the label, maintaining an unwet portion of limited area at the pick up end of the label, picking up the label at the unwet portion and pasting the same to a can, causing the label to curl about the can, and finally securing the lap end of the label in place.

5. The method of treating labels and applying the same to cans which consists in submerging the body portion of a supply of labels in liquid such as water, maintaining out of the liquid a limited area only of the labels at one end thereof, applying paste to the cans, causing the pasted portions of the

6. The method of treating labels and applying the same to cans which consists in submerging the body portion of a supply of labels in liquid such as water, covering an end portion of the labels whereby to maintain a dry portion adjacent one end of the labels, applying paste to the cans, causing the pasted portions of the cans to contact with the dry portion of the labels whereby to separate the outermost label from the supply and causing the latter to roll upon the can, and pasting the lap end of the label in place.

7. The method of treating labels and applying the same to cans which consists in clamping the labels together adjacent one edge and leaving the major portion of said labels free, submerging said free major portion of the labels in water or the like, releasing the labels from the clamping medium, causing a pasted can to pass over the supply of labels and pick up the exposed one at the unwet portion thereof, and causing the label to wrap about the can.

8. The method of applying labels to cans which consists in subjecting a label from an extreme end thereof to a point slightly spaced from the opposite end thereof to a wetting process, maintaining an unwet end portion, applying the label to a can, and securing the unwet portion of the label to the can.

9. The method of applying labels to cans which consists in subjecting the body of the label to a moistening agent, while maintaining a portion of the label at one end only in relatively dry condition, pasting the dry portion of the label to a can, and causing the label to thereafter wrap about the can.

10. The method of treating labels and applying the same to cans which consists in submerging the body portion of a supply of labels in water or the like, while maintaining an end portion of said labels in an unwet condition, placing the supply of labels while in wet condition on a substantially horizontal support, picking up the labels one at a time at the unwet portion, pasting the unwet portion of the labels to a can, causing the can to move over the picked up label and out of contact with the supply of labels whereby to apply the label about the can, and pasting the lap end of said applied label.

11. The method of treating labels and applying the same to cans which consists in subjecting one end portion of the supply of labels to clamping means whereby the labels at said end portion are maintained in tight engagement, submerging the other portions

of said labels in water or the like, picking up the labels one at a time at said unwet portion and applying the same to the cans.

12. The method of treating and applying labels to cans which consists in wetting a major portion of the labels, maintaining an unwet portion only of the labels, pasting the unwet portion of the label to a can, causing the label while in wet condition to wrap about the can, securing the lap end of the label, and drying the label on the can.

13. The art of treating labels and applying the same to cans which consists in wetting a label, applying the wet label about the periphery of a can, securing the label at its ends to the can, and subjecting the labeled can to a heating medium whereby to dry the label.

14. The art of applying labels to containers consisting in applying a label, the body portion of which has been subjected to moisture, about the periphery of the container while said body portion is wet, cementing the ends of the label to the container, and finally subjecting the label of the container to heat, thereby shrinking the body portion of the label tight onto the container.

15. The art of applying labels to containers consisting in wetting the body of a label to permit the same to swell, attaching the ends of the label fixedly to the container and quickly thereafter subjecting the labeled can to heat whereby to shrink the body of the label tightly about the container intermediate the attached ends.

16. The art of applying a can or container with a label consisting in applying moisture to a part only of the label, leaving an unwet zone or portion, pasting the dried portion of the label to a can, wrapping the moist portion of the label around the can, securing the opposite end of the label by paste, and immediately thereafter subjecting the labeled can to heat whereby to shrink the label and prevent rusting of the can.

17. The art of treating labels and applying the same to cans which consists in soaking the body portion of the label in water

while maintaining one edge of the label out of contact with the water, pasting said label at its unwet edge to a can, causing the label to wrap about the can, securing the lap end of the label in place, and subjecting the applied label to a heating process whereby to evaporate the moisture and cause the label to shrink and snugly conform to the periphery of the can.

18. The method of drying labels and applying the same to cans which consists in wetting a label from one end thereof throughout the body portion thereof to a point adjacent the opposite end, protecting said opposite end against the wetting operation whereby to leave a dry pick-up part at this end, applying paste of limited width lengthwise of the can, causing the pasted can to roll along a runway and engage at its pasted portion the dry portion of the label to pick up the same and in its continued movement cause the label in its wet condition to wrap about the periphery of the can, and securing the lapped end part of the label in place.

19. The method of drying labels and applying the same to cans which consists of wetting a label from one end thereof throughout the body portion thereof to a point adjacent the opposite end, protecting said opposite end against the wetting operation whereby to leave a dry pick-up part at this end, applying paste of limited width lengthwise of the can, causing the pasted can to roll along a runway and engage at its pasted portion the dry portion of the label to pick up the same and in its continued movement cause the label in its wet condition to wrap about the periphery of the can, securing the lapped end part of the label in place, and finally quickly thereafter introducing the labeled can into a heated drying chamber.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

CLARENCE WILLARD BLACKSTONE.

Witnesses:

LOUIS WHITE,
BARNEY WHITE.