Aug. 8, 1950 R. J. CODY 2,517,767

SHIPPING AND DISPLAY BOX

Filed Jan. 28, 1948

Fig. 1.

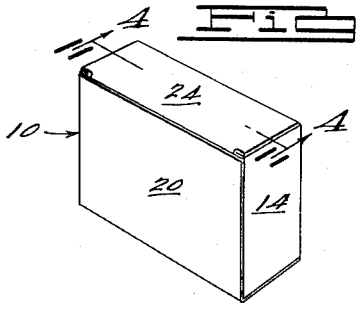
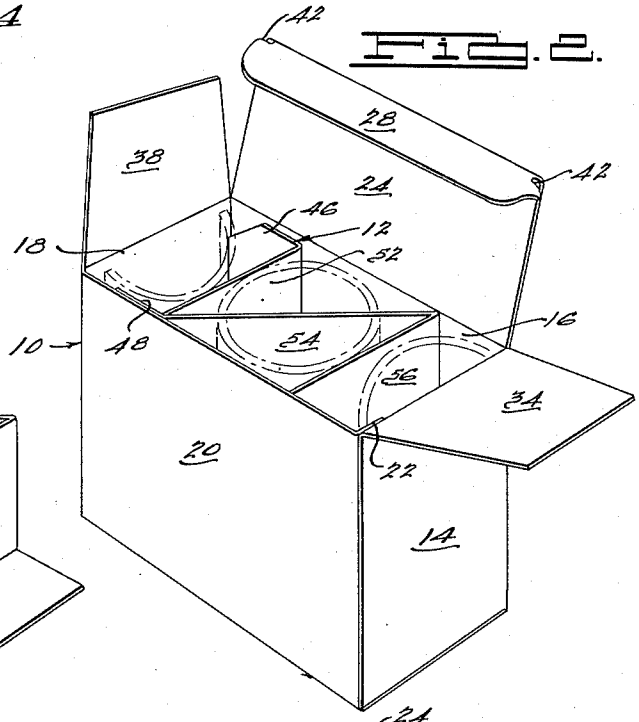


Fig. 2.



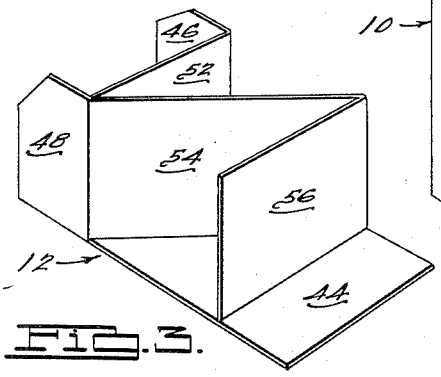


Fig. 3.

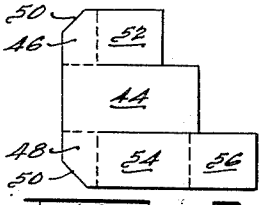


Fig. 5.

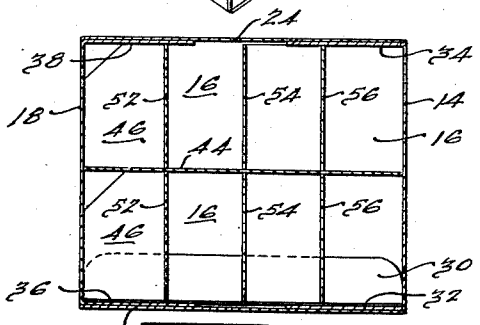


Fig. 4.

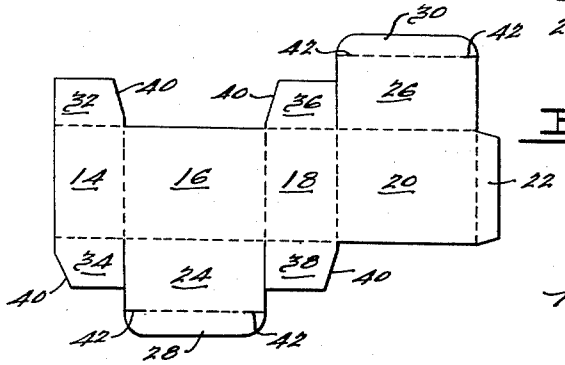


Fig. 6.

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SHIPPING AND DISPLAY BOX

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1 Claim. (Cl. 229—42)

1

This invention relates to new and useful improvements in cartons of foldable sheet material such as cardboard, pasteboard, fiberboard and the like.

An important object of the present invention is to provide a carton of the above-mentioned character that can be used both as a shipping and as a display container for various small articles of manufacture.

Another object of the invention is to provide a carton of the above-mentioned character which is primarily adapted and pre-eminently suited for packaging, shipping and displaying crankshaft bearings.

Still another object of the invention is to provide a carton of the above-mentioned character which is uniquely partitioned so that each of the articles contained therein is separated from the other of said articles.

Yet another object of the invention is to provide a carton of the above-mentioned character wherein the partitions are uniquely arranged and correlated to display the articles in a pleasing and attractive manner.

A further object of the invention is to provide a carton of the above-mentioned character which comprises separate box and partition units and wherein one or a plurality of partition units may be mounted in each box.

A still further object of the invention is to provide a carton of the above-mentioned character wherein the box and each of said partition units is separately fabricated from a single uniquely shaped blank of foldable sheet material.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the drawing forming a part of the specification, wherein like numerals are employed to designate like parts throughout the same:

Fig. 1 is a perspective view illustrating the top and two sides of a carton embodying the invention and particularly showing the top in closed position;

Fig. 2 is a perspective view similar to Fig. 1 but with the top open to show the arrangement of the partition walls and to illustrate the attractive manner in which articles contained in the carton are displayed when the top is open;

Fig. 3 is a perspective view of a partition unit embodying a part of the invention;

Fig. 4 is a vertical, longitudinal sectional view taken on the line 4—4 of Fig. 1;

Fig. 5 is a plan view of a blank from which a partition unit comprising a part of the carton can be fashioned; and

2

Fig. 6 is a plan view of a blank from which the outer box unit comprising a part of the carton can be fashioned.

Broadly, the carton embodying the present invention comprises a box 10 (Fig. 1) which contains one or a plurality of superposed partition units 12 (Fig. 3). The box 10 here shown is adapted to contain two of the partition units 12 stacked one on top of the other; however, it will be readily apparent that by making the box correspondingly deeper, any reasonable number of partition units 12 can be placed therein. As suggested, both the box 10 and the partition units 12 conveniently can be made of cardboard or the like, but it is contemplated that any suitable material may be used.

The carton here shown is primarily adapted and pre-eminently suited for packaging crankshaft bearings. Each crankshaft bearing conventionally is formed of two complementary semi-cylindrical shells, and according to the present invention the partition units 12 subdivide the box 10 to provide a separate compartment for each bearing shell. Moreover, the partition walls are arranged so that each bearing shell is snugly received therein and in such manner that the shells are attractively presented for maximum sales appeal when the box 10 is opened. The bearing shells are made of metal, whereas the box 10 and partition units 12 probably will be made of relatively lightweight cardboard. Thus, it is desirable to hold each shell snugly in its respective compartment in order to prevent the same from rattling around and rupturing the walls of the carton during handling or shipment. Also, by providing a snug fit for the bearing shells, a maximum economy of material from which the carton is made is achieved and a lightweight, compact carton is obtained. Moreover, this arrangement obtains a lightweight, compact carton which maintains shipping costs at a minimum.

In the form of the invention here shown, each partition unit 12 is adapted to accommodate two complete crankshaft bearings or four of the individual bearing shells. Since the two partition units 12 are stacked one upon the other in the box 10, the carton here shown will accommodate four complete crankshaft bearings or eight of the individual shells.

The box 10 here shown is generally conventional in construction in that it has four side walls, a bottom, and a cover; and the side walls at the ends or transverse edges of the cover and bottom are provided with flaps which fold inwardly in the usual manner when the cover and

bottom are closed. In general, the box 10 may be of any suitable or conventional design or construction as long as it is of requisite size. A suitable box construction is here shown by way of illustration. The blank from which the box 10 is formed is shown in Fig. 6. This blank comprises four side-wall panels 14, 16, 18, and 20 integrally connected together and arranged in series relation. The side-wall panel 20 is provided along one edge thereof with a flap 22 which is folded inwardly and against the outer marginal portion of side wall 14 when the box is assembled. All the side-wall panels 14, 16, 18, and 20 are uniform in width. The alternate side-wall panels 14 and 18 are identical in size and shape, as are the other two alternate panels 16 and 20. The last-mentioned panels 16 and 20 here shown are approximately twice as long as the other panels 14 and 18, but this relationship may not be critical in every instance.

Cover panels 24 and 26 are integrally attached to and extend in opposite directions from the longitudinal edges of side-wall panels 16 and 20, and the cover panels are provided along the outer longitudinal edges thereof with the usual flaps 28 and 30. Side flaps 32, 34, 36 and 38 extend in opposite directions from both sides of the side-wall panels 14 and 18. All the side flaps 32, 34, 36, and 38 have beveled edges 40. When the box is formed the flaps 32 and 36 are folded inwardly under the cover 26, and the cover is folded downwardly thereon with the flap 30 between the side wall 16 and the adjacent edges of the flaps. Similarly, the flaps 34 and 38 are folded inwardly under the cover 24, and the cover is folded downwardly thereon with the flap 28 inserted between the side wall 20 and the adjacent edges of the flaps. In this connection, it will be observed that both covers 24 and 26 are provided with slots 42 which extend inwardly for limited distances from opposite sides thereof along the fold lines which separate them from the flaps 28 and 30. When flaps 28 and 30 are inserted behind the opposite side walls in the manner hereinabove described, the slots 42 interlock with the adjacent edges of the side flaps to hold the covers closed.

Each partition unit 12 comprises a bottom panel 44 which is generally rectangular in form and of a size to fit snugly within the box 10 (Fig. 5). At opposite sides of the bottom panel 44 are side-wall panels 46 and 48 which extend from one end of the panel 44 and along approximately one fourth of its length. Both side-wall panels 46 and 48 are of equal width, and this dimension is determined by the height of the articles to be packaged. If desired, the outer corners of the side-wall panels 46 and 48 may be chamfered as at 50. Integrally attached to the inner side edge of the side-wall panel 46 is a transverse partition panel 52. The latter panel 52 is the same width as the side-wall panel to which it is attached, and its length is equal to the width of the bottom panel 44. Correspondingly attached to the inner side edge of the side-wall panel 48 in a diagonal partition panel 54, and integrally attached in series relation to the latter panel is a second transverse partition panel 56. The second transverse partition panel 56 is identical in size and shape to the transverse partition panel 52 first described. The diagonal partition panel 54 is the same width as the side-wall panel 48 and the transverse partition panel 56 to which it is attached, and it is sufficiently long to extend diagonally between points spaced

inwardly from the ends of the bottom panel approximately one fourth of its total length.

To assemble the partition units, the side-wall panels 46 and 48 are bent upwardly substantially at right angles to the bottom panel 44. The transverse partition panel 52 is swung inwardly across the bottom panel and into abutting relation with the opposed side-wall panel 48. The diagonal partition panel 54 is then bent diagonally across the bottom panel behind the transverse partition panel 52, and the second transverse partition panel 56 is bent reversely, transversely across the bottom panel 44, as shown in Fig. 3. This entire unit can then be inserted downwardly into the box 10, as shown in Fig. 2, after the bottom of the latter has been closed.

When crankshaft bearings are packaged in the carton, they preferably are arranged as shown by broken lines in Fig. 2. Separate bearing shells are placed in the two end compartments formed by the transverse partitions 52 and 56 with the axial edges thereof against the side walls 14 and 18 of the box, and two additional shells are placed in the middle compartment at opposite sides of the diagonal partition 54 with the axial edges thereof against the partition. When packaged in this manner, the bearing shells are snugly held by the various walls and partitions which bound the compartments, and each bearing shell is separated and protected from the others. Also, the shells are arranged symmetrically in the box and make an attractive display when the latter is opened.

When the first partition unit has been inserted in the box and the bearing shells or other articles have been inserted in the various compartments in the manner hereinabove described, a second identical partition unit 12 may be placed in the box 10 in superposed relation therewith and additional bearing shells or other articles similarly introduced therein.

To prepare the box for shipping, the side flaps 34 and 38 are folded downwardly on the top edges of the uppermost partition units and the cover 24 is closed and interlocked with the flaps in the manner hereinabove described.

Important features of this carton construction are its versatility and the ease with which it can be loaded. If desired, each partition unit 12 can be set up in a jig or form which holds it in shape, and the bearing shells or other articles then loaded in the unit in the manner hereinabove described. The partition units loaded with the bearing shells can then be picked up either manually or mechanically and placed in the boxes 10.

It is to be understood that the form of the invention herewith shown and described is to be taken as a preferred example of the same and that various changes in the size, shape, and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the appended claim.

Having thus described the invention, I claim:

A shipping, storage and display carton comprising a box; and a separate partition unit within said box, said partition unit provided with a generally rectangular bottom having opposite longitudinal edges, side walls integrally connected to said bottom along fold lines, said side walls being arranged transversely opposite each other and extending from one end of said bottom along the longitudinal edges thereof and for approximately one fourth the length of said edges, a first vertical partition integrally connected to the

inner vertical edge of one side wall along a fold line and extending transversely across said bottom between the inner vertical edges of said side walls, a second vertical partition integrally connected to the inner vertical edge of the other side wall along a fold line and extending diagonally across said bottom from one longitudinal edge to the other longitudinal edge thereof and from a point approximately one fourth the distance from one end of the bottom to a point approximately one fourth the distance from the other end of the bottom, and a third vertical partition integrally connected along a fold line to the vertical edge of said second partition remote from the side wall to which such partition is attached, said third partition extending transversely across said bottom from one longitudinal edge thereof to the other and disposed approximately one fourth the distance from the adjacent end of said bottom.

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