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CARTON HOLDING AND WAXING MEANS

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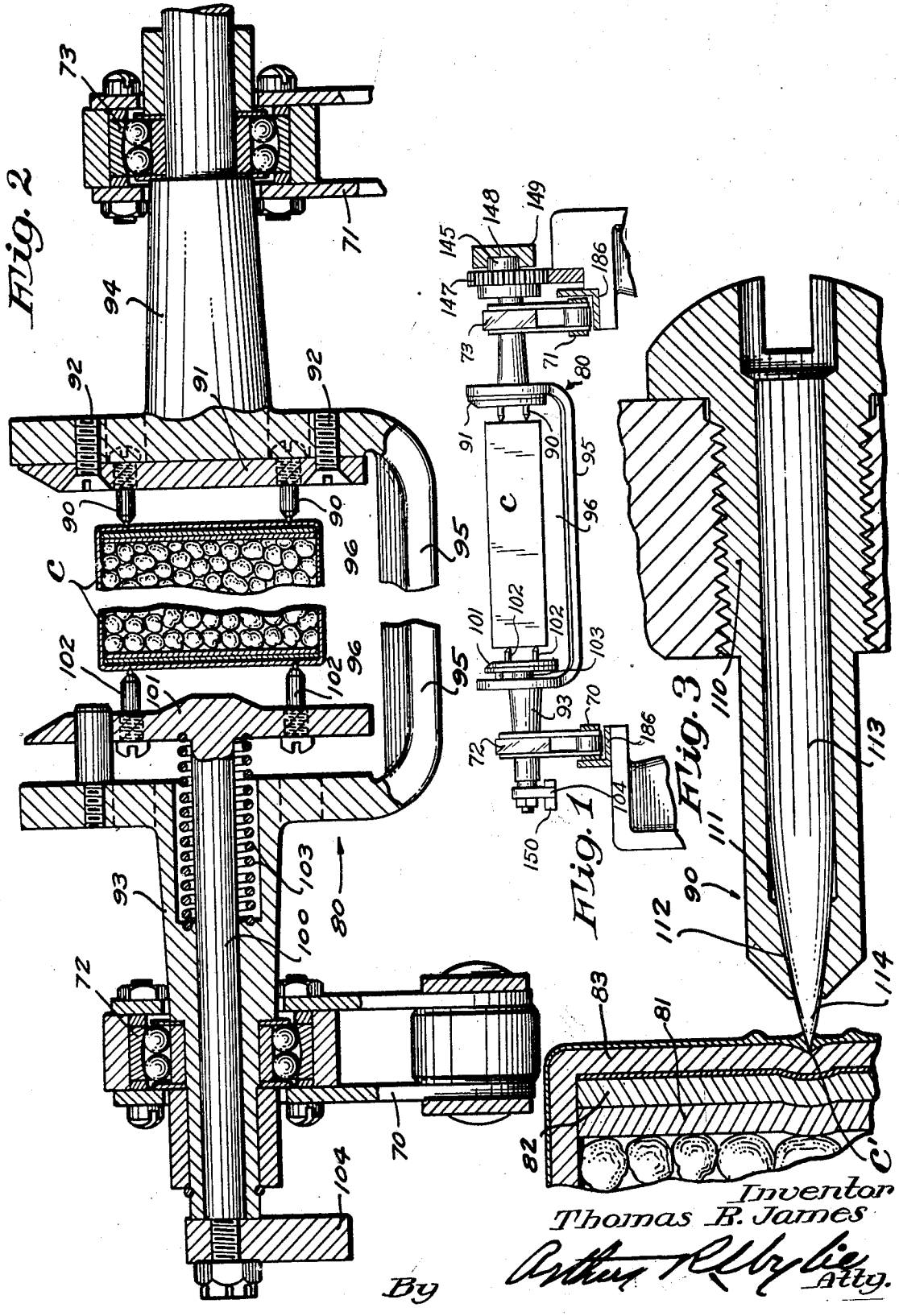

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CARTON HOLDING AND WAXING MEANS

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1 Claim. (Cl. 91—60)

This is a division of my application Serial No.360,875, filed October 12, 1940.

An object of this invention is the provision of means for holding a carton while wax is sprinkled thereon and for withdrawing the holding means from the carton after the wax coating is set without injuring the coating.

Another object is to provide suitable means for gripping each carton for rotation as well as means for insuring the registration of each carton in its gripping means in a suitable waxing machine.

These and other objects as will hereinafter appear, are accomplished by this invention which is fully described in the following specification and shown in the accompanying drawing in which

Figure 1 is a partial vertical sectional view showing an embodiment of my invention;

Fig. 2 is an enlarged sectional view similar to Fig. 1 but showing the parts in more detail; and

Fig. 3 is a partial enlarged detail of one of the pins shown contacting a carton.

In portions of a waxing machine as illustrated, endless chains 70, 71 slide on angle irons 186 which are supported on the main frame and pass around sprockets (not shown) and carry suitable bearings 72, 73, preferably of the universal ball type as shown in Fig. 2, in which are suitably journalled a series of gripper assemblies or units 80. Each gripper unit is adapted to grip and hold a carton C to be waxed. This carton is preferably of an elongated type having end flaps 81, 82 and 83, the latter being coated with glue on its under side so that when pressed down it will firmly adhere to the flaps 81 and 82. Much depends upon the proper closing and sealing of these cartons so as to get a substantially moisture-proof package after it has been waxed. The ends of these cartons, where pressure is applied for gripping the same, consist of a plurality of overlapping flaps which aid materially in taking the necessary end pressure and also for reducing any danger of a poor seal occurring where the points of the grippers contact the carton.

The gripping of the ends of this carton, which is preferably much longer than its other two dimensions, is accomplished by means of stationary pins 90, preferably four in number, and carried by a plate 91 secured to the frame of the gripper unit as by means of screws 92. This gripper unit has aligned end portions 93 and 94 connected by an off-set integral portion 95 which provides a suitable space 96 for the reception of the carton C so that the longitudinal axis of the carton is substantially coincident with the axis of the end portions 93, 94 of the gripper unit. Thus no strain is thrown on the carton and the two sets of pins are always in alignment.

Passing axially through the end 93 and slidably mounted therein is a short shaft 100 on the inner end of which is mounted a plate 101 which carries pins 102 similar to the pins 90. The plate 101 is pressed inwardly by means of a compression spring 103 while the outer end of the shaft 100 carries a cam follower 104 which engages a stationary cam 150 as the gripper unit moves through the machine to withdraw the pins 102 for the insertion of the cartridge after which the spring 103 returns the pins so as to grip the cartridge and to hold it during the waxing operation.

The pins 90 of Fig. 2 are shown in detail in Fig. 3 and are preferably made with a screw threaded portion 110 with a hollow center 111 terminating in the hollow tapered end 112. A central pin 113, preferably a phonograph needle, is held therein by means of a driving fit and this terminates in a tapered point 114 which makes contact with the end of the carton with sufficient pressure to depress the carton and perhaps to pierce it slightly at the point C'.

Each gripper assembly is rotated by means of a gear 147 keyed on the end portion 94 which meshes with a stationary rack (not shown). At the point where the section (Fig. 1) is taken, a cam follower roller 145 journaled on a pin (not shown) on the side of the gear 147 and lies in a cam groove 148 in the horizontal cam 149. This cam terminates near the point where the stationary rack begins so as to insure the unit 80 remaining in the desired position up to the time the gear 147 engages the rack.

Thus, the gripper unit journaled at its ends in the parallel chains provides means for handling and controlling the carton in a way not heretofore possible.

While I have shown and described but a single embodiment of my invention, it is to be understood that it is capable of many modifications. Changes, therefore, may be made which do not depart from the spirit and scope of my invention as disclosed in the appended claim.

I claim as my invention:

In a carton waxing machine, spaced conveyor chains, means for driving the same, a carton holding member having journals at its ends jour-

nalled in said chains and having an offset U-shaped central portion adapted to hold a carton in axial alignment with the journals and having spaced axial plates, one of which is slidably movable with respect to the other plate, each plate having a plurality of pins thereon to grip the ends of a carton, means for moving one of said plates axially in said member with respect to the other to cause said pins to grip the ends of a carton or to release the same, and means for rotating the member about its longitudinal axis to rotate the carton.

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