

June 16, 1931.

C. H. OSLUND

1,810,619

WIPING ROLLS FOR LABELING MACHINES.

Filed May 11, 1929

2 Sheets-Sheet 1

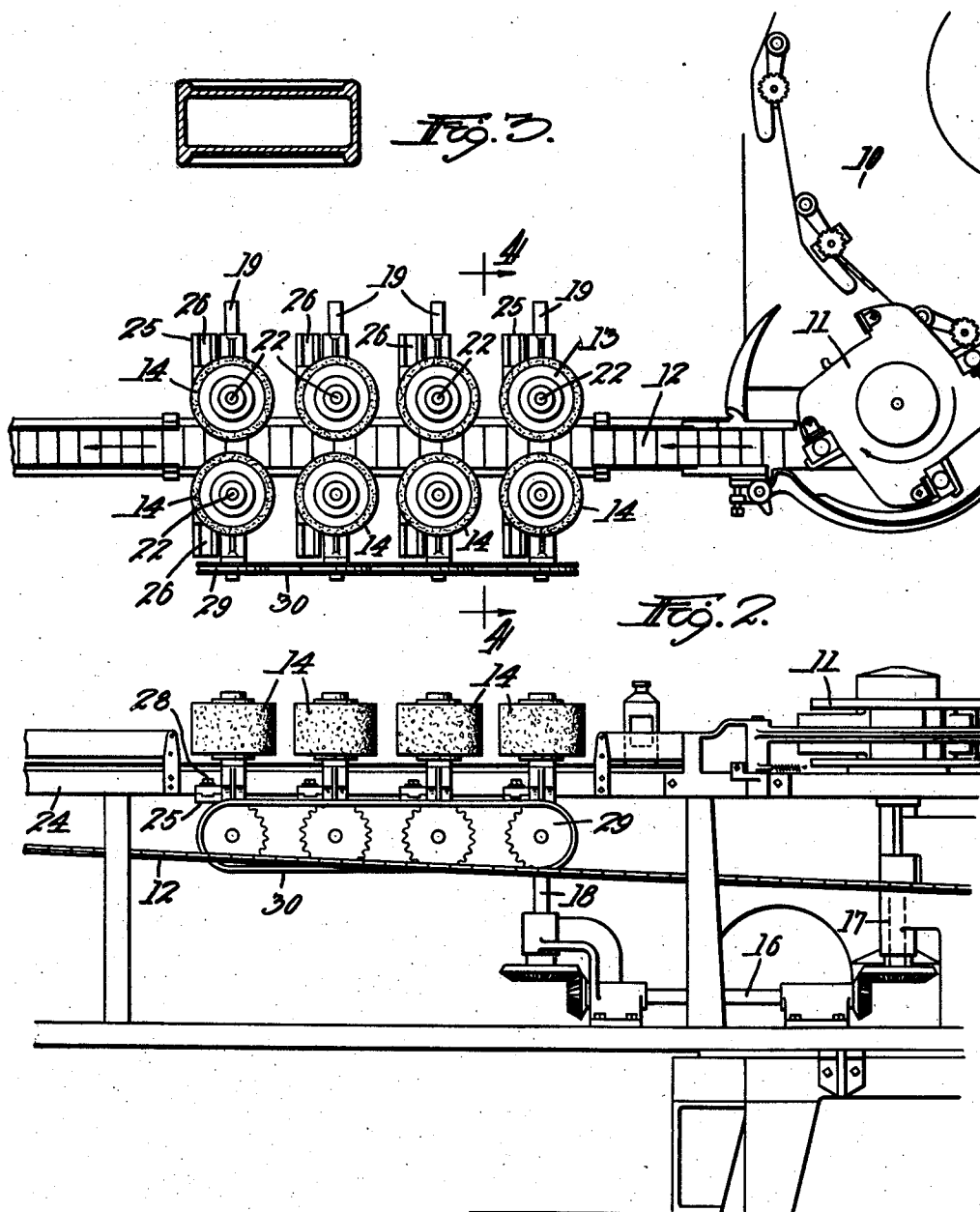


Fig. 1.

Inventor
Charles H. Oslund
By Attorneys
Soulé, Galt & Hardy

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2 Sheets-Sheet 2

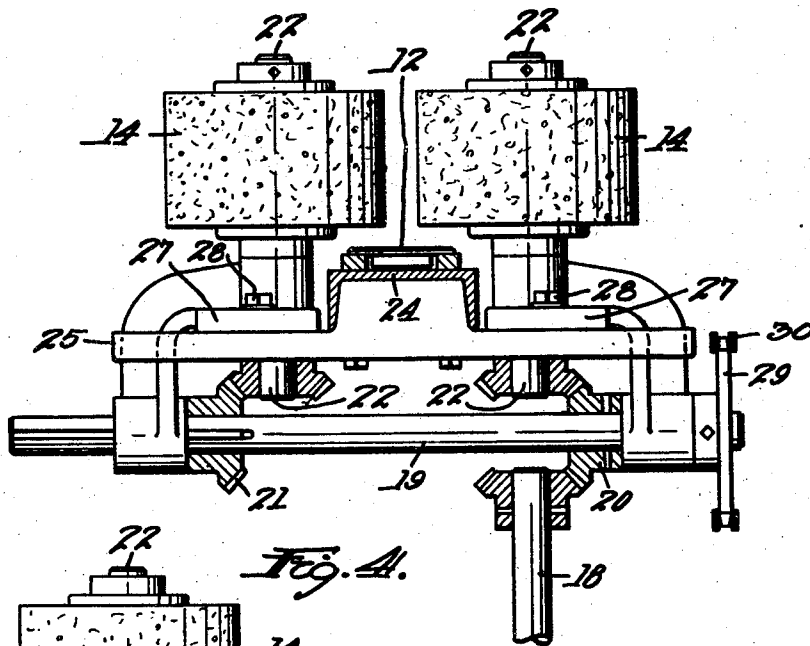


Fig. 4.

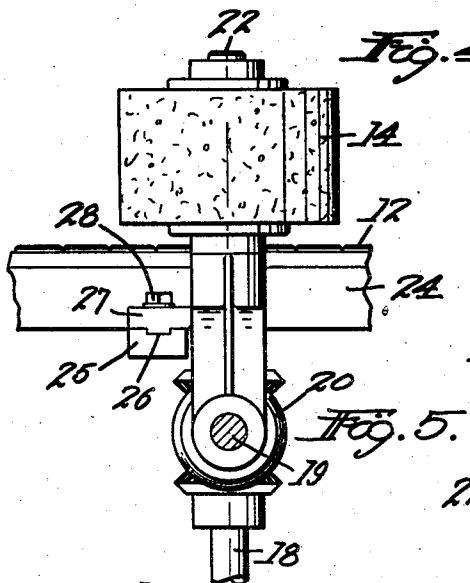


Fig. 5.

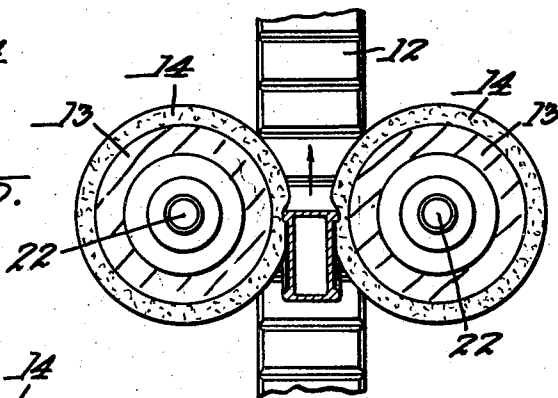


Fig. 6.

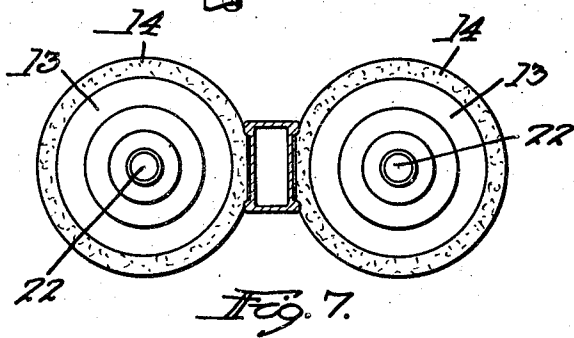


Fig. 7.

Inventor
Charles H. Ostlund
By Attorneys
Caulfield, Foy & Harby

UNITED STATES PATENT OFFICE

CHARLES H. OSLUND, OF WORCESTER, MASSACHUSETTS, ASSIGNOR TO THE LIQUID CARBONIC CORPORATION, OF CHICAGO, ILLINOIS, A CORPORATION OF DELAWARE

WIPING ROLLS FOR LABELING MACHINES

Application filed May 11, 1929. Serial No. 362,360.

This invention relates to rolls for wiping down the labels after they are pasted on bottles and similar articles.

The principal object of the invention is to provide rolls of such a character that they will wipe down the label and press it into the corners on a paneled bottle or the like in which the panel is depressed below the outside surface of the bottle.

In the case of a panel in which a label is placed, it is a difficult matter to wipe down the label by machinery so that its corners will stick to the bottle, this being due to the fact that the edges of the bottle project out around the panel all around it and prevent an ordinary label wiping device from getting into this space.

Other objects and advantages of the invention will appear hereinafter.

Reference is to be had to the accompanying drawings, in which

Fig. 1 is a side view of a portion of a labeling machine showing wiping rolls applied thereto in accordance with this invention;

Fig. 2 is a plan of the same;

Fig. 3 is a horizontal sectional view of a bottle having panels on both sides, for which this invention is particularly designed;

Fig. 4 is a sectional view on the line 4—4 of Fig. 2, showing a pair of these rolls in elevation;

Fig. 5 is a side view of the same;

Fig. 6 is a plan of a pair of rolls showing the way in which they yield to press down the labels just as they start into operation, and

Fig. 7 is a similar view showing the operation half way through.

In the use of labeling machines, it has been practically impossible to apply labels lying in the sunken panels of bottles and get them thoroughly pasted down around their edges. The ridge which projects outwardly around the panel prevents an ordinary label wiping device from entering the panel and particularly engaging the label and pressing it down at its edges.

For the purpose of overcoming this difficulty, I have provided an improved form of wiping rolls, and I have shown them as applied to an ordinary labeling machine.

This involves a table 10, a turret 11 for receiving the bottles from the table after they are labeled in the ordinary way, preliminarily wiped down, and discharging them on a conveyor 12. The details of these features will not be described further, because they are well known, and this invention can be applied to labeling machines of various types, and to the labeling of flat surfaces.

While passing from the turret on the endless conveyor 12 the bottles are moved through a series of extra wiping rolls. Each one of these rolls is formed with a wood center 13 on a vertical shaft 22. On this metal center is a ring 14 of soft sponge rubber, preferably all in one piece. This sponge rubber is of a very yielding character and also quite durable. On account of the fact that it yields so readily it will bear on the label without much pressure, but enough to force it down into contact with the bottle at all points.

When the bottle first enters the space between two of these rolls, as shown in Fig. 6, the sponge rubber yields on both sides, and yet it comes into the shoulder at the end and edge of each panel and forces the label down against the bottle effectively. The position of the parts when the operation is half completed is shown in Fig. 7, and there the surface of the roll will engage the label in a plane at the bottom of the panel, clear across, in cases in which the bottles are of the ordinary size. Thus the label is forced against the bottle all the way across, clear up into the shoulders, and this pressure is applied for quite a period of time as the bottle passes through. At the same time this is a comparatively soft and yielding substance and in order to insure a perfect laying down of the edges of the labels, I prefer to use a plurality of pairs of these rolls for the bottles to go through one after the other. This will insure perfect action, for if any part of one pair of rolls does not engage or force down the label at any point efficiently it will be corrected by one of the other pairs.

As to the construction and operation of these rolls, the matter is taken care of by a radial shaft 16 arranged horizontally and geared to a vertical shaft 17 on the machine.

The shaft 16 is then geared to a vertical shaft 18 outside the boundary of the labeling machine proper. This vertical shaft 18 is geared to a horizontal shaft 19 which is provided with a fixed bevel gear 20, and a slidingly keyed bevel gear 21 which drive two vertical shafts 22 on which the centers of the rolls 13 are fixed. This arrangement is made for the purpose of permitting adjustment for bottles of different thicknesses. The endless conveyor 12 passes over a horizontal table 24 and a plate 25 is held in horizontal position thereby. The plate 25 is provided with ways 26 in which fit brackets 27 to slide back and forth. These brackets carry the bearings of the shafts 22 and they are held in adjusted position by bolts 28.

In view of this construction it will be seen that one of the rolls 13 can be moved toward and from the other, and is fastened in adjusted position to provide for variations in thickness of the bottles. The shaft 19 is provided with sprocket wheels 29, and there is one of these shafts 19 for each of the pairs of rolls 13. A chain 30 engaging all these sprocket wheels on one side drives them all alike from the shaft 18.

From this it will be seen that the surfaces of these rubber rolls are so soft that they will accomplish the pasting down of the labels in the panels most efficiently, and that they can be adjusted to any desired degree of fineness to bear with the proper pressure on the labels, in accordance with the thickness of the bottles. Therefore, by this simple attachment, bottles of this character can be labeled with the assurance that the edges of the labels both along the sides and the tops and bottoms will lie down smoothly on the glass and adhere thereto.

Although I have illustrated and described only a single form of the invention I am aware of the fact that changes can be made therein by any person skilled in the art without departing from the scope of the invention as expressed in the claims and the invention is useful in wiping down labels on flat or concave surfaces on bottles and the like. Therefore, I do not wish to be limited to the exact form shown, but what I do claim is:

1. The combination with a machine for applying labels in the panels of paneled objects, of a conveyor comprising a horizontal strand for supporting and conveying the labeled articles, a pair of rolls on vertical axes located on opposite sides of said strand and above it having thick surfaces of sponge rubber for yieldingly pressing the labels down within the panels throughout the area thereof, and means for positively driving said rolls from the labeling machine.

2. The combination with a conveyor for receiving and taking off articles having labels applied thereto in panels on their surfaces, of a pair of sponge rubber rolls on op-

posite sides of the conveyor for extending into said panels on opposite sides of the articles and pressing the labels down throughout their areas, means for driving said rolls, and means by which one of said rolls can be adjusted toward and from the other for taking care of articles of different thicknesses.

In testimony whereof I have hereunto affixed my signature.

CHARLES H. OSLUND.

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