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METHODS OF ASSEMBLING CARTONS AND RESULTING CARTON PRODUCTS

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FIG. 1.

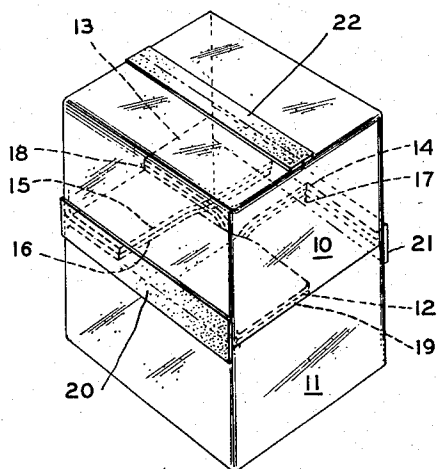


FIG. 2.

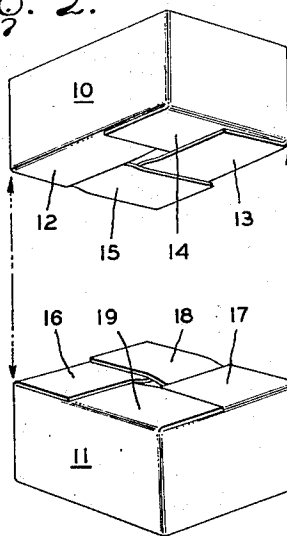
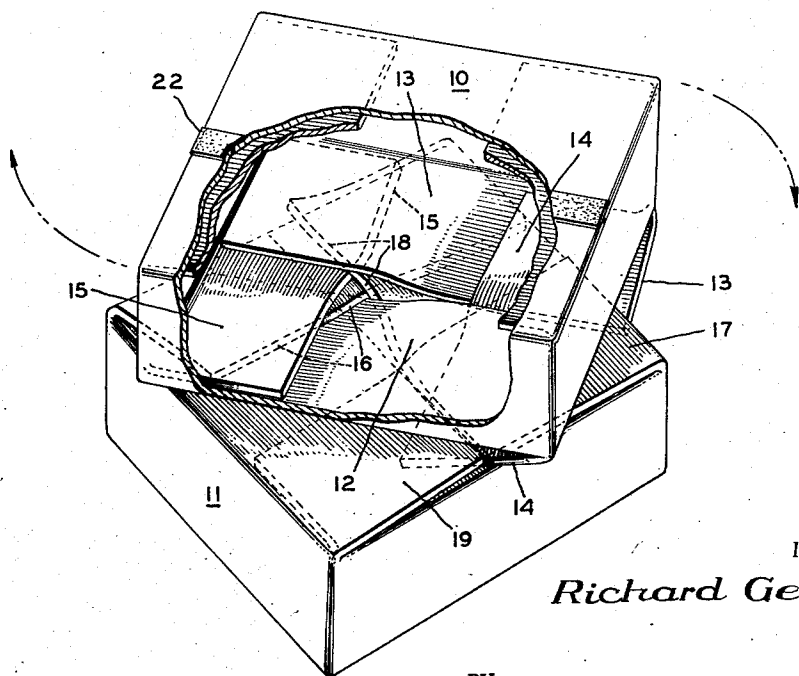


FIG. 3.



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METHODS OF ASSEMBLING CARTONS AND RESULTING CARTON PRODUCTS

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8 Claims. (Cl. 229—15)

This invention relates to methods for assembling cartons and to the assembled carton products. More particularly this invention relates to methods for assembling cartons in which the flaps of smaller carton units are alternately interleaved and thereafter such interleaved flaps of at least two such smaller carton units are rotated into interlocked position to assemble the larger carton product.

In the marketing of commodities up to the retail level it has proved economical to handle cartons which contain a large number of packages since handling of large cartons is cheaper and the large cartons stack easier. At the retail level smaller cartons are desired containing a smaller number of packages because of limited shelf space at the retail store, because it is difficult for retailers to handle or store partly filled cartons and because the retail volume at the store may not demand a large number of packages of the commodity.

To solve this problem various designs of cartons have heretofore been proposed in which two or more smaller carton units are made up into larger cartons. These larger cartons can be broken up at the retail level into the smaller units to satisfy the demands of the retailer.

Certain of the cartons of this type, as heretofore proposed, have required special equipment for manufacture and have used excessive amounts of corrugated paper board resulting in undue expense and cost to the user. The complicated structures proposed for such cartons are difficult to assemble and to disassemble.

The disadvantages of these prior art cartons have been overcome by the present invention without adding to the cost of the conventional individual carton units and the resulting carton is easy to assemble and to disassemble while, at the same time, providing in the disassembled units easy opening carton units.

It is accordingly an object of the present invention to provide novel methods for assembling carton units into a larger carton in which the closure flaps of a carton unit are first alternately interleaved and then are rotated beneath similarly alternately interleaved closure flaps of another carton unit to lock the carton units into assembled position to form a larger carton of as many units as may be required.

Another object is to provide a novel unitary carton made up of at least two smaller carton units in which the closure flaps of one end of one unit are alternately interleaved and are then interlocked with interleaved closure flaps of an end of another carton unit to form a larger carton.

Another object is to provide such a carton which is relatively inexpensive to assemble costing little more than the conventional individual carton units from which it is fabricated.

Another object is to provide such a carton which is easy to assemble and to disassemble and which provides in the disassembled individual carton units easy opening cartons.

Another object is to provide such methods and resulting

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carton products which require no special machinery or apparatus to practice or to assemble or disassemble the cartons which require no additional corrugated paper board and which require no training to use and operate.

Other and further objects of the present invention will appear from the following description of an illustrative embodiment of the same.

The methods of the present invention are capable of various procedural modifications and the resulting carton products are capable of various mechanical embodiments. A preferred method for carrying out the present invention and one embodiment of the resulting carton product are described hereinafter to illustrate this invention. This illustrative method and carton product are descriptive only and should not be construed as a limitation of the invention.

In the accompanying drawing, in which like reference characters indicate like parts, Fig. 1 is a view of one embodiment of an assembled unitary carton product of the present invention showing the interlocking arrangement of the closure flaps in dotted lines;

Fig. 2 is an exploded view of the embodiment of Fig. 1 showing a method for alternately interleaving the closure flaps of opposed ends of the pair of carton units before assembling them into the carton product; and

Fig. 3 is a partially assembled view of the pair of carton units of Figs. 1 and 2 showing a method of interlocking the alternately interleaved flaps of the two carton units.

Referring now to Figs. 1-3, 10 and 11 are a pair of carton units which are to be assembled into a carton product in accordance with the present invention. It is to be expressly understood that more than two such carton units 10 and 11 may be employed to assemble as large a carton as may be required and that two such carton units 10 and 11 are employed herein only for purposes of illustration. Carton unit 10 is provided with conventional long end closure flaps 12 and 13 and short end closure flaps 14 and 15, if the carton unit is rectangular in shape, it being understood that these flaps will be of equal length if the carton is square in cross section. Carton unit 11 is provided with long end closure flaps 16 and 17 and short end closure flaps 18 and 19. Here, again, it is to be understood that these flaps may be of equal lengths if carton unit 11 is square in cross section, both units 10 and 11 being of similar dimensions.

The flaps 12, 13, 14, and 15 of unit 10 are alternately interleaved, as shown, that is, flap 12 is tucked under flap 14, flap 14 is tucked under flap 13, flap 13 is tucked under flap 15, and flap 15 is tucked under flap 12. Flaps 16, 17, 18 and 19 of carton unit 11 are also similarly alternately interleaved, that is, flap 16 is tucked under flap 18, flap 18 is tucked under flap 17, flap 17 is tucked under flap 19, and flap 19 is tucked under flap 16. By similarly it is meant that the two box tops, when viewed from above, will have the same arrangement with respect to the overlapping or tucking of the flaps, so that when one box is inverted, the two box tops will intermesh as hereinafter set forth. It will be understood that when the expression "alternately interleaved" is used hereinafter in this description and in the claims that this tucking arrangement of the end closure flaps of the individual carton units is meant.

When it is desired to form a unitary carton out of carton units 10 and 11, unit 10 is placed on top of unit 11 and angularly with respect thereto, as seen in Fig. 3, with the alternately interleaved end closure flaps in contact. Carton unit 10 is then rotated in a clockwise direction. Clockwise rotation of unit 10 engages flap 15 under flap 18, engages flap 13 under flap 17, engages flap 14 under flap 19, and engages flap 12 under flap 16. Clockwise

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rotation of unit 10 is continued until the two units 10 and 11 form a unitary carton product with corresponding sides falling in the same planes. Thereafter tapes 20 and 21 may be applied to opposite sides of the resulting carton product to secure opposite adjacent edges of said units to prevent accidental rotation of one carton unit with respect to the other to disassemble the carton product.

The closure flaps of the top of carton unit 10 and of the bottom of carton unit 11 may be closed and taped, as by tape 22, in a conventional manner to form a tight and sealed end closure for each.

When it is desired to disassemble the carton product tapes 20 and 21 are removed and unit 10 is rotated in a counterclockwise direction with respect to unit 11 to disengage the alternately interleaved flaps of each. Carton units 10 and 11 may then be placed so that the ends closed by the alternately interleaved flaps are upward. These ends may now be readily opened since they are not sealed, thus providing an easy opening carton unit.

It should now be apparent to those skilled in the art that the present invention in every way satisfies the several objectives described above. Changes in or modifications to this illustrative method and resulting carton product may now be suggested without departing from the present inventive concept and reference should be had to the appended claims to determine the scope of this invention.

What is claimed is:

1. In a method for assembling a carton the steps of closing an open end of a carton unit by alternately interleaving the flaps thereof, closing an open end of another carton unit by alternately interleaving the flaps thereof, said ends of said two carton units being of substantially the same size and shape and having similarly arranged flaps, superimposing the carton units with their interleaved closed ends in contact, and rotating one of the carton units with respect to the other to engage each flap of one under an adjacent flap of the other.

2. In a method as described in claim 1 the step of securing the carton units in assembled position by taping together opposite adjacent edges of said units.

3. In a method for assembling a carton from at least two carton units of rectangular shape and substantially

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the same size and having similarly arranged flaps, the steps of closing open ends of the carton units by alternately interleaving the flaps of each open end, superimposing the carton units with interleaved closed ends in contact and then rotating the carton units with respect to each other to engage each flap of one end of one carton unit under an adjacent flap of the next carton unit.

4. In a method as described in claim 3 the step of securing the carton units in assembled position by taping together opposite adjacent edges of said units.

5. In a method as described in claim 3, continuing rotation of the carton units to complete the engagement of the flaps and until corresponding sides of each carton unit lie in the same plane.

6. In a carton, at least two carton units having juxtaposed ends, a single unitary flap hinged to each side wall at said juxtaposed end of each unit, a first free marginal end portion of each flap being positioned over a portion of the flap adjacent thereto and the second free marginal end portion of each flap being positioned beneath a portion of the flap adjacent thereto, said alternately interleaved flaps closing said juxtaposed end of each unit, said units having said closed ends juxtaposed and the first flap portions of each unit being positioned between overlying first and second flap portions of the other unit.

7. A carton as defined in claim 6, said units being substantially rectangular and of substantially the same size with corresponding sides in the same plane with each other.

8. A carton as defined in claim 7, including tapes sealing together the adjacent marginal portions of co-planar sides of said units.

References Cited in the file of this patent

UNITED STATES PATENTS

397,475	Tiffany	Feb. 5, 1889
2,487,293	Belsinger	Nov. 8, 1949

FOREIGN PATENTS

23,602	Great Britain	1910
452,251	Great Britain	Aug. 19, 1936