June 9, 1942. J. BALTON 2,286,165

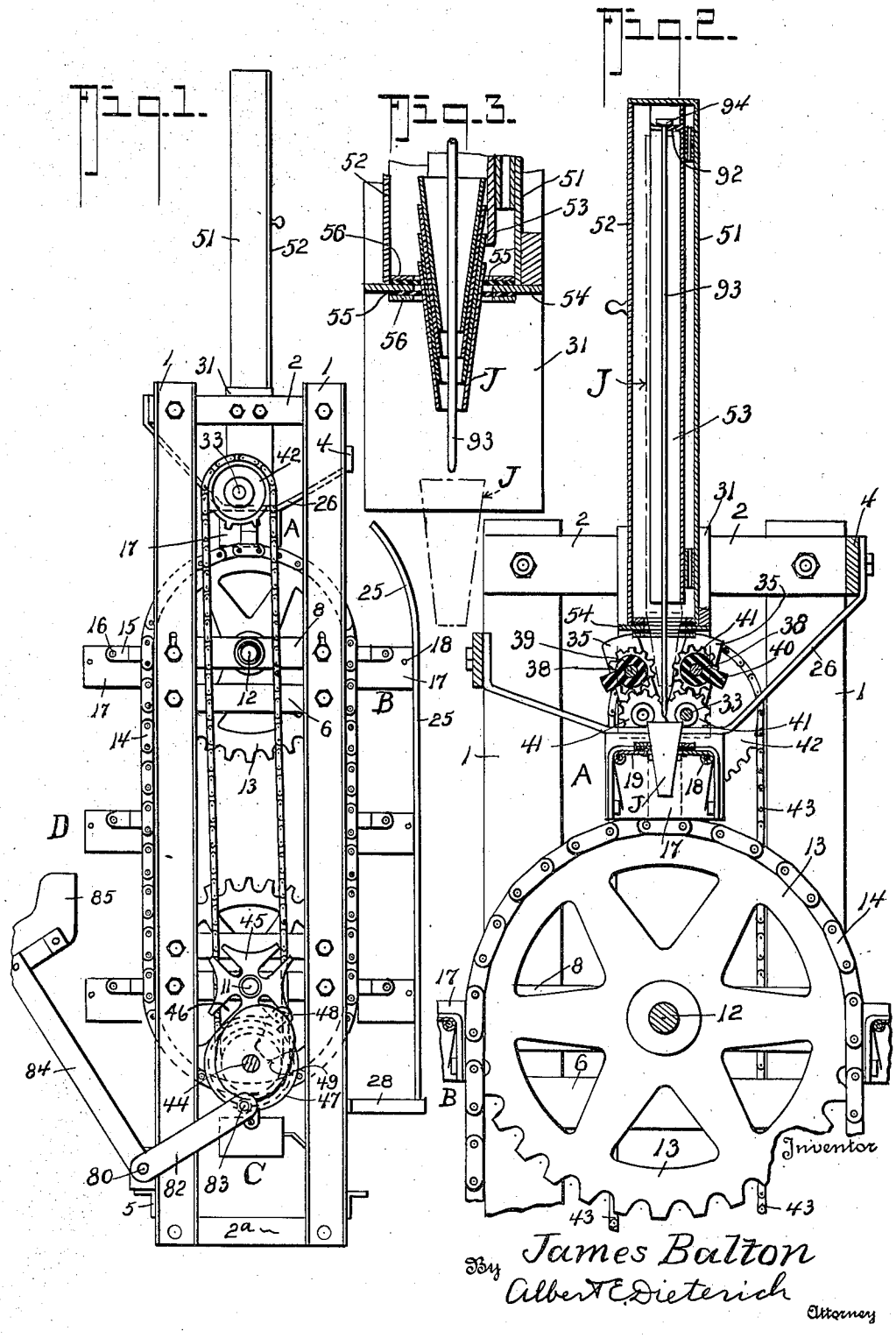
CONE JACKET APPLYING MACHINE

Filed Oct. 3, 1940

Fig. 1.

Fig. 3.

Fig. 2.



Patented June 9, 1942 2,286,165

UNITED STATES PATENT OFFICE

2,286,165

CONE JACKET APPLYING MACHINE

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Application October 3, 1940, Serial No. 359,605

5 Claims. (Cl. 214—8.5)

My invention relates to machines for applying pre-formed jackets to ice cream cones and it particularly relates to machines such as are disclosed in my application for patent, Serial #336,840, filed May 23, 1940.

More particularly the present invention has reference to that part of the machine which has to do with the feeding of the jackets and placing them in the carriers, carriages or holders which are travelled by endless chains from the jacket feeding station to the other stations of the machine.

In the machine of my above mentioned application, I have disclosed a magazine for stacks of nested jackets and a mechanism for removing a jacket from a stack and depositing it into a carrier of the conveyor. I have also disclosed in that application a reciprocable jacket guide at the jacket-loading station which is moved into position through the carrier at that station for the purpose of guiding the jacket in its travel from the stack to its position in the carrier. Since this guiding means involved the use of a pin over which the jacket descended small end first, it was found that, unless the adjustment of the parts of the machine was very accurately made, sometimes the jackets would miss going over the pins and be by them deflected to one side and thereby prevented from going into the pockets of the carrier. It is to remedy this that my present invention has been devised. Accordingly, I have eliminated the reciprocating pin device which operated through the carrier and in lieu thereof I have provided guide rods in the magazine which lie within the cones in a stack, the lower ends of the rods terminating just above the level of the top of a jacket when the jacket has been properly placed in the carrier. The jacket feeding device takes the jacket from the bottom of the stack, passes it down along the rod into the receiving opening of the carrier beneath. Any tendency to tilt the jacket or cause it to move out of alignment with the carrier opening is counteracted by the guide rod until the smaller end of the jacket shall at least have entered the carrier opening.

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 still further resides in the novel details of construction, combination and arrangement of parts, all of which will be first fully described in the following detailed description, and then be particularly pointed out in the appended claims, reference being had to the accompanying drawing, in which:

Fig. 1 is a side elevation of a machine embodying the present invention.

Fig. 2 is an enlarged detail section of the same, the view being taken 180° from that of Fig. 1.

Fig. 3 is a further enlarged detail section showing the jacket-stack hold back means in the magazine and the guide rod for that stack.

In the drawing I have shown only so much of the machine of my aforesaid application as necessary to make clear those improvements which comprise my present invention. In the drawing, those parts which are the same as corresponding parts in the machine of my former application bear the same reference letters and numbers and are as follows: 1 are the channel uprights of the supporting frame which frame also includes the top and bottom side braces 2, 2a and the cross angles 5, upper front brace 4, cross brace 6 and the adjustable bearing bar 8, main driven shaft 11, upper sprocket shaft 12, sprockets 13, conveyor chain 14 on whose bracket links 15 the carriers, etc., 17 are held by trunnions 16.

On the cross rods 17 are the hinged half plates 19, pivoted at 18 and having between them the holes for the jackets J to drop into. 25 is the front carrier steadying bar, 26 the top carrier steadying guide, and 28 the support for the bar 25.

At the top of the machine are side bracket plates 31 which support a plate 54 which is the bottom of the jacket magazine 51, there being a door 52 through which the magazine may be loaded. Within the magazine 51 is a tubular jacket-stack guide 53 which is held over and in line with the opening in plate 54.

Two flexible elastic washers 55 are secured to plate 54 by clamp plates 56, one washer above and one beneath plate 54 (see Fig. 3).

33 is a shaft, driven by a sprocket and chain connection 42, 43 from a first motion or driving shaft 44. Wiper shafts 38 are driven from the shaft 33 through a gear train 41 and carry the resilient wipers 39 whose fingers 40 engage the bottom jacket in a stack, wipe it off the remainder and project it down into the carrier 17 at the jacket-loading station A of the machine. The shafts 38 are mounted in adjustable arms 35.

The conveyor 13, 14 etc. is driven step-by-step, from shaft 44 through the medium of a Geneva gear arrangement 45 to 49 inclusive.

B is the station where the attendant drops the cones into the jackets; C is the station where the

cones and jackets are assembled, i. e., where the jackets are caused to become secured to the cones; and D is the station where the jacketed cones are discharged from the machine.

All of the foregoing described parts may be the same (and are so shown) as corresponding parts in my application aforesaid.

The improvements comprising the present invention reside in the provision of rods **93** (one for each stack of jackets) whose heads **94** rest on a slotted bracket **92** and whose lower ends terminate a short distance above the top levels of jackets J when in their proper places in the carrier **17** (see Figs. 2 and 3).

Operation

With a carrier **17** stopped beneath the magazine (Fig. 2), shafts **38** and wipers **39** are turned to bring their fingers **40** into engagement with opposite sides of the jackets at the bottom of the stacks and move them down into the carrier. During this action rods **93** prevent the jackets from getting out of alignment with the receiving openings between the plates **19** of the carrier and insure that the jackets drop into the same properly.

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

What I claim is:

1. In a machine of the character described wherein is provided a conveyor having a carrier; a jacket-stack magazine having a bottom with an opening for the stack, means to hold the stack with the lowermost jacket in said opening, means below the opening for feeding the lowermost jacket from the stack and projecting it into the carrier while the carrier is located beneath the stack, and means to guide the jackets as they are taken from the stack and delivered by said feeding means to said carrier.

2. In a machine of the character described wherein is provided a conveyor having a carrier; a jacket-stack magazine having a bottom with an opening for the stack, means to hold the stack with the lowermost jacket in said opening, means below the opening for feeding the lowermost jacket from the stack and projecting it into the carrier while the carrier is located beneath the stack, and means to guide the jackets as they are taken from the stack and delivered by said feeding means to said carrier, said guiding means comprising a rod in each stack, the lower end of the rod projecting down to adjacent the carrier-to-be-loaded with jackets.

3. In a machine of the character described wherein is provided a conveyor having a carrier; a jacket-stack magazine having a bottom with an opening for the stack, means to hold the stack with the lowermost jacket in said opening, means below the opening for feeding the lowermost jacket from the stack and projecting it into the carrier while the carrier is located beneath the stack, and means to guide the jackets as they are taken from the stack and delivered by said feeding means to said carrier, said guiding means comprising a rod in each stack, the lower end of the rod projecting down to adjacent the carrier-to-be-loaded with jackets, said rods being pendently supported in said magazine.

4. In combination with a jacket receiver and a magazine case, a vertically disposed tubular guide for a stack of nested jackets in said magazine case, means to hold the stack in place in said magazine case with the lowest jacket in the stack projected through a bottom opening in the case, rotary elements for engaging said lowest jacket and moving it downwardly to free same from the stack and means to guide said lowest jacket to move downward after passing said rotary elements so the jacket will be prevented from falling sidewise or getting out of alignment with the jacket receiver.

5. In combination with a magazine for a stack of nested jackets, a hollow-conical-jacket-dispensing mechanism, and a jacket-receiver spaced below the same, of means for guiding the jackets while they are passing from the dispensing mechanism to the receiver, said guiding means being carried by said magazine and passing through the jackets and the dispensing mechanism to a point adjacent said receiver.

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