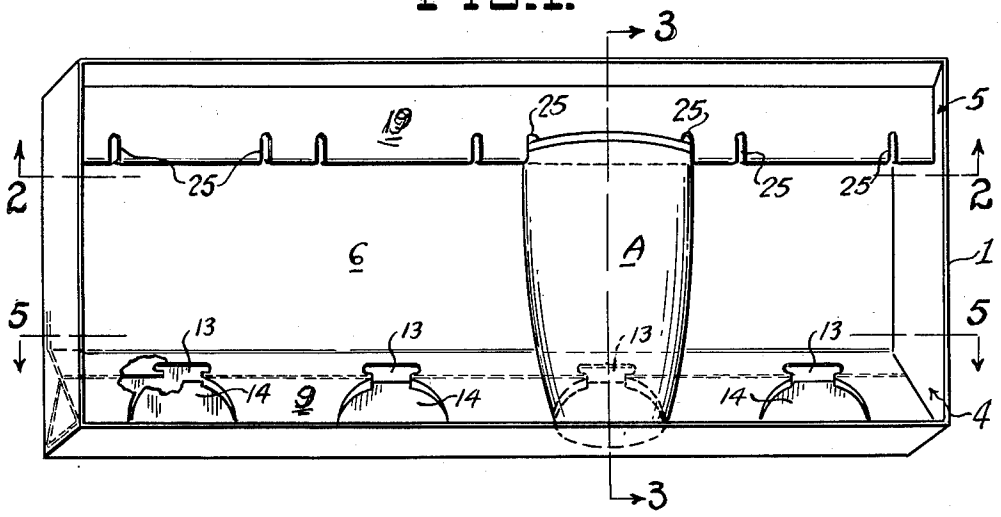
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ARTICLE HOLDING INSERT FOR CONTAINERS

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FIG. 1.



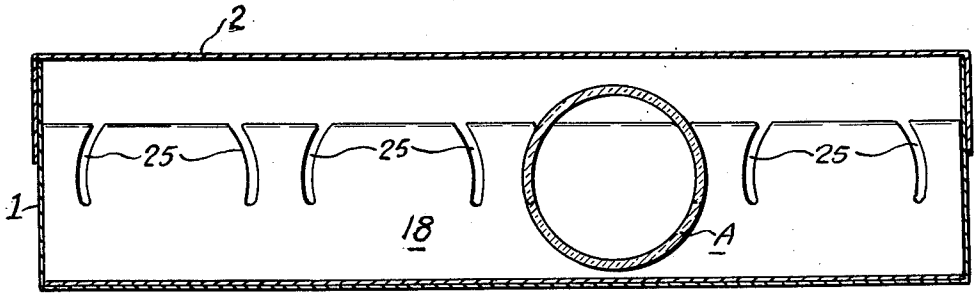


FIG. 2.

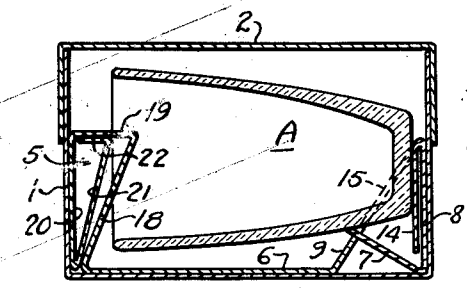


FIG. 3.

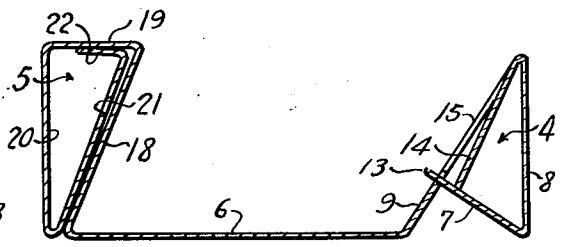


FIG. 4.

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FIG. 5.

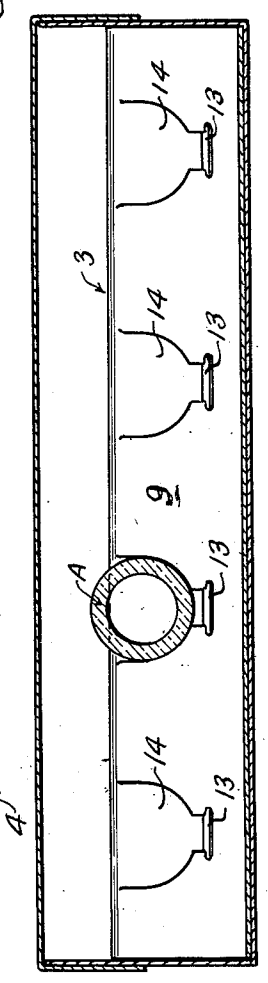
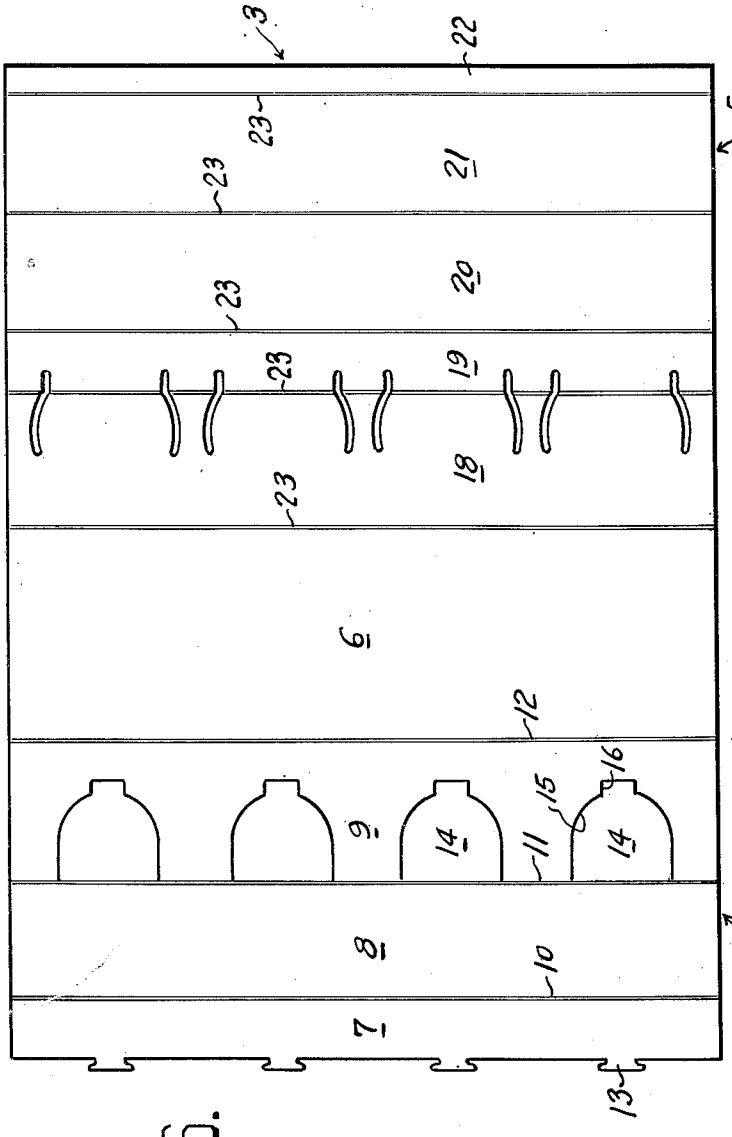


FIG. 6.



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2,511,569

ARTICLE HOLDING INSERT FOR CONTAINERS

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Application July 2, 1949, Serial No. 102,842

15 Claims. (Cl. 206—65)

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This invention relates to article packaging means, and particularly to a liner for use in boxes or other containers for holding hollow glassware, but may be used for other ware, if desired.

The object of the invention is the provision of a simple and inexpensive liner or insert for use particularly in paper boxes, or the like, of a non-rigid nature and which liner is adapted to firmly and securely hold the packed articles therein in spaced and cushioned relation to the container walls and in a manner to render the packed ware safe for shipping without the use of other packing therearound.

Further objects and advantages of the invention will be apparent from the following detailed description, and from the accompanying drawings illustrating one embodiment of the invention, in which—

Fig. 1 is a top plan view of a container with cover removed and showing a liner embodying the invention mounted therein with a drinking glass held thereby in packed position; Fig. 2 is a section on the line 2—2 in Fig. 1, with the cover of the container in position; Fig. 3 is a section on the line 3—3 in Fig. 1 with cover in position; Fig. 4 is an enlarged cross-section of the liner removed from the container; Fig. 5 is a section on the line 5—5 in Fig. 1, except reversed end for end, and Fig. 6 is a plan view of a liner embodying the invention in unfolded blank form.

Referring to the drawings, 1 designates the body and 2 the cover of a container of box-like form and which may be, but is not necessarily, of non-rigid material, such as paperboard stock, corrugated board, or the like. The container is of rectangular form in cross-section and at least of a depth or dimension from its top or open side to its bottom or closed side greater than the diameter of the ware to be packed therein. The shape and size of the container are not important except as required by the size of the liner or liners mounted therein and the shape and size of the ware.

The liner embodying the invention and which is adapted to be mounted in the container and to hold one or more articles A, in the present instance constituting a drinking glass, comprises a single-piece member 3 preferably of stiff paper stock and shown in flat unfolded blank form in Fig. 6 and in folded form in the other figures of the drawings.

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The member 3, in its preferred embodiment, and when folded for insertion into a container, includes two opposed buffer sections or uprights 4 and 5 that are connected at the inner edges of their base portions by a sheet or panel section 6. When a liner is mounted in a container the buffer sections 4 and 5 are opposed at their outer sides by the respective side walls of the container or by the adjacent side of an adjoining liner, if a plurality of liners are placed side by side in a container, as is frequently done.

The blank from which the one-piece liner is formed is shown in plan in Fig. 6, is of rectangular form, and in the present instance of greater dimension in one direction than the other. The short dimension corresponds to the length of the container 1 in which it is to be mounted and the other dimension allows for the width of the container or of the space in which the liner is to be mounted, for the length of the glassware to be packed, and for the various folds or panels of the buffer sections 4, 5.

The blank, in its present embodiment, at the side of the spacing panel 6 which forms the buffer section 4, comprises three parallel panels 7, 8 and 9 extending lengthwise of the liner parallel to the panel 6 and these are joined to each other and to the panel 6 by respective fold or weakened lines 10, 11 and 12. The edge or foot panel 7 is about one-half the width of the panel 8 and is provided at its outer edge with a series of spaced dovetail-locking tongues 13 for the purpose hereinafter described. The intermediate panel 8 is plain and forms the outer upright leg or side of the buffer section 4. The panel 9 forms the inner leg or side of the section 4, is inclined upwardly and outwardly from the panel 6 to the outer edge of the panel 8 and has a plurality of tongues 14 cut therefrom to form openings or seats 15 in the panel with the inner ends of the tongues hinged at 11. The openings 15 correspond in number and spacing to the locking tongues 13 and the lower or outer end of each has a notch 16 therein with which the registering tongue 13 is adapted to have interlocking engagement when the buffer section 4 is in set-up position, as best shown in Figs. 1, 3 and 4. The outer or lower end of the opening 15 is rounded or otherwise suitably shaped to permit the correspondingly shaped end of a drinking glass or other article A which is to be packed to seat

and fit sidewise therein, as indicated in Figs. 1, 3 and 5.

In setting up the section 4, which may be termed the bottom buffer section, the panel 7 is turned inwardly under the section 8 and the panels 8 and 9 are drawn toward each other in triangular form along the connecting fold line 11 with the panel 8 substantially perpendicular to the plane of the panel 6 and with the panel 9 on an outward incline to said plane. The tongues 13 on the panel 7 are then projected through the registering openings 15 in the panel 9 and forced down into the respective notches 16 in interengaging connection with its side walls. In this position the panel 7 is substantially perpendicular to the inclined inner panel 9, thus serving as a brace therefor, as shown in Figs. 3 and 4, and the lower end of the tongue 14 rests freely on the panel 7.

The liner blank at the side of the spacing panel 6 which forms what may be termed the top buffer section 5 comprises, in the present instance, five parallel panels 18, 19, 20, 21 and 22 connected to each other and to the spacing section 6 by parallel folding or weakened lines 23. In setting up the section 5, the inner panel 18 is turned up at an inward incline to the connecting panel 6 so that it is disposed in overhanging relation thereto. The panel 19 is turned outwardly at an acute angle to the panel 18 substantially in parallel relation to the plane of the panel 6, and the panel 20 is then turned down toward the plane of the panel 6 at substantially a right angle thereto and to the panel 19. The lower or outer edge of the panel 20 terminates substantially in abutment with the adjacent edge of the panel 6 and with the panel 21 turned upward therefrom within the triangle formed by the panels 18, 19 and 20 and at an incline to the panel 20 substantially the same as that of the panel 18. The panel 21 extends to the top panel 19, and the narrow edge panel 22 extends outwardly at the under side of panel 19 in contact therewith and with its free edge normally spaced from the panel 20.

A plurality of pairs of opposed slots 25 are provided in the outer edge portion of the panel 18 with their upper ends continuing outwardly a short distance into the adjoining edge portion of the top panel 19, and these pairs correspond in number with and oppose the openings 15 in the buffer section 4. The slots 25 of a pair are adapted to receive opposing edge portions of the open end of a drinking glass or other article A to be packed and, therefore, should conform to the shape of the engaged rim portion of the article. For instance, if the open or mouth end of the drinking glass or other article is round, the portions of the slots 25 in the panel 18 should be of arcuate or segmental form to conform to the edge portions of the article to be engaged. The inner ends of the portions of the slots that project into the panel 19 should extend to and preferably slightly beyond the inner end of the bracing panel 22 when pushed back, so that any outward end thrust of the inserted edge of an engaged article will move the panel 22 outward against the panel 20. Any such thrust is thus communicated through the panel 22 to the outer panel 20 and is also opposed by the wall of the container 1 or other part against which the panel 20 bears. It is apparent that the panels 18 and 19 form an angular nose that overhangs the connecting panel 6 and permits the open mouth edge of the article A to be engaged only at diametrically opposite portions thereof with the remaining edge portions free and with the axes of the articles substantially parallel to the panel 6.

A liner when in folded form may be inserted into a container 1 with the panel 6 resting on its bottom and with the outer panels 8 and 20 of the respective buffer sections 4 and 5 bearing outwardly against its side walls. It is also apparent that more than one liner may be positioned in a container so that more than one row of articles may be mounted therein. In such case, the liners may sidewise abut to brace the buffer sections against outward pressures.

When a liner embodying the invention is mounted in set-up form in a container, the outer end thrust of the panel 7 of the buffer section 4 is against the side of the container in the angle between its bottom and side wall, and the lower end portion of the panel 20 of the buffer section 5 is held to the respective side wall of the container by the thrust of the adjacent edge of the panel 6. To mount an article A, such for instance as a drinking glass, in holding position in the liner, the mouth end of the article is first pressed into engagement with a pair of slots 25 in the inwardly overhanging nose edge portion of the buffer section 5 with the article held in inclined position with its bottom end uppermost, and the bottom end is then pressed down into the registering opening 15 so as to rest therein. This movement of the bottom end of the glass into the opening 15 forces the respective tongue 14 outward so that it serves with the outer side panel 8 of the buffer section 4 to space the bottom end of the article from the side wall of the container and at the same time cushions it against end thrust shocks. As the bottom end of the article is pressed down into the seat opening 15, the rim at the open mouth end thereof is forced outward in the slots 25 so that it has an outer end thrust against the upper inner edge of the panel 21 and this thrust is opposed by the edge panel 22 in outward engagement with the panel 20. The open end of the article is supported in spaced relation to the bottom of the container and the panel 6 by the resting of its rim on the inner edge walls of the rearwardly extending portions of the slots that are formed in the panel 19. The article is thus firmly annd yieldingly held by the buffer sections 4 and 5 in spaced relation to the top and bottom of the container and also to the side walls thereof. This mounting is of such a nature that hollow glassware may be safely packed and shipped in containers equipped with the present insert without any additional packing around the article.

In the present instance the blank when folded comprises two opposed buffer sections for an article, with the sections attached at their inner ends to a connecting portion and with the two sections of substantially right triangular form, with the base of one adjacent to said connecting portion and with the base of the other remote therefrom, and with their hypotenuse facing each other and inclined in the same general direction.

We wish it understood that our invention is not limited to any specific construction, arrangement or form of the parts, as it is capable of numerous modifications and changes without departing from the spirit of the claims.

Having thus described our invention, what we claim as new, and desire to secure by United States Letters Patent, is:

1. A container liner of the class described including transversely spaced buffer sections for opposite ends of an article, the bottom holding

section comprising an inner upwardly and outwardly inclined wall having an opening therein forming a side seat for the bottom end of an article, an outer side wall extending down from the upper end of said inclined wall and a bracing member extending from the lower edge of said outer wall to and in engagement with said inclined wall between its inner and outer ends.

2. An arrangement as called for in claim 1, wherein the bracing member has interlocking engagement with said inclined wall in the lower edge portion of the opening.

3. An arrangement as called for in claim 1, together with a shock cushioning tongue hingedly projecting across said opening from its outer edge and receiving the outer end thrust of an article seated in the opening.

4. An arrangement as called for in claim 1, wherein the bracing member has interlocking engagement with said inclined wall in the lower edge portion of the opening, and a tongue projects across the opening from the edge opposing said interlocking engagement and receives the outer end thrust of an article seated in the opening.

5. A container liner of the class described having transversely spaced buffer sections for holding opposite ends of an article, one section comprising foldingly connected walls of a stiff material with an inner wall facing the other section and disposed in an outward incline, an outer wall extending downwardly from the outer edge of the first wall, a third wall projecting from the lower edge of said outer wall toward said inner wall and having bracing engagement therewith, said inner wall having a row of openings therein spaced lengthwise thereof forming side seats for the bottom ends of articles mounted between the buffer sections.

6. An arrangement as called for in claim 5, together with tongues hingedly projecting into each of said openings from its outer edge and receiving the outer end thrust of an article seated in the opening.

7. A container liner of the class described having transversely spaced elongated buffer sections for holding opposite ends of an article, one section having at least three connected panels forming an inner wall, an outer wall and a spacing connection between the outer ends of said walls, with the inner wall inclining away from the outer wall and forming with said spacing connection an angular nose portion that partially overhangs the space between said sections and has slots therein for receiving opposing mouth edge portions of the article in opposition to said other buffer section.

8. An arrangement as called for in claim 7, together with a structure between said inner and outer walls for receiving and opposing the end thrusts of the portions of the mouth edge of the article that project into said slots.

9. A container liner of the class described having transversely spaced buffer sections for holding opposite ends of an article, one section having five successive hingedly connected panels forming an inner wall, an outward extension from the upper end of said inner wall, an outer wall extending downwardly from said extension, an interposed panel extending upwardly from the lower edge of the outer wall between said inner and outer walls in spaced relation thereto and a bracing panel extending outwardly from the upper end of said interposed panel along the under side of said outward extension and in abutment at its outer edge with said outer wall, said inner wall

inclining away from the outer wall and toward the other buffer section and forming with said outward extension an angular nose portion that partially overhangs the space between said sections and has slots for receiving opposing mouth edge portions of the article in opposition to said other buffer section.

10. An arrangement as called for in claim 9, together with a panel section forming a part of the liner and hingedly connected at its opposite edge portions to the respective buffer sections.

11. A container liner of the class described formed of a stiff paperboard-like material comprising a central bottom section and a buffer section at each of opposite edges thereof for holding the respective end of an article, one buffer section having an inclined wall projecting upwardly and outwardly from the base section and having an opening therein forming a seat for the base of an article, bracing and supporting means for said inclined section foldably connected thereto, said other section having an inner wall projecting inwardly and upwardly over the end of the base section, bracing and supporting means hingedly connected to the upper end of said inwardly inclined section, said inwardly inclined section and said bracing means having slots for receiving opposite edge portions of an article mouth, and means forming a part of said last buffer section and disposed between said inclined wall and its bracing means for receiving the outward and thrust of the portions of an article inserted in said slots.

12. A container liner of the class described having transversely spaced buffer sections for engaging and holding respective ends of a cup-like article, and a connecting member for the base portion of said sections, one section having an inclined wall projecting outwardly from said member in overhanging relation thereto and slotted at its outer edge portion to form seats for opposite edge portions of the open end of an article to be held, means at the outer side of said wall to receive and oppose the thrust of the article edges projecting into said slots, said other sections having a wall projecting from said member on an outward incline relative to said connecting member and having an opening forming a side seat for the closed end of the article, means bracing said last wall at its outer side, and means at the outer side of said opening receiving the outward end thrust of the article seated therein.

13. A container liner of the class described formed of stiff material and comprising a bottom section and a buffer section at each of opposite edges thereof, one buffer section having an inner wall facing the other buffer section and inclining outwardly from the bottom section, said wall having an opening for receiving the closed end of a receptacle, said other buffer section having an inner wall inclined from said bottom section in overhanging relation thereto and being slotted at its outer edge portion to receive opposite edge walls of the open end of a receptacle that is seated at its closed end in said opening.

14. A container liner of the class described formed of stiff sheet material and having opposed buffer sections for the opposite ends of a receptacle of drinking glass form and a connecting section for the buffer sections, said buffer sections each being of triangular form with the opposed inner walls thereof inclined

in the same general direction from the connecting section so that one inclines outwardly from and the other overhangs said connecting section, the overhanging wall having notches in its outer edge portion for receiving registering edge portions of the mouth end of a receptacle and the adjacent inclined wall of the other buffer section having an opening in which the closed end of a receptacle may seat, each buffer section having means yieldingly opposing outward end thrust of respective ends of a receptacle mounted therein.

15. An arrangement as called for in claim 14

wherein said yielding means comprises integral portions of the sheet material forming the buffer sections.

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The following references are of record in the file of this patent:

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