April 18, 1967

H. S. NOEL

3,314,713

PACKAGING DEVICE

Filed June 7, 1965

2 Sheets-Sheet 1

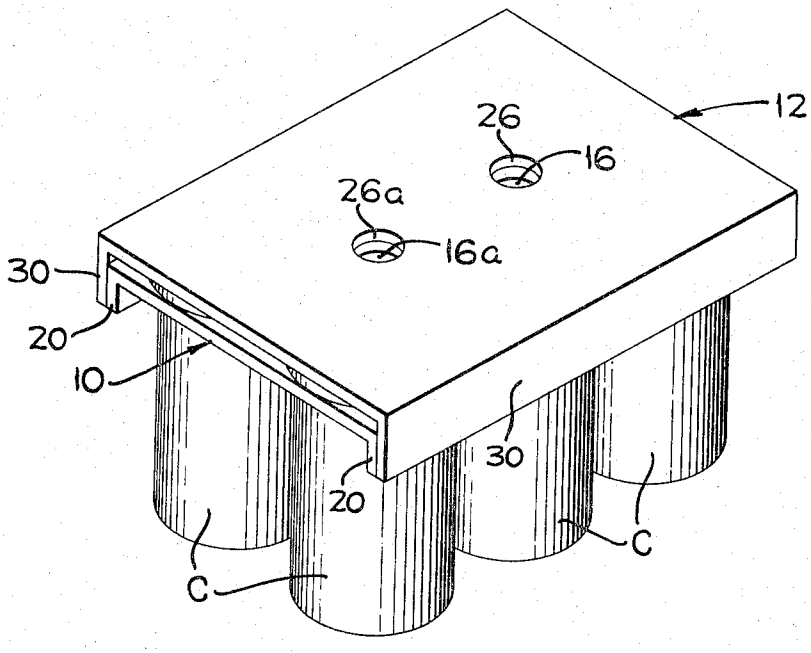
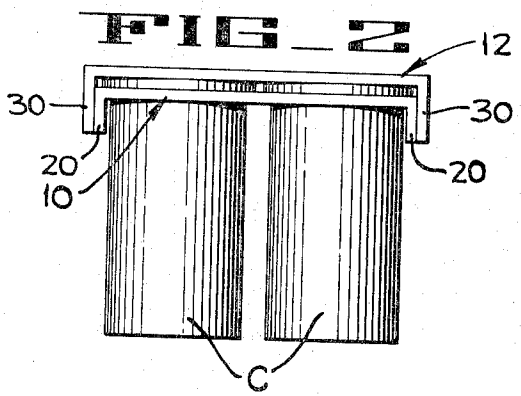


FIG_1

FIG_2



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Filed June 7, 1965 2 Sheets-Sheet 2

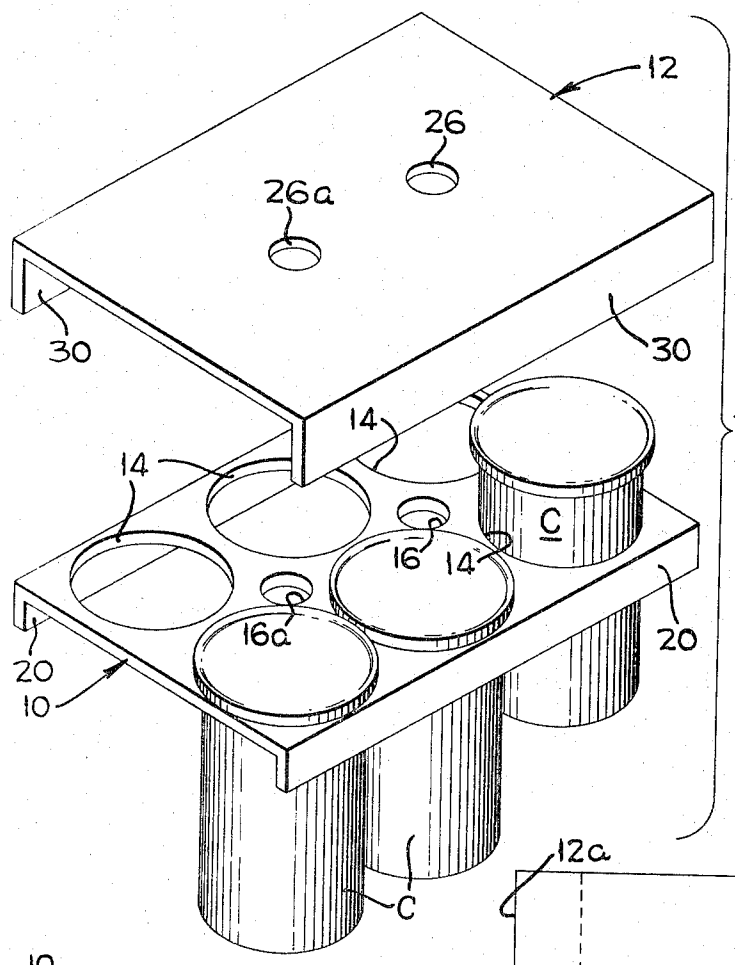

FIG_3

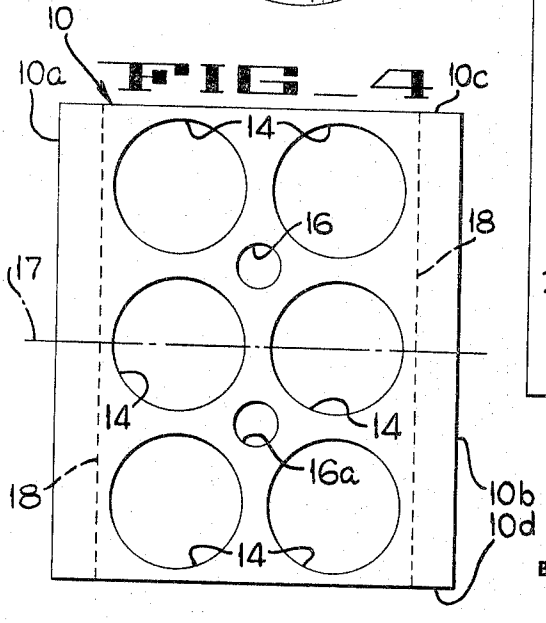

FIG_4

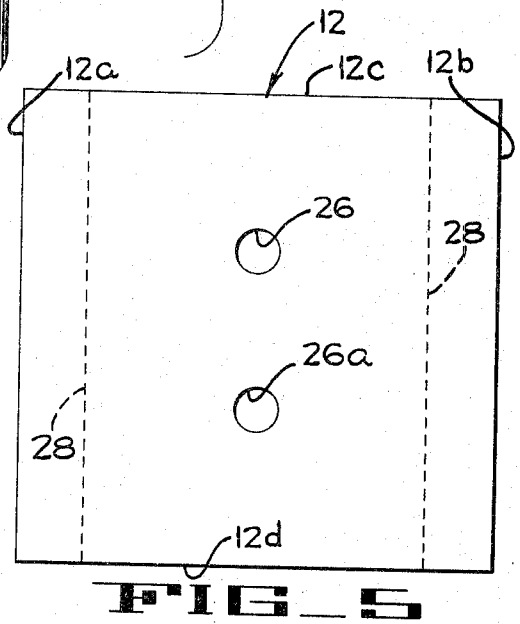

FIG_5

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3,314,713

PACKAGING DEVICE

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Filed June 7, 1965, Ser. No. 461,771
3 Claims. (Cl. 294—87.28)

This invention relates to packing devices and more particularly to carriers for holding a plurality of containers in a compact arrangement so that they may be effectively transported.

In general, the container cartons heretofore known have either not provided adequate strength for supporting the containers carried thereby or have required elaborate and expensive folding schemes for shaping the carton to conform to the dimensions of the container being carried.

It is an object of the present invention to provide a compact container carrier which is inexpensive to manufacture and assemble.

It is another object of the invention to provide a container carton which is of sufficient strength to withstand a reasonable amount of handling when supporting containers therein.

It is another object to provide a blank for use in forming a package which will support a plurality of containers and which is provided with a stiffening member located outside of the area which receives the containers to be carried.

It is still another object to provide a container carrier which utilizes a cover portion for keeping debris from the tops of the containers and providing additional support for the carton.

In principle, the invention embodies a stiff relatively inflexible sheet of material having a plurality of spaced apertures therein. The type of container with which the carton is to be used is one, such as an impact-extruded aluminum beer can, that has at one end an end closure that is larger in diameter than the body of the container. Thus the container receiving apertures in the stiff sheet are greater in diameter than the body portion of the containers but less than the bead or chime formed at the end of the container. The carton is not to be limited, however, to use with cylindrical cans as other forms of containers are contemplated. In addition, the container tops are kept clear of debris and the carton given added support by a further stiff inflexible sheet which is placed over the tops of the containers assembled in the carton and fastened to the first sheet.

The invention will best be understood by referring to the following detailed description and the accompanying drawings in which:

FIGURE 1 is an isometric of a carton in its assembled form and holding several containers.

FIGURE 2 is an end elevation of the assembled carton holding a plurality of containers.

FIGURE 3 is an exploded isometric of the carton partially filled with containers.

FIGURE 4 is a plan of one portion of the carton prior to being assembled.

FIGURE 5 is a plan of another portion of the carton shown prior to being assembled.

In general, the carrier or carton comprises a lower container-supporting carrier sheet **10** and an upper cover sheet **12**; the latter being effective to hold the containers C in place and adding support to the carrier sheet while keeping the tops of the containers free of debris.

In FIGURE 4 the carrier sheet **10** is shown, prior to being assembled into a carton, as a blank having side edges **10***a* and **10***b* and end edges **10***c* and **10***d*. The material of the carrier sheet may be any low cost sheet material which is relatively stiff, such as paper, cardboard

or plastic. In the preferred embodiment, a plurality of container-receiving apertures **14** are formed in the blank and positioned in two longitudinal rows which are spaced inwardly from the side edges of the carrier sheet blank. Other shapes for the carton are contemplated, for example the carrier sheet could be round or oval, and the container-receiving apertures could form patterns other than one consisting of two longitudinal rows. Spaced centrally between the rows of container-receiving apertures are two finger holes **16** and **16***a* which are equidistantly spaced from the end edges **10***c* and **10***d*, respectively, of the carrier sheet blank. It is important that the finger holes also be spaced equidistantly from the transverse center line **17** of the pattern of the container-receiving apertures so that the assembled and filled carton will be easily balanced during transportation thereof. Creases **18** (shown in dotted lines in FIG. 4) are provided on the underside of the blank just outside the rows of container receiving apertures **14**, and are used as guides for folding or bending the side edges downwardly to form strengthening flaps or flanges **20**.

As best shown in FIGURE 5, the cover sheet blank **12** has side edges **12***a* and **12***b* and end edges **12***c* and **12***d* and is made of relatively stiff sheet material, such as heavy paper, carboard or plastic, which may be of the same material that the carrier sheet blank is made of. The cover sheet may also be of thinner material but will be less effective for providing additional support. The cover sheet blank is provided with a set of finger holes **26** and **26***a* which are spaced from the end edges and the transverse centerline the same distance as the finger holes **16** and **16***a* of the carrier sheet blank such that, when the cover sheet blank is placed in mating relation with the carrier sheet blank, both sets of finger holes will be in alignment. As in the aforementioned carrier sheet blank **10**, the cover sheet blank is also provided with creases **28** (shown dotted in FIG. 5) on its undersurface to provide guides for folding or bending the side edges of the cover sheet blank to provide flaps or flanges **30** in a manner such that, when the cover sheet blank is placed in mating relation with the carrier sheet blank, the side flanges or flaps **30** will be disposed alongside the carrier sheet side flanges or flaps **20**. Thus, the cover sheet blank must be slightly larger than the carrier sheet blank and the cover sheet creases **28** must be spaced slightly farther from the longitudinal centerline of the cover sheet **12** than the creases **18** of the carrier sheet **10** are spaced from the longitudinal centerline of the carrier sheet to permit a mating relationship between the sheets.

In FIGURE 3 a partially filled carton is shown. The diameter of the cylindrical container-receiving apertures **14** in the carrier sheet is predetermined with respect to the container to be carried such that it is slightly larger than the diameter of the cylindrical body of the container but smaller than the diameter of the end closure of the container. As aforementioned, the containers to be used with the subject carton will not have a bottom closure which extends radially outwardly beyond the body of the container. This relationship occurs, for example, when the container is extruded. Thus as is shown in FIGURE 3 the container is slipped into its container-receiving aperture **14** with the bottom annular face of the end closure resting on the upper annular surface of the carrier sheet. When the carrier sheet is filled, the cover sheet is placed over the tops of the containers in alignment with the carrier sheet. The finger holes **26** and **26***a* of the cover sheet will then be in alignment with the finger holes **16** and **16***a* of the carrier sheet, and the flaps of both sheets will be in side-by-side relation.

After the cover sheet is placed over the tops of the containers, the side flanges or flaps are joined by stapling,

taping, gluing (as shown in FIG. 2), or by any other equivalent means. The stiff carrier sheet 10 in itself is adequate to support most containers during normal use; however, when the cover sheet flaps 30 are fastened to the carrier sheet flaps 20, the two sheets coact to form a unitary support structure, and the additional support gained thereby makes the assembled carton even more adapted for rough handling. Also, with the cover sheet fitting snugly against the container end closures, the possibility of debris accumulating on the end closure is very unlikely.

As is best shown in FIGURE 1, the assembled carton is very compact and sturdy. The area of the cover sheet surrounding the finger holes is readily available for advertising and marking in a manner which is readily viewable by a consumer. The assembled cartons may be stacked one upon the other to conserve shelf space. Furthermore, the containers may be easily placed in the carrier sheet and removed when the cover sheet is removed.

It will be understood that modifications and variations of the invention disclosed herein may be made without departing from the scope of the present invention.

Having thus described the invention, what is claimed as new and is desired to be protected by Letters Patent is:

1. A packaging device for supporting containers having a closure end of a diameter larger than the body of the container, comprising a stiff carrier sheet having at least two rows of longitudinally aligned container receiving apertures, said carrier sheet also being provided with at least two finger receiving apertures spaced between said rows and equidistant from the ends of said rows, said carrier sheet also being provided with opposed side flanges bent normal to the plane of said carrier sheet, a cover sheet overlying said carrier sheet and having at least two finger receiving apertures aligned with the finger receiving apertures of said carrier sheet, said cover sheet being provided with opposed side flanges bent normal to the plane of said cover sheet and confronting said ends of said carrier sheet, and means for fastening said cover sheet and carrier sheet side flanges so that said cover sheet provides additional support for said carrier sheet.

2. A carrier for use with containers having a peripheral edge at one end projecting outwardly from the body

of the container, comprisilng a relatively stiff carrier sheet having two opposed side flaps bent normal to the plane of said sheet, said carrier sheet being provided with a plurality of apertures, a first set of said apertures having peripheral edges dimensioned to underlie and support the peripheral edges of the end closures of the containers to be carried thereby, a second set of said apertures providing finger holes, a relatively stiff cover sheet having two opposed side flaps bent normal to the plane of said cover sheet and positioned alongside said bent side flaps of said carrier sheet, said cover sheet also being provided with a set of apertures of substantially the same size as said second set of apertures and being aligned with said second set of apertures wherein the apertures in said sheets provide finger holes for carrying said carton, and means for joining said bent side flaps of said sheets whereby said cover sheet holds the containers in said carrier sheet, adds strength to said carrier sheet, and keeps the tops of the containers free from debris.

3. A carrier comprising a lower support member having apertures constructed and arranged to permit the passage of the body portions of containers therethrough but to prevent the passage of beads formed on the end closures of the containers, the peripheral edges around said apertures providing support surfaces against which said beads abut, means providing downturned flanges on said lower support member, a cover member overlying said lower support member and the containers supported thereby and having downturned flanges disposed in side-by-side relation to the flanges of said lower member and secured thereto, each pair of secured flanges acting as a longitudinal stiffening member providing resistance to bending of said lower member and said cover member.

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G. F. ABRAHAM, *Assistant Examiner.*