United States Patent

Williard et al.

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[45] **June 20, 1972**

[54] PACKAGE SLEEVE

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[52] **U.S. Cl.** .....**206/65 D,** 206/65 R, 229/40, 294/87.2

[51] **Int. Cl.** **B65d 75/14,** B65d 75/06, B65d 5/04

[58] **Field of Search**.....206/65 C, 65 D, 65 T, 65 R; 229/40; 294/87.2; 224/45 AB

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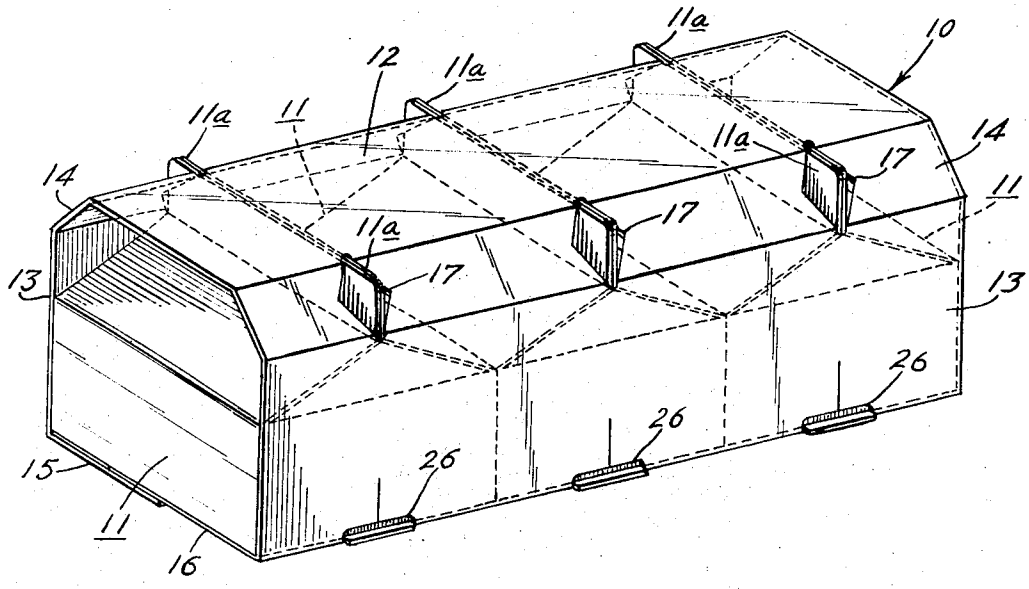
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Assistant Examiner—Stephen Marcus
Attorney—Howson and Howson

[57] **ABSTRACT**

A tubular open-ended package sleeve for holding a plurality of cartons in side-by-side relationship consisting of top, bottom and side wall panels and angularly disposed top corner panels interconnecting the top and side wall panels. The corner panels each have a plurality of equally spaced openings in them corresponding to the plurality of cartons contained within the sleeve through which portions of the cartons project to retain the cartons within the sleeve.

1 Claim, 6 Drawing Figures



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SHEET 1 OF 2

FIG. 1.

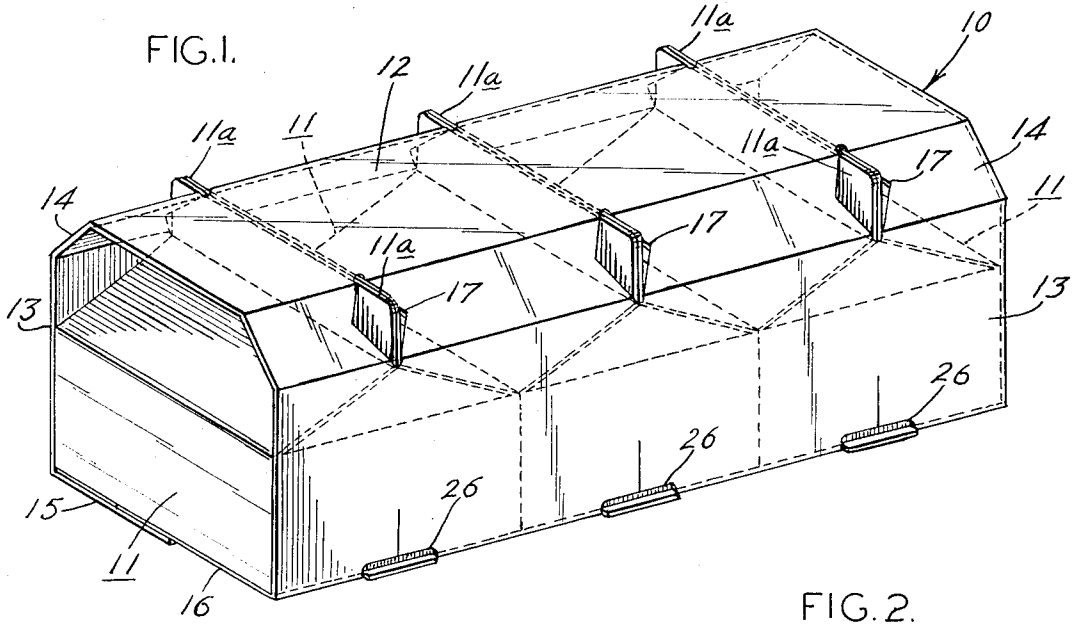
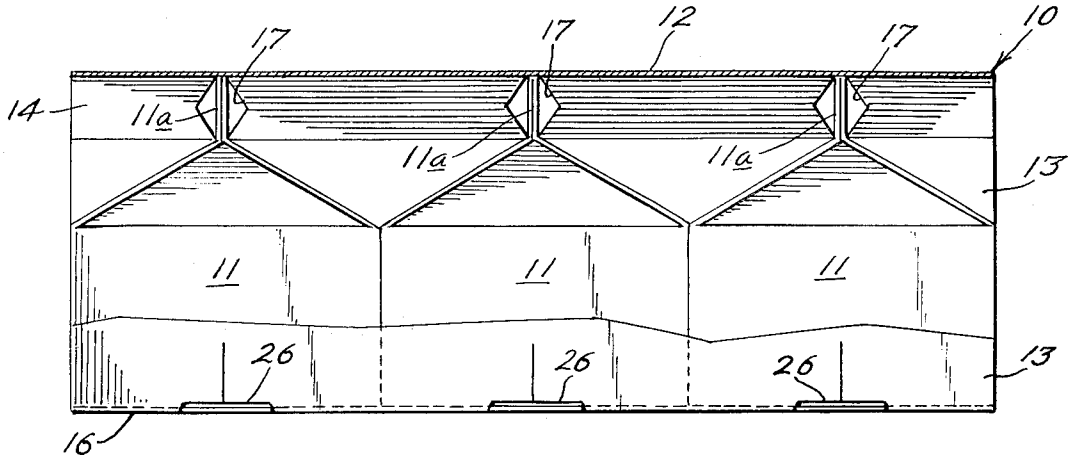


FIG. 2.



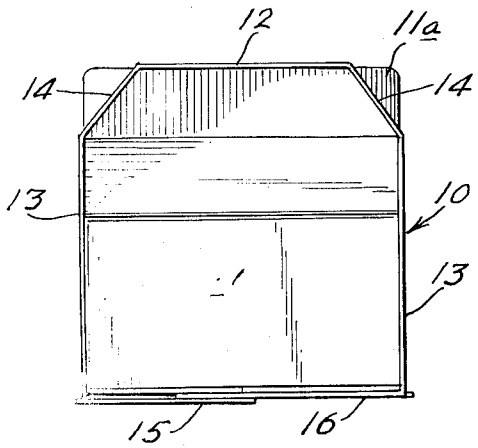


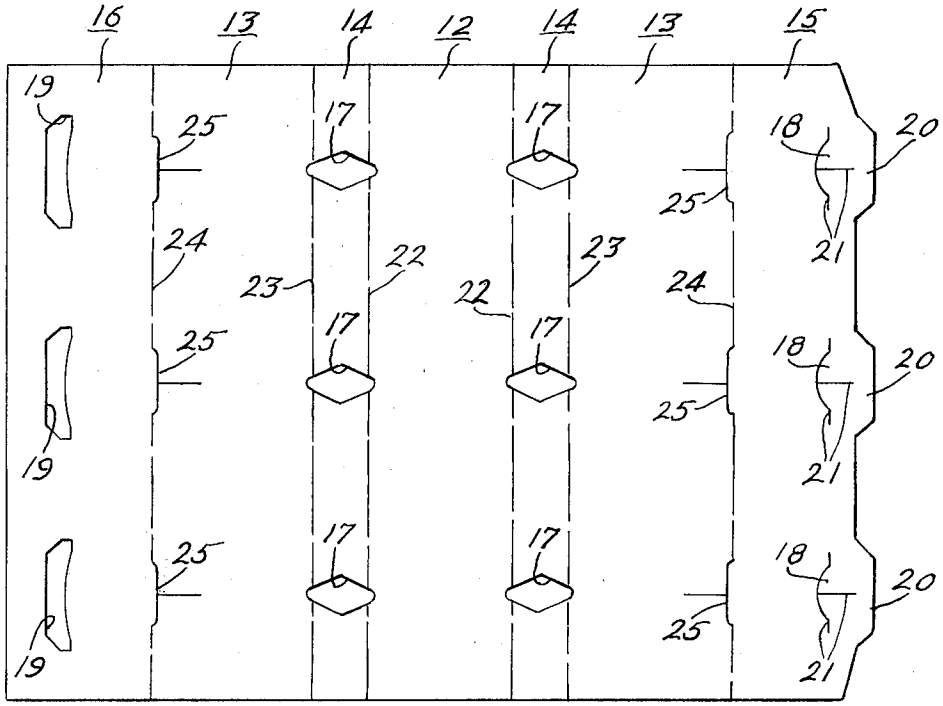
FIG. 3.

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FIG. 6.



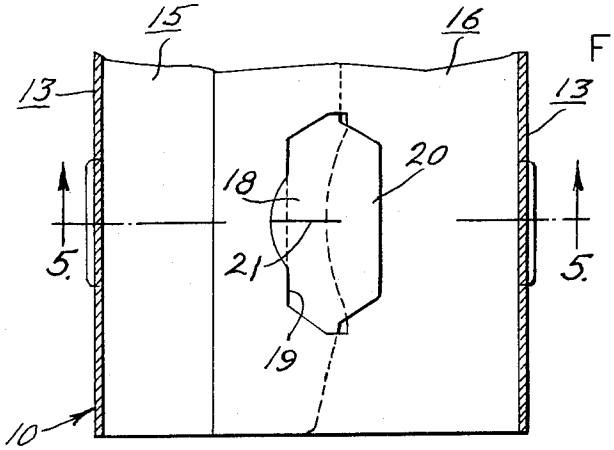


FIG. 4.

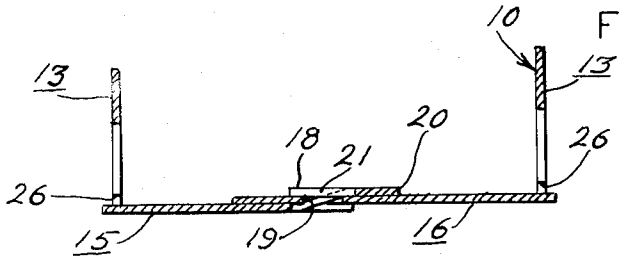


FIG. 5.

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PACKAGE SLEEVE

The present invention relates to new and useful improvements in package sleeves for holding a plurality of cartons in side-by-side alignment and more particularly, to package sleeves which will securely hold a plurality of coated paperboard cartons such as cartons of the type similar to paperboard milk cartons having angularly inclined panels forming the top wall of the carton that terminate in an upwardly extending tap bisecting the top of the carton which forms a pouring spout for the carton when the carton is open.

A principal object of the present invention is to provide a novel package sleeve which will hold a plurality of cartons in side-by-side relation and which will interlock with the cartons to prevent the cartons from being inadvertently removed from the sleeves until the sleeve is physically opened.

Another object of the present invention is to provide a novel package sleeve of the above type which may be formed from a single sheet of paperboard with a minimum of waste in the blank from which the sleeve is formed.

Still a further object of the present invention is to provide novel package sleeve of the above type which can be manufactured easily and cheaply, may be easily applied about a series of cartons in side-by-side alignment and which is highly efficient and effective in use.

These and other objects of the present invention and the various features and details of the operation and construction thereof are hereinafter more fully set forth and described with reference to the accompanying drawings in which:

FIG. 1 is a perspective view of the assembled and filled package sleeve of the present invention;

FIG. 2 is a side elevational view, partially in section, of the package sleeve of FIG. 1;

FIG. 3 is an end elevational view of the package sleeve of FIG. 1;

FIG. 4 is an enlarged fragmentary plan view of the inner surface of the base of the assembled package sleeve;

FIG. 5 is a transverse sectional view taken on line 5—5, FIG. 4; and

FIG. 6 is a plan view of the blank from which the package sleeve is formed.

Referring more specifically to the drawings, there is illustrated therein a tubular open-ended package sleeve **10** formed in accordance with the present invention and adapted to hold a plurality of paperboard cartons **11**. In the present instance the sleeve holds three such cartons **11** in a straight row in side-by-side alignment as illustrated in FIG. 2. The cartons **11** are cartons similar to the conventional paperboard milk carton having angularly inclined panels forming a top wall and terminating in an upwardly extending tab **11***a* which forms the pouring spout of the carton when the carton is opened. The tab **11***a* on this type of carton extends transversely across the center of the top of the carton and terminates in alignment with the opposite side walls of the carton.

The package sleeve **10** comprises a top wall panel **12**, a pair of spaced parallel side wall panels **13, 13**, a pair of angularly disposed top corner panels **14, 14** and a bottom wall formed from a pair of bottom locking flaps **15** and **16**. The cartons are positioned within the sleeve with the tab **11***a* of the cartons **11** extending in a direction transversely of the sleeve and the top wall and side walls of the sleeve closely engage the upper surface of the tap and side walls of the cartons respectively to securely hold the cartons against movement relative to the sleeve. The sleeve is of a length which closely approximates the overall length of the plurality of cartons to be contained within the sleeve so that the sleeve surrounds and protects the cartons. The side wall panels **13, 13** are of a height extending to the top of the upwardly inclined panels of cartons **11**, as best seen in FIG. 1.

As illustrated in the drawings, the top wall panel **12** is of a lesser width than the width of the cartons contained within the sleeve and the top corner panels **14, 14** which interconnect the top wall panel with the side wall panels **13, 13** extending angularly downwardly and outwardly to provide an unequal, six-sided, cross-sectional shape to the sleeve.

In accordance with the present invention a plurality of carton retaining openings **17** are provided at uniformly spaced locations along the length of each top corner panel with the plurality of carton retaining openings in each top corner panel corresponding to the number of cartons desired to be contained within the sleeve. In the present instance three such openings **17** are provided in each top corner panel with the openings **17** being of generally diamond shape, having its long axis extending transversely of the top corner panel thereby providing elongated openings extending entirely across each top corner panel. The openings **17** are positioned to receive projecting corner portions of the carton tabs **11***a* when the sleeve **10** is wrapped about the assembled group of cartons **11**. With the corner portions of the tabs **11***a* projecting outwardly through the openings **17**, the cartons are securely locked within the sleeve when the sleeve is assembled so that the cartons may not be inadvertently displaced or removed from the sleeve and the sleeve also provides to the purchaser a visual indication as to how many cartons are contained within the sleeve.

In order to secure the sleeve **10** around the cartons **11** locking tabs **18** are provided in the bottom locking flap **15** which are adapted to interlock with openings **19** in the other bottom locking flap **16**. In the illustrated embodiment of the present invention three sets of locking tabs **18** are provided in the one locking flap uniformly spaced along the length of the locking flap and three openings **19** are spaced along the length of the other locking flap. Guide tongues **20** are provided along the free edge of the bottom locking flap **15** in alignment with the sets of locking tabs **18** to guide the locking tabs into proper engagement with the locking openings. The locking tabs are relatively conventional and are formed by slits **21** in the bottom locking flap **15** as shown in the drawings.

To lock the package sleeve in the erected position after it is wrapped around the series of cartons, the locking flap **15** is positioned so that it overlies the locking flap **16** and the tongues **20** are directed inwardly through the openings **19**. The locking tabs are then displaced upwardly from the bottom of the carton to engage behind the cut surfaces of the openings **19**.

The package sleeve of the present invention is formed from the blank as shown in FIG. 6 of the drawings. As illustrated in FIG. 6, the sleeve blank is of generally rectangular configuration with the various panels of the sleeve connected to their next adjacent panel along fold lines. The top panel **12** is interconnected with the top corner panels **14, 14** along fold lines **22, 22**. In turn, the top corner panels **14, 14** are connected to the side wall panels **13, 13** along fold lines **23, 23**. Similarly, the side wall panels **13, 13** are connected to the bottom locking flap panels **15** and **16** along fold lines **24, 24**. The fold lines **22, 22, 23, 23** may be formed by conventional score lines while the fold lines **24, 24** are preferably formed by a combination of score lines and slits **25** to insure a good square fold at the fold lines **24** and to provide a flat bottom surface to the sleeve. The slits **25** preferably extend from the score line **24** upwardly into the side wall panels **13, 13** providing a series of elongated openings **26** along the base of the sleeve when the sleeve is erected.

From the foregoing, it will be observed that the present invention provides a novel package sleeve to hold a series of paperboard cartons securely in side-by-side relation and prevent the cartons from being inadvertently removed from the sleeve without opening the sleeve.

While a particular embodiment of the present invention has been illustrated and described herein, it is not intended to limit the invention to such a disclosure and changes and modifications may be incorporated and embodied therein.

We claim:

1. A package sleeve holding in side-by-side alignment a plurality of generally rectangular coated paperboard cartons of the type having a pair of upwardly inclined panels forming the top of the carton which terminate in an upwardly projecting tab extending transversely of the carton and bisecting the top

of the carton, said sleeve comprising: a pair of spaced parallel vertical side walls having a longitudinal extent substantially equal to the over all length of the plurality of cartons contained within said sleeve and a height extending to the top of the upwardly inclined panels of said cartons, a central horizontal top wall having a longitudinal extent approximately equal to the over all length of the plurality of cartons contained within said sleeve and a width substantially less than the width of said cartons, a pair of angularly disposed top corner panels having a longitudinal extent substantially equal to the over all length of the plurality of cartons contained within said sleeve, said top corner panels interconnecting the side and top walls of said carton along fold lines and diverging downwardly and outwardly away from one another, a bottom wall interconnecting the lower edges of said side walls of said sleeve, said bottom wall formed of a pair of locking flaps with one locking flap connected to each side wall along a fold line, locking means to interconnect said locking flaps together to form said bottom wall, and means defining a plurality of elongated narrow openings corresponding to the plurality of cartons contained within said package sleeve uniformly spaced apart in each of said top corner panels through which portions of the upwardly projecting tabs of the cartons contained in said sleeve project to releasably secure said cartons in said sleeve, said openings extending transversely of the top corner panels for the full width thereof with the long axis of each opening extending transversely of the top corner panel, said openings closely embracing the carton tabs adjacent the ends of the openings at the top and side panels of the carton to prevent movement of the cartons relative to the sleeve and removal of the cartons from the sleeve without unlocking the locking flaps of the sleeve.

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