

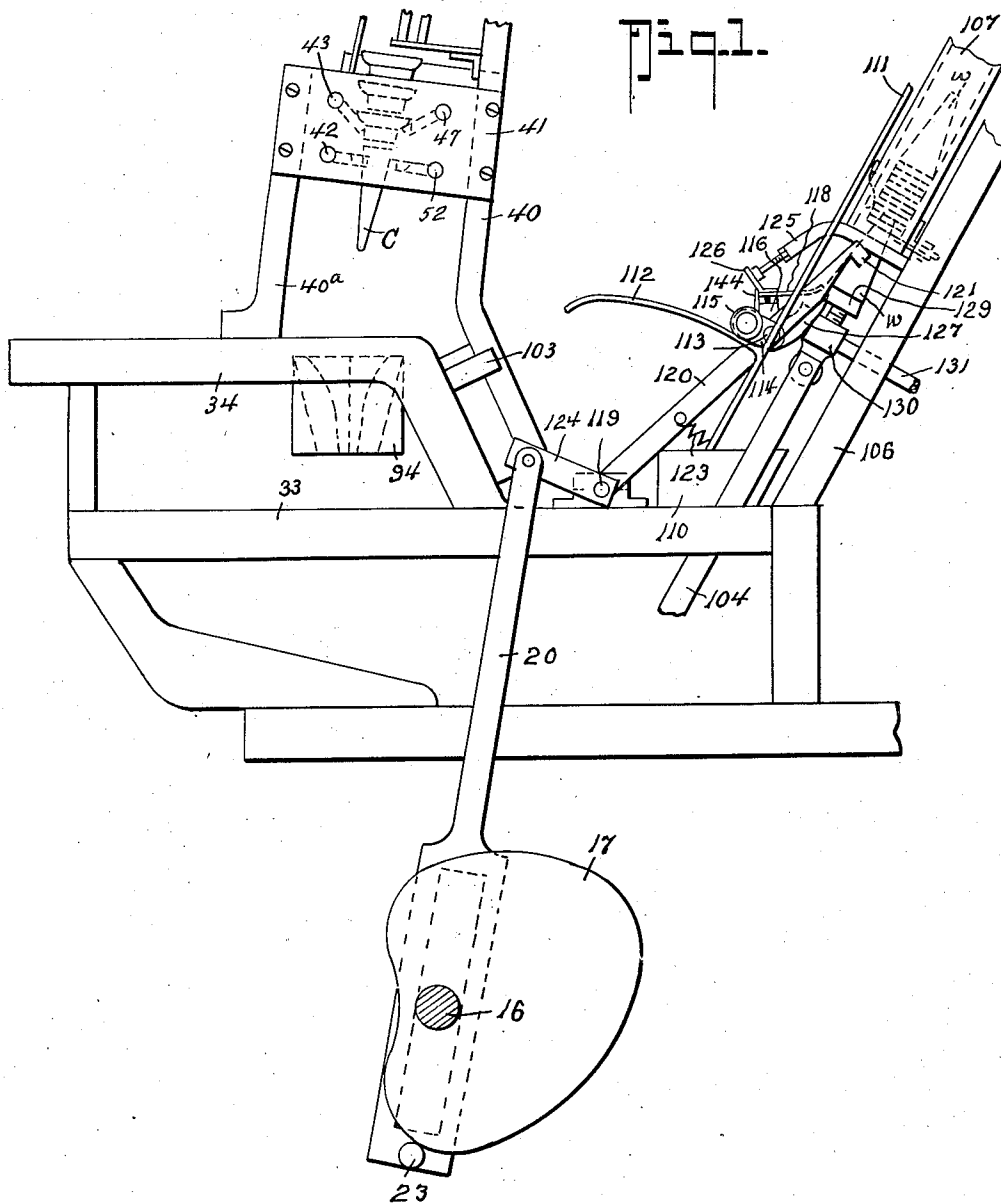
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CONE JACKET TRANSFER MECHANISM

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CONE JACKET TRANSFER MECHANISM

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4 Claims. (Cl. 214—1)

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My invention relates to machines for applying jackets to ice cream cones and it particularly has reference to the complete machine which constitutes the subject matter of my original application Serial No. 483,075, filed April 14, 1943, and of which application the present one is a division.

The present invention deals with that part of the complete machine which takes the wrappers or jackets in an inverted position from a jacket supplying magazine, conveys the jackets from the magazine and deposits the jackets, right end up, in a receiver ready to receive the cones to be jacketed.

In general the invention has for its object to provide a mechanism for the purpose stated of a simple, effective and efficient design that is peculiarly adapted for use in the machine of my original application although capable of other uses if desired.

Other objects will in part be obvious and in part be pointed out hereinafter.

To the attainment of the aforesaid objects and ends the invention further resides in those novel details of construction, combination and arrangement of parts all of which will be first fully described hereinafter and then be specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which:

Fig. 1 is a part side elevation and part vertical section of so much of the cone jacket applying machine of my original application as is necessary to illustrate the present invention, the jacket transfer frame being in one extreme position, i. e., that in which it receives a jacket.

Fig. 2 is a detail view similar to Fig. 1 with the transfer frame in its other extreme position in full lines and in an intermediate position in dotted lines.

Fig. 3 is an enlarged detail sectional view hereinafter specifically referred to.

In the drawings, in which like numerals and letters of reference indicate like parts in all the figures, the same reference numbers and letters of reference have been used as for corresponding parts in my original application.

In the drawings 16 designates the main cam shaft of the machine on which is the cam 17 that operates the transfer mechanism in harmony with the other parts of the complete machine. A part of the main frame of the machine is shown at 33 and the sub-frame on which the cone dispensing mechanism, etc., is mounted is shown at 34 and 35, while 40, 40^a indicate the upright bars on which the plates 41 that carry

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the dispensing devices' shafts 42, 43, 47, 52 are mounted. The cones are indicated by the letter C.

The jacket magazine 107 is mounted on a bracket 106. The jacket removing plugs 129 are carried on plug carriers 130 and are reciprocated into and out of the magazine by a suitable cam (not shown) operating the connecting rod 104, the jackets *w* being caused to adhere to the plugs 129 while being removed from the stack and placed on the fingers 127 of the transfer mechanism as will later more fully appear. 94 is the receiver or "mold" into which the jackets *w* are deposited by the mechanism which constitutes the subject matter of this application.

The swinging frame of the jacket transfer mechanism carries a finger carrying shaft 113 on which a set of rigid fingers 127 is secured by set screws 171, there being one finger for each jacket tube 107. A bridge member composed of two or more arms 116 connected by a cross bar 117, is freely pivoted on the shaft 113. The bar 117 carries a set of spring fingers 118, one for each finger 127, and these fingers 118 are continuously pressed toward their associated fingers 127 by a leaf spring 128 that is fastened to one of the fingers 127 (Fig. 3).

An arm 114 is secured to the shaft 113 and carries a roller 115 to cooperate with cam track 112, while a rigid arm 126, on the bar 117, cooperates with a stop arm 125 secured to one of the frame bars.

One or both (one only being shown) of the frame bars 120 may be extended and provided with a notch 121 to serve as a stop or guide in adjusting the maximum elevation of the plug carrier 130.

An arm 144 is secured to the shaft 113 by a set screw 122 and carries a stop lug 146 that may be engaged with the adjacent bar 120 when in the position of Fig. 2 and when the shaft 113 is turned counter clockwise in Fig. 2 and after the roller 115 leaves the end of the cam track 112, under the influence of the spring 145. The spring is anchored to frame 120 and to the arm 144 as shown.

The track 112 is carried by a bracket 111 secured to a block 110. The plugs 129 have suction passages which communicate with the chambered carrier 130 and are connected with a suitable source of suction (see original application) at proper times. The frame 120 of the transfer mechanism is pivoted at 119 and is moved to the position shown in Fig. 1 by a spring 123. An arm 124 on the shaft is connected to

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a connecting rod 20 that has a roller 23 to engage the cam 17, by which the frame 120 is swung, at the proper time from the position of Fig. 1 to the position of Fig. 2.

Operation

Assume the parts to be positioned as in Fig. 1. The plug 129 will have just received a jacket *w* (see also dotted lines Fig. 3). As the cam 17, turning clockwise in Fig. 1, pulls down on rod 10 20 the frame 120 is swung from right to left.

As the frame 120 moves from the position of Fig. 1, the arm 126 will have left the stop 125 and spring 128 will have brought finger 118 into pressure contact with the jacket on finger 127 to hold the jacket on the finger. By the time the parts reach the position of Fig. 2 the plug carrier will have reached its lowermost position and be starting up again; frame 120 and its carried parts will have reached the vertical position where the roller 115 is about to leave the track 112; the "mold" will be closing and will be fully closed before roller 115 leaves track 112. On leaving the dotted position of Fig. 2, the roller 115 leaves the track 112 whereupon the spring 145 turns the shaft 113 counter clockwise to revert the jacket; as soon as the arm 126 strikes the stop 103 the finger 118 will be released from the jacket and the jacket will be thrown into the "mold" small end down (see full lines in Fig. 2).

At the proper time the frame 120 swings back to the position of Fig. 1 so that the fingers may receive further jackets.

From the foregoing description taken in connection with the accompanying drawings it is thought the construction, operation and advantages of my invention will be clear to those skilled in the art.

What I claim is:

1. In a machine of the character described: a jacket transfer mechanism which includes a pivoted frame; means to move said frame back and forth on its pivot; a shaft journaled in said frame; a rigid finger secured to said shaft and having a portion to enter the jacket; a member having a second finger freely pivoted to said shaft in cooperative relation to said rigid finger to engage the outside of the jacket; means continuously tending to move said second finger in one direction; and an arm on said shaft having a cam-engageable member; and a cam-track for engagement by said cam-engaging member to hold said rigid finger in a position to receive and convey a jacket.

2. In a machine of the character described: a jacket transfer mechanism which includes a pivoted frame; means to move said frame back and forth on its pivot; a shaft journaled in said frame; a rigid finger secured to said shaft and having a portion to enter the jacket; a member having a second finger freely pivoted to said shaft

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in cooperative relation to said rigid finger for engaging the outside of the jacket; means continuously tending to move said second finger toward said rigid finger to hold a jacket on said rigid finger; in combination with means continuously tending to turn said shaft in one direction, a cam track for holding said shaft in opposition to said last named continuously tending means during a part of the travel of said pivoted frame; and means to move said second finger out of contact with said rigid finger at the extremes of the travel of said pivoted frame.

3. In a machine of the character described wherein means are provided for receiving jackets at one place and delivering them at another place, the improvement which comprises: a pivoted frame; a shaft on which said frame is carried; an operating cam; an operative connection between said cam and said shaft to swing said frame in one direction; means to swing said frame in the opposite direction under control of said cam; a finger-carrying shaft journaled in said frame; at least one rigid finger on said finger-carrying shaft and adapted to receive a jacket to be transferred; a bridge-frame freely pivoted on said finger-carrying shaft; a spring finger carried by said bridge-frame to cooperate with said rigid finger; means for holding said spring finger in gripping association with said rigid finger; means at the jacket-receiving place for separating said fingers to receive a jacket between them; means to hold the spring finger in the gripping position during a portion of the travel from the receiving place to the delivering place; and means for turning said bridge frame on approaching the delivering place to invert said fingers and release the jacket.

4. In a machine of the character described wherein means are provided for receiving jackets at one place and delivering them at another place, the improvement which comprises: a pivoted frame; means to swing said frame from a jacket-receiving position to a jacket discharging position; a shaft journaled in said frame; a rigid finger on said shaft; a frame freely pivoted on said shaft; a spring finger carried by said freely pivoted frame to cooperate with said rigid finger to grasp and hold a jacket; means continuously urging said fingers together; means at said jacket-receiving position for separating said fingers to receive a jacket, the fingers grasping the jacket on leaving said jacket-receiving position; an arm on said shaft; a roller on said arm; a cam track engaged by said roller from the jacket-receiving position to adjacent the jacket discharging position; means operative when said roller leaves said cam track for turning said shaft to turn over the jacket and means for moving said fingers apart as the jacket discharging position is reached to release the over-turned jacket.

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