June 10, 1958 C. W. HARTMANN ET AL 2,838,226

CASING FOR INDIVIDUAL BOTTLES AND OBJECTS OF LIKE SHAPE

Filed July 9, 1954

Fig. 4

Fig. 1

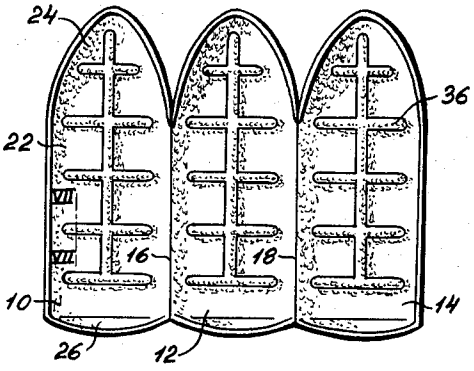
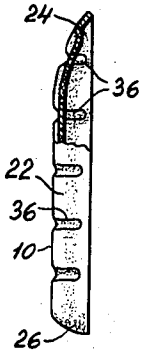


Fig. 3



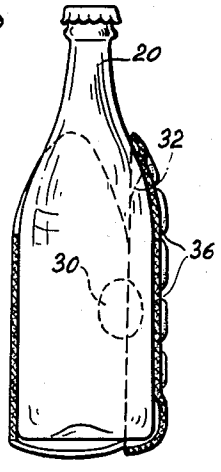


Fig. 2

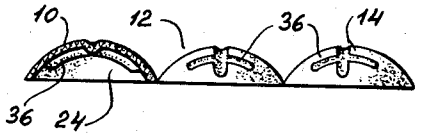


Fig. 8

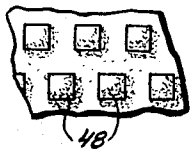


Fig. 9

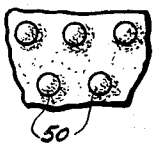


Fig. 7

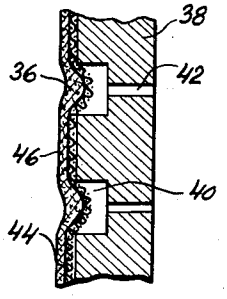


Fig. 5

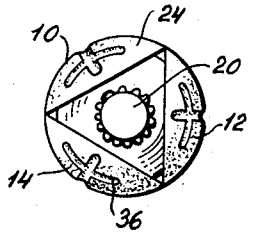
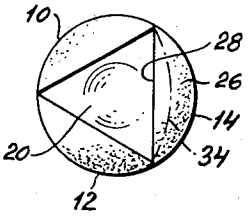


Fig. 6



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CASING FOR INDIVIDUAL BOTTLES AND OBJECTS OF LIKE SHAPE

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Application July 9, 1954, Serial No. 442,406

Claims priority, application Denmark July 13, 1953

1 Claim. (Cl. 229—90)

This invention relates to a package including a casing of fibrous material for individual bottles and objects of like shape wherein the casing conformably encloses a substantial portion of the bottle.

The main object of the invention is to provide a package of the aforesaid nature wherein the casing grips the bottle in such a manner that it cannot slip out of the casing. The drawback pertaining to previously known casings of fibrous material and of approximately the same shape as straw receptacles, viz. that the bottle is easily dropped through the open bottom of the casing, is hereby obviated.

Another object of the invention is to provide a casing suitable for bottles which are transported in cases in the same way as bottled beer, i. e. lying in tiers, the bottles of succeeding tiers being arranged in opposite directions in order to save space.

A further object of the invention is to produce a casing of the above type on a suction mould by sucking up suspended fibrous material.

A still further object is to construct the package in such manner that the contents of the bottle may be poured without removing the casing.

With the above and other objects in view the present invention consists in the combination and arrangement of parts, hereinafter more fully described, illustrated in the accompanying drawings and more specifically pointed out in the claim, it being understood that changes may be made in the form, size, proportions, and details of construction without departing from, or sacrificing any of the advantages of the invention.

In the drawings

Fig. 1 is an elevational view which shows a casing according to the invention as seen from the internal side in unfolded condition,

Fig. 2 is the same casing, as seen from its top edge,

Fig. 3 is the same casing, as seen from one lateral edge,

Fig. 4 is a package including a casing folded to enclose a bottle, which is seen from the side, the casing being cut through vertically,

Figs. 5 and 6 are top and bottom plan views, respectively, of the package,

Fig. 7 shows on a larger scale a section on the line VII—VII in Fig. 1 through the casing material, and

Figs. 8 and 9 are fragmentary elevational views to show other embodiments of the internal projections on the package.

The casing illustrated in the drawings comprises three sections **10**, **12**, and **14**, which are swingably connected with one another along lines **16** and **18**, along which the sections are folded relatively to one another when the casing is to be used for a bottle **20**. Hereby the lines **16** and **18** will be positioned along generatrices on the cylindrical portion of the bottle.

As appears from Figs. 1–3 the sections **10**, **12**, and **14** are shaped as oblong vessels, consisting of an intermediate portion **22**, which is shaped as part of a circular

cylinder, a tapering top portion **24**, and a bottom portion **26**. In the unfolded condition shown in said figures the edges of the three sections are disposed in the same plane. This is convenient primarily with a view of manufacturing the package, it being designed for production on a suction mould by sucking up suspended fibrous material in a manner known per se. Regarding this manufacturing process the package is furthermore divided into three or possibly more sections, so that no part of the internal surface of the package will form so small an angle with the direction, wherein the material sucked up is to be removed from the suction mould, as to involve difficulties in removing the material. This will be seen particularly when viewing Fig. 2, wherein the surface of the package facing downwards should be considered as facing the suction mould.

When the casing is to be used for enclosing the bottle **20**, the individual sections **10**, **12**, and **14** are folded around same, the material being folded along the lines **16** and **18**. Hereby the casing will enclose part of the bottle conformably, the top portions abutting against the tapered part of the bottle at the zone between the cylindrical part and the neck, which latter, however, remains uncovered. Each bottom portion **26** will extend a distance inwardly below the bottom of the bottle, a triangular field **28** of the bottom remaining uncovered, see Fig. 6.

When the package has been folded around the bottle, the outermost lateral edges thereof abutting against one another are united, e. g. by means of a wafer **30**, as indicated in Fig. 4. The described form of the package involves that the bottle **20** cannot slip out of the package, either upwardly or downwardly, which affords a good security against dropping the bottle.

As the neck of the bottle is free, the contents may be poured without removing the casing. On the other hand, the latter extends so far upwardly that bottles disposed in alternate directions in a case will not be in direct contact.

As will be seen in Fig. 4 to the right, the top of each section extends to the intersecting curve between the surface of the bottle and a plane through the outermost generatrices of the said section, and each section extends inwardly below the bottom of the bottle to the said plane. It is thereby obtained that the edges of the sections in unfolded condition will be disposed in the same plane, see Fig. 2. The top portions **24** and the bottom portions **26** need not, however, extend as far inwardly as to the said plane, it being possible, for instance, to shorten the former as shown by a dot-and-dash line **32** at the right hand side of Fig. 4, whereas the latter e. g. might end at a curved line **34** as indicated in Fig. 6. A casing of this altered form can also easily be produced on a suction mould and affords sufficient security against the bottle slipping out of the casing.

The casing is suitably produced with projections **36** facing inwardly toward the bottle, which projections e. g. may extend along the internal surface of the casing as shown in Fig. 1 in the form of a rib pattern. Such supporting ribs are known per se in connection with packages for bottles and other fragile objects.

According to the invention said projections are produced as shown in Fig. 7, so that the thickness of the casing material at the projections **36** exceeds that of the material between the projections. Hereby a lenient support of the bottle is achieved. This special design of the projections is easy to provide as the package is produced on a suction mould. In Fig. 7 the wall of the mould is denoted **38**. In this wall there are provided grooves or depressions **40**, which through ducts **42** are in connection with the hollow space of the mould, whence the suction is effected during the depositing of the fibre suspension on the surface of the mould. A wire netting **44** is placed

in the usual manner on the said surface and depressed into the grooves **40**. During suction the fibrous material will be deposited as indicated in Fig. 7. It will be seen that the thickness of the wall **46** between the projections **36** is considerably smaller than at the said projections.

The projections **36** which in the form illustrated contribute effectively to protect the bottle against shocks and blows may also be disposed point by point as shown in Fig. 8 and 9 in the shape of squares **48** or circles **50**, respectively, or they may be designed in any other suitable

Having now fully described our invention we claim as new and desire to secure by Letters Patent:

A molded pulp casing for bottles comprising an inner section and two outer sections, one outer section being integrally hinged to one edge of said inner section and the other outer section being integrally hinged to the opposite edge of said inner section, each of said sections being generally elongated with a lateral flange at one end and an integral, dome-shaped portion at the opposite end, the dome-shaped portion of each section being connected to the dome-shaped portion of the adjacent section only at its lower end and at relative angles to each other of less than 90° so that when said sections are hingedly closed in edge-to-edge contact to form the casing, the upper edge of the casing is scalloped longitudinally and defines a

top opening having a configuration which is substantially that of an equilateral triangle, said lateral flanges also defining a bottom opening of a configuration similar to that of said top opening, and said inner and outer sections being each provided with indentations on the outer surface and projections corresponding to said indentations thereof, said indentations each defining a projection on the corresponding opposite surface, and the thickness of the projections being greater than the thickness of the sections between these projections.

References Cited in the file of this patent

UNITED STATES PATENTS

876,365	Legge et al.	Jan. 14, 1908
1,241,640	McIntyre	Oct. 2, 1917
2,020,454	Bisbee et al.	Nov. 12, 1935
2,023,518	Degemeyer	Dec. 10, 1935
2,331,085	Sterling	Oct. 5, 1943
2,422,314	Rheinstrom	June 17, 1947
2,423,756	Chaplin	July 8, 1947
2,687,246	Randall	Aug. 24, 1954

FOREIGN PATENTS

200,667	Great Britain	July 19, 1923