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CANDY BRUSHING MACHINE

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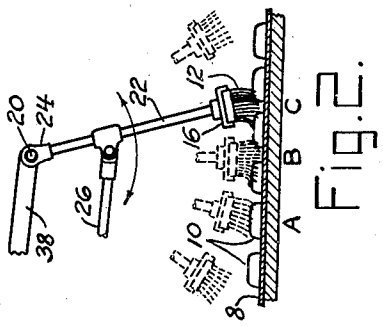


Fig. 2.

Fig. 1.

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CANDY BRUSHING MACHINE

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4 Claims. (Cl. 107—44)

This invention relates to brushing machines for applying a high polish to chocolate covered candies and the like and particularly to constructions which serve to produce the same high gloss as is obtained by hand brushing operations.

In producing chocolate covered candies it is usual to produce a high gloss to the surface thereof by brushing them with a soft brush after the candies have passed through the cooling tunnel and usually after the candies have been placed in boxes. However, if the candies are placed in boxes before being brushed only the top layer is accessible and even on the top layer the sides of the candies cannot be brushed because of the paper cups in which they usually are arranged. If the candies are brushed while still stuck to the belt by which they are passed through the cooling tunnel they are frequently marred by the fingers of the operators in removing them from the belt and have to be brushed again. On the other hand if they should be brushed while on the belt but while no longer stuck thereto the candies would be tossed about during the brushing operation and would be injured.

It has been proposed heretofore to employ a machine for brushing chocolate covered candies wherein the brush reciprocates parallel to the belt by which the candies are carried, but the results obtained with such construction are not satisfactory because the brush is not raised off the candies at the end of the stroke. Thus the surface is brushed just as vigorously at the conclusion of the operation as at the start. Moreover, the bristles of the brush which are inclined rearwardly as the brush moves forward over the surfaces of the candies, tend to dig into the chocolate coating as the direction of movement of the brush and the inclination of the bristles is reversed when the brush moves rearwardly. The final action of the brush upon those candies passing beyond the same therefore tends to mar the surface of the candies instead of improving its appearance. It is also found that the bristles in digging into the coating when their inclination is reversed tend to pick up and carry chocolate thereon so that the brush rapidly becomes clogged with material causing smearing instead of polishing of the candies.

In order to overcome these objections to machines and operations heretofore employed in brushing candies and the like the present invention embodies means for brushing chocolates wherein the brush is raised from the surface of the candies passing beyond the same so as to impart a very light final brushing thereto. Moreover, the tendency of the bristles to dig into the surface of the chocolates and to become clogged with the coating material is eliminated. The invention further includes means for releasing candies from the belt to which they are stuck after the brushing operation has been completed whereby they may be removed for packaging without danger of marring the polished surface thereof.

The mechanism employed for obtaining these results may take many different forms but I prefer to cause the brush to oscillate about a pivot or to be otherwise moved so that it is raised out of contact with the candies as it brushes the surfaces thereof. I also prefer to provide means for transferring the candies from the belt by which they are carried while being brushed to another belt section or means upon which they are loosely supported for removal and packaging.

One of the objects of the present invention is to provide novel brushing means for imparting a high gloss to the surfaces of chocolates and chocolate covered candies.

Another object of the invention is to provide brushing mechanism for imparting a light final brushing to the surface of candies passing therethrough.

A further object of the invention is to reduce the tendency for the bristles of brushes employed on candy brushing machines to smear the coating on the surfaces of candies or the like.

Another object of the invention is to provide means for releasing brushed and polished candies from the belt by which they are carried whereby the tendency for the candies to be marred by the fingers of the operator in removing them from the belt is reduced.

These and other objects and features of the invention will appear from the following description thereof in which reference is made to the accompanying figures of the drawing illustrating a preferred embodiment of the invention.

In the drawing:

Fig. 1 is a perspective of a preferred form of brushing machine embodying my invention, and

Fig. 2 is a diagrammatic illustration of the brush and candies illustrating the action of the brush thereon.

In that form of my invention illustrated in the drawing, a frame embodying side members 2 is secured to supports 4 adjacent the end of a cooling tunnel 6 and on opposite sides of a belt 8

by which chocolate covered candies 10 are carried.

A brush 12, the bristles of which are soft and may be formed of camel's hair, is supported by a carrier 16 and secured in place thereon by thumb screws 18 or other suitable means serving to permit ready removal and replacement of the brush. The brush and carrier are caused successively to effect relatively vigorous and thereafter relatively light brushing of the candies and for this purpose are suspended from a bar 20 by spaced rods 22, the upper ends of which are formed with bearings 24 to permit oscillation of the brush and carrier in a direction parallel to the direction of movement of the candies through the machine about the bar 20 as a pivot.

The brush may be actuated by any suitable means to cause it to oscillate back and forth during operation. As shown a link 26 is pivotally connected to the center rod 22 at 28 and to a crank 30 of a speed reducer 32. A motor 34 serves to drive the speed reducer 32 through a belt 36 but it will be apparent that various other sources of power may be substituted for the motor 34 and in some cases the speed reducer may be omitted.

In order to adjust the level of the brush so that it may be used to impart the desired gloss to flat patties or to high, rounded chocolate drops and the like, or to polish the upper layer of packaged candies as desired, the bar 20 is carried by arms 38 secured to a shaft 40 pivotally mounted at 42 on the side frames 2. Links 44 extend downward from the arms 38 at points 46 thereon spaced from shaft 40, and are connected at their lower ends to levers 48 secured to a shaft 50 which extends through the left side frame 2 near the base thereof as seen in Fig. 1. An adjusting lever 52 is secured to the outer end of shaft 50 and is movable to raise and lower arms 48 and link 44 to adjust the position of the arms 38 and the rod 20 about which the brush oscillates. The lever 52 is held in its adjusted position by clamping means which as shown include a member similar to a carriage bolt 54 extending through a boss 56 on the lever 52 and projecting through a slot 58 in the side frame. The inner end of the bolt 54 is provided with a head 60 for engaging the inner face of the side frame and with a squared shoulder or other means (not shown) to ride within the slot 58 and prevent rotation of the bolt 54. The outer end of the bolt is threaded to receive a handle 62 which engages the outer end of the boss 56 on the lever 52 to urge it against the side frame and retain it in its adjusted position.

When the candies are brushed while still stuck to the belt 8, instead of after being packed in boxes, I prefer to divide the belt at 64 so that the portion 8 thereof which carries the candies through the cooling tunnel and holds them in place during the brushing operation is caused to pass downward over a rod 66 and is thus drawn away from the candies while the candies themselves are transferred to a second belt section 68 by which they are loosely supported and from which they may be readily removed for packaging. In this way the candies although stuck to the belt 8 so as to permit proper brushing thereof are moved from the belt 8 and transferred to the section 68 ready for the packaging operation, without marring the polished surface thereof. When the candies are packaged before brushing it of course is not necessary to divide the belt as described.

In the operation of the machine described candies 10 stuck to the belt 8 are passed from the cooling tunnel 6 to the brushing machine, or are supplied to the machine in packages as desired. The brush 12 is oscillated at the desired rate, say 50 to 75 oscillations (100 to 150 brushing strokes) per minute, as the candies pass beneath the same. As the candies move to the right, as seen in Fig. 2 they are first contacted by only the tips of the bristles of the brush as shown in dotted lines at A in Fig. 2. Thereafter as they move on to the right they are subjected to more vigorous brushing and polishing action about the tops and sides thereof as shown in dotted lines at the point B of Fig. 2 and subsequently as the candies pass on to the right the brush gives the surface thereof a few final light finishing strokes with the soft tips of the bristles as shown in full lines at the point C so that a high gloss is imparted to the candies.

The bristles of the brush preferably are raised wholly out of contact with the candies at the end of each stroke in the direction in which the candies travel so that the bristles spring back to their normal position and when again brought into engagement with the candies on the reverse stroke they will therefore brush smoothly over the surface without digging into the coating material and destroying the polish applied thereto. With the adjustment of the parts illustrated in Fig. 2 the bristles of the brush are raised out of contact with the candies at each end of each oscillation or brushing stroke avoiding any tendency for the bristles to become clogged with coating material. In this way the candies, whether polished while stuck to the belt by which they are passed through the cooling tunnel or after being packed in boxes, are given a high gloss without danger of smearing of the surface coating and without causing the brush to become clogged with coating material.

When the candies are polished while on the belt 8 they are passed from the brushing machine to the belt section 68 and are so released from belt 8 without injury and transferred to belt section 68 by which they are loosely supported for removal and packaging. This avoids the danger of pinching or firm grasping of the candies to remove them from the belt so that the high gloss produced is preserved without marring the candies.

While the invention as herein shown and described is particularly adapted for use in polishing chocolates and chocolate covered candies it will be apparent that it may be used to polish other articles such as cup-cakes, cookies and the like and may be employed to produce a high gloss when using coating materials other than chocolate. It will also be apparent that the form and arrangement of the elements of the mechanism and the manner in which they are actuated may be varied considerably without departing from the spirit and scope of my invention. Therefore, it should be understood that the form of my invention herein shown and described is intended to be illustrative of my invention and is not intended to limit the scope thereof.

I claim:

1. A machine for imparting a high gloss to chocolate covered candies and the like comprising a support for the candies to be polished, a brush located above said support and movable into contact with said candies and mechanism for moving said brush back and forth in contact with candies on the support operable to raise the brush

out of contact with the candies at each end of each stroke of the brush.

2. A machine for imparting a high gloss to chocolate covered candies and the like comprising a support for the candies to be polished, a brush movable above said support and into engagement with the candies and mechanism for oscillating said brush operable to raise the brush out of contact with the candies at each end of each oscillating movement of the brush.

3. A machine for imparting a high gloss to chocolate covered candies and the like comprising a belt carrying candies to be polished, a brush movable above said belt and into contact with candies carried by said belt, means supporting said brush mounted on a pivot for oscillating movement and mechanism for actuating said supporting means to oscillate said brush, said mechanism being operable to raise said brush out of contact with said candies at each end of each oscillation.

4. A machine for imparting a high gloss to chocolate covered candies and the like comprising a belt movable through the machine having candies to be polished stuck thereto, a brush located above said belt movable into engagement with candies stuck to said belt, pivotally mounted means supporting said brush and actuating means for said brush operable to oscillate said pivotally mounted means and brush in a direction parallel to the direction of movement of said candies and belt through said machine and serving to raise said brush out of contact with candies passing beyond said machine upon each movement of the brush in the direction of movement of the belt.

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