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DESCRIPTION

PACKAGING MACHINE

TECHNICAL FIELD

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The invention is new technology in packaging machines providing a packaging without processing the different quantities of the product thermally (shrinking) in egg packing industry.

15 BACKGROUND OF THE ART

80 % of kinds of packaging made in egg industry is packaged with shrinking (PVC, Poliolofo Film) method. Also, a part of 20 % of product is packaged in containers such as cardboard, foam, plastic and so on.

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Packaging by the method of shrinking; egg packaging time, insert the tag on the product from the manufacturer, the whole package (PVC, poliolofo's) to be covered by shrink and finally stretch the package is completed at temperatures between 250-300 degrees for 10-15 seconds.

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the disadvantage in the method of shrinking which was in use mainly in the sector, shrink (PVC, POF film, etc.) is subjected to a temperature of between 250-300 degrees for 10-15 seconds in order to take the form of packaged products. In this case the contact of the product being packaged by shrink with air is interrupted, the product is exposed to high temperatures and also when receiving a high degree of temperature upon completion of the packaging process hot air within the package retains itself a certain period of time. In the cases mentioned briefly disrupt the freshness of the product, consequently the shelf life is shorter in a serious way. In countries where the control mechanism is weak this situation can come to be threatening human health.

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The disadvantage of this method of packaging in terms of operators is that products sold increase return rates and operating costs are negatively affected.

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With the present invention these disadvantages are eliminated. Products that must be maintained at 5-12 °C range because of the nature of the egg is packaged by being subjected to a temperature of 300 degrees respectively by shrink methods as there is no alternative packaging machine. In the present model while packaging can be made with three main ingredients including top tray, bottom tray and shrink packaging may be made with the present invention without the need for shrink that is third choice. This situation eliminates a high degree step of heat tunnel of the product to which is exposed.

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DESCRIPTION OF THE INVENTION

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Packing method with new technology in the inventive packaging machines is that self-pin cover is to establish hole in the lower plate placed on the egg tray. With this method, the product is packed with natural state. Back to the top cover feature it continues to breathe even after the product is packed. Because of this feature, the invention provides the product to remain fresher and extend the shelf life of the product.

Advantages in terms of operators are that as Advantages in terms of operators and packaging costs are reduced as shrink need is eliminated which is third choice.

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DETAILED DESCRIPTION OF THE INVENTION

Şekillerin açıklaması:

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Fig.1: Overall appearance of machine

Fig.2: Overall appearance of machine

Fig. 3: Front and rear view of drilling unit

Fig.4: Overall appearance of drilling unit

Fig. 5: View of drilling staples sectional

Fig.6: Overall appearance of cutting unit

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Fig.7: Front and rear view of plastic molded fiber supply and shut-off

Fig.8: Overall appearance of the docking unit

Fig.9: View of the docking unit

Fig.10: Cross-sectional view of the docking unit staples

5 **Fig.11:** Overall appearance of plastic molded fiber

Fig. 12: Overall appearance of plastic and cardboard molded fiber

Fig 13: Overall appearance of plastic and cardboard on top of molded fiber

Explanation of reference numbers in the figures:

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- (1) inputs
- (2) Drilling unit
- (3) Cutting unit
- (4) Plastic molded fiber supply and shut-off

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- (5) Clamping unit
- (6) Conveyor output
- (7) The upper die
- (8) Old punch
- (9) Pneumatic piston

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- (10) Pneumatic pistons
- (11) Stop blade
- (12) Pneumatic pistons
- (13) Stop blade
- (14) Strip blade motor

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- (15) Strip blade
- (16) Pneumatic pistons
- (17) Pneumatic pistons
- (18) Stop blade
- (19) Pneumatic pistons

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- (20) Pneumatic suction
- (21) Pneumatic pistons
- (22) Pneumatic pistons
- (23) Pneumatic pistons
- (24) Stop blade

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- (25) Pneumatic pistons
- (26) Pneumatic pistons
- (27) Pneumatic pistons
- (28) Stop blade

- 5 (29) Old punch
- (30) Staple sleeve
- (31) The heated upper punch
- (32) Clamp
- (33) Plastic molded fiber
- 10 (34) Cardboard molded fiber
- (35) Plastic molded fiber pin
- (36) Cardboard molded fiber pin hole

15 The machine engages a molded fiber of 30 cardboards (34) and a molded fiber of 15 cardboards formed by cutting in half the molded fiber of 30 in the machine with superimposed plastic molded fiber (33) in the clamping unit (5). Plastic molded fiber (33) is in position to cover and the eggs would be visible.

20 Because cardboard molded fiber (34) comes free of egg producers packaging cost is reduced by the like and the eggs are not exposed to any high temperatures they become longer life.

25 As shown in Figure 3, egg- filled cardboard molded fiber (34) being located at side of the entrance of the conveyor (1) is based to stop blades (11) lifted by pneumatic piston (10). When pneumatic piston (10) stepped down with stop blade (11), cardboard molded fiber (34) enters punching unit (2) in the direction of thick arrow. (All thick arrows are input directions of cardboard and plastic molded fibers to the unit.). It is based the stopper blades (13) that have been removed with pneumatic piston (12).

30 As shown in Figures 4 and 5, wherein the cardboard molded fiber (34) lifted with a pneumatic piston (9) is drilled between the upper punch (7) and lower punch (8) in the punching unit (2).

35 As shown in Figure 6, if the pierced cardboard molded fiber (34) will be made the two 15 by cutted from the center, it is based on the stopper blade (18) rose with pneumatic piston (17) in the cutting unit (3). Here the cardboard molded fiber (34) which can be raised with a pneumatic piston (16) is cut into two parts in the middle by the band saw (15) rotated by the electric motor (14). If it is not cut, it goes directly from the unit.

5 Cardboard molded fibers cut or not cut (34) comes to automatic capping unit (4) as shown in figure 7 is based on the stopper blade (24) rose with pneumatic piston (23). Pinned (35) plastic molded fiber (33) is arranged on the cardboard molded fiber (34) lifted with pneumatic cylinders (19) and holes drilled in the punching station (36) of cardboard molded fiber (34) by the plate of rotary pneumatic suction cups (20) 180 ° rotating with a pneumatic piston (21) and again movable up and down with a pneumatic piston (22) and goes to the clamping unit (5).

Molded fiber cardboard (34) from the clamping unit (5) and the plastic molded fiber (33) is based on the stopper blade (28) raised with pneumatic piston (27) as shown in figure 8. Cardboard molded fiber (34) and the plastic molded fiber (33) is lifted up by fitting in the lower punch housing (30) and through a pneumatic piston (25). Pins (35) of plastic molded fiber (33) inserted in openings (36) on cardboard molded fiber (34) was heated to 50-60 ° C and is clamped in the hole (36) being crushed (32) between the movable upper punch (31), and the lower punch (29) with a pneumatic piston (26) as seen in Figures 9 and 10. Interdigitated egg filled cardboard (34) and the plastic molded fiber (33) is removed from the output the conveyor (6).

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CLAIMS

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1. The invention is a new technology in the packaging machine, and characterized in having inputs (1), the drilling unit (2), cutting unit (3), the supply and shut-off device (4), the clamping unit (5), the conveyor outlet (6), the upper punch (7), the lower punch (8), air the piston (9), the pneumatic piston (10), sweeper blade (11), the pneumatic piston (12), sweeper blade (13), the tape blade motor (14), the tape blade (15), the pneumatic piston (16), the pneumatic piston (17), sweeper blade (18), the pneumatic piston (19), pneumatic suction cups (20), the pneumatic piston (21), the pneumatic piston (22), the pneumatic piston (23), sweeper blade (24), the pneumatic piston (25), the pneumatic piston (26), the pneumatic piston (27), sweeper blade (28), the lower punch (29), the staple housing (30), a heated upper punch (31), the bracket (32), plastic molded fiber (33), molded fiber cardboard (34), plastic molded fiber pin (35), cardboard molded fiber pin hole (36).
2. The invention is a new technology in the packaging machine as claimed in Claim 1, and **characterized in** composing of processing steps that;
 - egg filled cardboard molded fiber (34) on the entrance of the conveyor (1) comes to stop blade (11) that has been removed by the pneumatic piston (10) and the stopper blade (11) enters the punch unit when stepped down by pneumatic cylinders (10),
 - it is based on the stopper blade (13) raised with pneumatic piston (12) in the drilling unit and the cardboard molded fiber (34) lifted by the pneumatic piston (9) is drilled between the (2) the upper punch (7) and lower punch (8) in punching unit.
 - Stopping the drilled cardboard molded fibers (34) which will become at least two separate molded fiber by cut from the center with the stop blade (18) lifted up by pneumatic piston (17) in cutting unit (3),
 - Cardboard molded fiber (34) which can be raised with a pneumatic piston (16) in cutting unit is cut at least two parts an electric motor (14) band saw (15),
 - cardboard molded fibers (34) not to be cut pass directly from this unit,
 - Cardboard molded fibers cut or not cut (34) come to automatic capping unit (4) and is stopped by the stopper blade (24) rose with pneumatic piston (23).

- 5 - Pins (35) of plastic molded fiber (33) are arranged on the cardboard molded fiber (34) lifted with pneumatic cylinders (19) and holes drilled in the punching station (36) of cardboard molded fiber (34) by the plate of rotary pneumatic suction cups (20) 180 ° rotating with a pneumatic piston (21) in automatic capping unit (4) and again movable up and down with a pneumatic piston (22) in and goes to the
- 10 clamping unit (5).
- Cardboard molded fiber (34) coming to clamping unit (5) and plastic molded fiber (33) is based on stop lama (28) removed by pneumatic piston (27) and cardboard molded fiber (34) and the plastic molded fiber (33) are lifted up by fitting in the
- 15 lower punch housing (30) and through a pneumatic piston (25), pins (35) of plastic molded fiber (33) inserted in openings (36) on cardboard molded fiber (34) was heated to 50-60 ° C and is clamped in the hole (36) being crushed (32) between the movable upper punch (31), and the lower punch (29) with a pneumatic piston (26),
- 20 - Interlocked egg filled cardboards (34) and the plastic molded fiber (33) will be taken from the output of the conveyor (6).