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DEVELOPMENT FOR ASSEMBLING COLLAPSIBLE EGG CARTONS

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DEVICE FOR ASSEMBLING COLLAPSIBLE EGG CARTONS

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5 Claims. (Cl. 93—37)

1. This invention relates in general to a carton assembler and is more particularly described as an assembling device for egg cartons, although it may have a more general use for other purposes.

Cartons for containing eggs and similar articles are usually formed of cardboard or other similar material supplied in partially assembled flat folding pieces to occupy a minimum of space when not in use. When it is desired to use the carton, it is partially set up and extended, and is held in distended position by one or more partitions inserted in openings and having notches engaging other partitions of the carton for separating the eggs and to hold the carton in distended position. Because of the number of slots and perforations which must be engaged in assembling an ordinary egg carton, it is not an easy matter to extend or set up a carton of this kind ready for use.

The present invention is therefore designed and intended to provide an assembly form for receiving cartons in partially extended form, to hold them in place, to provide a support for the lid of the carton while it is being assembled, and to retain a portion of the carton in place so that a partition may be readily assembled in the carton which is thus firmly retained in position.

An important object of the invention is to provide an assembling form or device for receiving one or more different cartons.

A further object of the invention is to provide an assembling device adapted to receive cartons of somewhat different form or construction.

A further object of the invention is to provide a carton assembling device having a common rest or support for cartons at either side thereof.

Another object of the invention is to provide a carton assembling device of new and improved construction characterized by simplicity of design so that cartons can be assembled quickly and easily therewith.

Other objects of the invention and various advantages and characteristics of the present assembling device will be apparent from a consideration of the following detailed description.

The invention consists in the several novel features which are hereinafter described and more particularly defined by the claims at the conclusion hereof.

In the drawings which accompany and form a part of this specification or disclosure and in which like letters and numerals of reference denote corresponding parts throughout, the several views:

Figure 1 is a perspective of an assembly device in accordance with the present invention.

Figure 2 shows the assembly device of Figure 1 with an egg carton partially assembled and seated therein;

Figure 3 is a perspective of a partition insertible in the carton of Figure 2;

Figure 4 is a similar view of the assembler with a carton completed by the insertion of a partition as shown in Figure 3 therein;

Figure 5 is a sectional view taken on the line 5—5 of Figure 4; and

Figure 6 is a transverse section taken on the line 6—6 of Figure 4.

Although only one form of egg carton is shown in the accompanying drawings, it will be understood that this assembler may be applied equally well to cartons of different form or construction, or of different size since the invention is not directed particularly to the form of the carton but rather to the form and construction of the assembler.

Referring now more particularly to the drawings, this assembler comprises a base or bottom 10 with upstanding opposite sides 11 and 12, one of the sides 11 being at right angles to the bottom, and the other 12 making a slightly obtuse angle with the inside of the bottom.

Secured to the bottom, between and parallel to the sides is a central support 13 held above the base: 10 by sides 14 and 15. These sides are secured both to the bottom and to the under side of the support 13 at the edges thereof, the height of the sides being substantially the same as that of the outer sides: 11 and 12 so that the support 13 is raised the thickness of the support above all of the sides. One of the sides 14 is preferably disposed at right angles to the bottom and the support 13 and adjacent and parallel to the outer side 11. The other supporting side 15 is likewise secured to the bottom and to the support 13 at an angle thereto substantially the same as that which the outer side 12 makes with the bottom and at an opposite direction thereto.

With this construction, a double trough is provided, one having straight sides and the other having inclined sides, with a common support between them.

The receiving troughs provided by the assembler are for the purpose of seating therein cartons of corresponding shape and size when they are completely set up or assembled. Ordinarily cartons such as those for containing eggs are shipped in folded or knock-down condition and in at least two parts, one being an outer con-
containing 16 with sides 17 and 18 extending therefrom, one of which terminates in a cover 19 with engaging undercut flaps 20. In the container is a lower partition 21 spaced above the bottom having a row of central longitudinal slots 22 and an upper partition 23 having downwardly foldable flaps 24 with slots 25 in their upper edges when turned downwardly.

A carton of this kind is set into one of the assembly troughs and the sides extended in a well-known manner to fit the trough with the upper partition and foldable flaps 24 then appearing as shown in Figure 2.

A separate longitudinal partition 26 is also provided which must be inserted within the carton to hold the carton in distended position. This longitudinal partition has recesses 27 opening from the lower edge and corresponding in number to the foldable flaps 24 of the carton with a notch 28 at one side of each recess adapted to engage in the longitudinal slots 22, when the lower extremities 31 of the partition between the recesses are inserted through the slots 22.

To set up a carton, the flaps 24 are turned downwardly about fold lines 29 at one edge of angular portions 30 of the partition 23 so that the slots 25 extend upwardly. These flaps space the opposite sides 17, 18 apart and form double containers for eggs in the carton, and the insertion of the partition 26 divides this space into separate containers for eggs. The lower extremities 31 of the partition are inserted through the perforations 22, the recesses 27 then engaging in the notches 25 of the flaps 24 and holding these flaps in rigid upright position, first drawing the flaps rearwardly in a slightly inclined position as indicated in Figure 4, and then pushing the partition oppositely until the notches 28 of the partition engage with the slots 22 as shown more clearly in Figure 5.

In this position, the partition 26 is locked in place, the cross partitions formed by the flaps 24 are locked in place by the longitudinal partition and the carton may be removed from the assembling trough ready to receive eggs or other articles for which it is intended.

In closing the carton, the cover 10 is turned over until the undercut tongues 20 may be inserted between the partition 23, the undercut extremities being bent inwardly and then springing outwardly under the angular portions 30, thus locking the cover in place. The particular form of the carton is not material to the present invention, it being sufficient that the carton is extensible, has extensible parts, and requires the application or insertion of some other part in order to set up or complete the carton.

Different forms of cartons when set up require different assembly troughs, and in order to make this device more applicable to different cartons, one trough has straight sides and another has sides which converge slightly downward. By providing the intermediate platform or support 13, the assembler may be used from either end; that is, when assembling cartons in one trough, the cover will fold over on top of the support and may be engaged by one hand of the operator to hold the carton in place as the partition is applied thereto; if the opposite trough is used, the cover will fold over in the opposite direction upon support 13 for engagement by the hand of an operator. If the same hand is used for both of such engagements, the operator will be more conveniently located at one end of the assembler for one trough and at the other end of the assembler for the other trough.

In this assembling block or form, the carton is held firmly in position so that the bendable parts are not easily torn, distorted or moved out of place the other side easier to apply the locking partition and to hold the parts in their proper relation while the partition is being applied and locked in place. The pressure of one hand of the operator upon the cover is sufficient to hold the carton tightly in one of the assembly troughs and the carton is easily removed by pulling up on the cover when the assembling operation is completed. With this construction, cartons may be assembled more quickly and without danger of tearing or otherwise damaging the cartons, thus resulting in greater speed of assembly at less cost per carton.

The invention is not to be understood as restricted to the details set forth since these may be modified within the scope of the appended claims without departing from the spirit and scope of the invention.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent is:

1. An assembler for folding egg cartons, comprising a base having a raised support, and means attached to the base at each side of the support for receiving and limiting the unfolding of a carton to be assembled therein.

2. A carton assembler for collapsible egg cartons, comprising a base with a central raised support, means secured to the base and extending parallel to the sides of the support forming troughs for receiving cartons therein and limiting the unfolding movement thereof, one of the troughs having inclined sides converging toward the bottom.

3. A carton assembler for extensible collapsible egg cartons, comprising a supporting base, a pair of supports extending upwardly from the base at right angles thereto, another pair of supports extending upwardly from the base parallel to and spaced from the first set of supports but inclined slightly to the base and to each other in an outwardly flaring direction, each pair of supports with the base forming a receiver for limiting the extension of a carton therein, and a connecting top plate between the adjacent side supports of each of the troughs.

4. The combination in an assembler for extensible and foldable cartons of different shapes, each having a hinged cover, of an assembly block therefor having troughs of different shapes corresponding to the cartons and limiting their extensible movement, and a common support between troughs of different sizes to engage the covers of the cartons when turned thereover for holding the carton in assembling position in its respective trough.

5. A carton assembly structure for collapsed extensible egg cartons, comprising a base, upright side pieces secured to opposite sides of the base, one side piece being at right angles to the base and the other side piece being inclined to form a slightly obtuse angle with the base, an intermediate support having side pieces at its edges for connecting it to the base at the level of the two outer sides, one of the side pieces of the support being at right angles to the base and the other side piece of the support being at a right angle to the base and opposite to the angle of the side piece secured at the edge of the base, the connected side pieces forming a trough at
each side of the central support for receiving and limiting the extensible movement of a carton therein to be assembled and the intermediate support to engage the cover of a carton in either one of the troughs.

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