June 2, 1964 R. F. REIFERS 3,135,445

ARTICLE CARRIER

Filed July 18, 1962

FIG. 1.

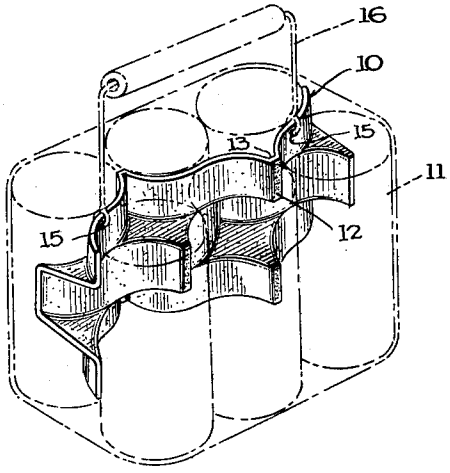


FIG. 4.

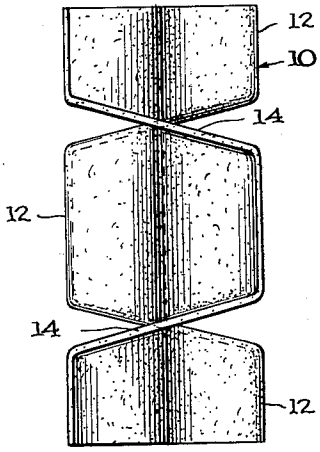


FIG. 2.

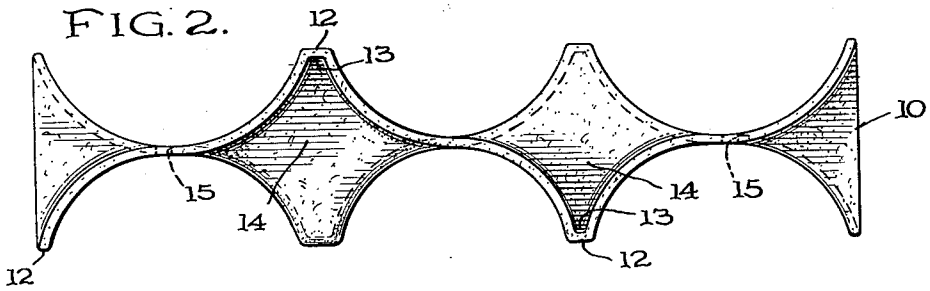
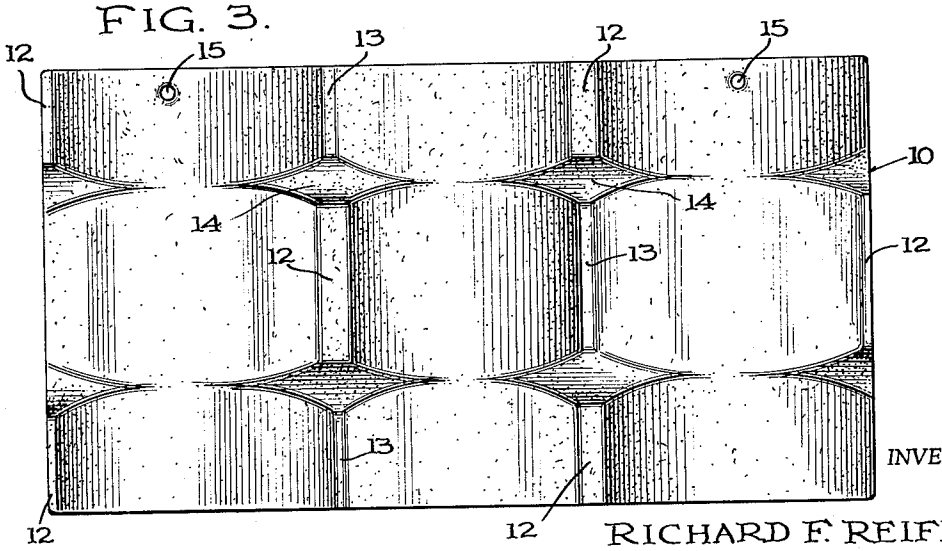


FIG. 3.



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ARTICLE CARRIER

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The present invention relates to article carriers and has particular reference to a simple form of separator placed between the articles being carried.

In this invention a minimum of molded pulp material is used with transparent overwrapping material, or non-transparent material for that matter, so as to keep packaging costs to a minimum and take advantage of the decorative printing that already exists on some metal cans.

The present invention is directed to producing a separator or filler insert which is nestable and can be fully automated in conjunction with a heat tunnel to provide a decorative low cost package. The material for this type of package is expected to be less than half of the cost of existing marketed folding cartons.

The separator of the present invention would be advantageous when used with glass containers for the dual function that it would perform in reducing the breakage and keeping the dimensional size of the complete unit to an absolute minimum.

Basically, the present invention provides a novel and improved separator which provides positioning between the front row of containers and the rear row of containers with a holding device on each end to prevent the containers from falling out of either end when used in conjunction with the girdle wrap type exterior transparent film, board, or paper.

These as well as further advantages which are inherent in the invention will become apparent from the following description taken in conjunction with the accompanying drawings, wherein:

FIG. 1 is a view in perspective of a carrier in accordance with the invention, showing the device in full lines and the packages associated therewith in relatively light dashed lines;

FIG. 2 is a top plan view of the separator shown in full lines in FIG. 1;

FIG. 3 is a front elevation view of an embodiment of the separator of the present invention; and

FIG. 4 is an end elevation view of this separator.

Referring to the drawings, and specifically to FIG. 1, the separator **10** is shown associated with six cylindrical containers **11**. About the six containers is a girdle wrap type transparent film holding cylindrical containers **11** together and against the separator **10**. This transparent film may be formed of vinyl or polyethylene or Saran or ethyl cellulose film, or the like. A girdle wrap type of board or paper, not having the transparent qualities of the above film, may also be used in keeping with the invention, but, of course, the decorative markings on cans **11** would not be used to enhance the appearance of the package. Therefore, examples of some of the wrappings which may be used, when a wrapping is used, are transparent heat-shrinkable film, opaque shrinkable and both transparent and opaque wrappings which are not heat shrinkable, paper, folding carton, corrugated, or a non-bending chip.

The separator of the present invention is shown in detail in the top plan, front elevation and end elevation views of FIGS. 2, 3 and 4, respectively. Separator **10** is manufactured on a pulp molding forming die and allowance has been made for the proper construction of the separator to give it the strength and provide draft so that it may be removed from the die without difficulty,

and ready for use. In addition, the simplicity of construction of the separator allows these devices to be manufactured rather inexpensively in comparison with other devices of the same nature. Since separator **10** is a repeating design, the manufacture is further simplified.

An embodiment of the separator of the present invention, as disclosed in the figures, shows a molded pulp article having alternating projections **12** and depressions **13** on the surfaces of both the front and the back of separator **10**. Projections **12** and depressions **13** are found to alternate both vertically and horizontally on separator **10**. The side portions **14** cause the projections **12** and depressions **13** to form cup-like figures on both the front and the rear of the separator **10**. Due to the alternate horizontal rows of the projections **12** and depressions **13** with a projection located below a depression and a depression located below a projection in the alternate rows in a vertical direction, the projections are so located as to cause three points to hold each container **11** in position. These three projections so located cause a firm positioning of containers **11** and also help to prevent breakage if these containers are made of a breakable substance, such as glass. A girdle type of wrap, such as a transparent film, is used to hold containers **11** against separator **10** and in position. Of course, when a transparent film is used instead of a non-transparent substance, the distinctive decorations on the containers **11** are advantageously shown for advertising purposes.

In each separator **10** there may be located two or more holes **15** in which may be mounted a handle **16**, such as that shown in FIG. 1. Instead of the handle **16** of FIG. 1, a string may be connected between the holes **15** to provide a carrying means. If a string or tape is used instead of handle **16**, there will be less interference with the nesting of several packs of containers using the separator **10** of the present invention.

It will be obvious to those skilled in the art that various changes may be made without departing from the spirit of the invention and, therefore, the invention is not limited to what is shown in the drawings and described in the specification but only as indicated in the appended claims.

What is claimed is:

1. A carrier for a plurality of cylindrical containers comprising a molded pulp separator having three alternately inverted curvilinear surfaces arranged vertically and separated by two spaced horizontal planar surfaces, each of said curvilinear surfaces being arranged to partially encompass cylindrical containers and said curvilinear surfaces being arranged to contact each cylindrical container at three places on the peripheral surface of the container on each side of said separator, and wrapping means to hold the containers in position against said separator.

2. The carrier of claim 1, further characterized by said wrapping means comprising a transparent film whereby advertising matter on the containers is readably visible.

3. The carrier of claim 1, further including means attached to said separator for carrying the carrier conveniently.

4. The carrier of claim 3, further characterized by said means attached for carrying being flexible whereby there is no obstruction to the nesting of a plurality of carriers.

5. A molded pulp carrier for holding a plurality of containers comprising a separator having a plurality of groups of substantially S shaped wall sections, having curved vertical surfaces, one group of said sections being connected together integrally and at least two sections being arranged in horizontal relationship to each other as mirror images with the plane of the mirror extending vertically at a connection of two of said S sections and

each of said groups being attached to an adjacent one of said groups, said groups arranged in vertical relationship to each other with said S shaped sections alternately inverted and each of said sections attached to the vertically adjacent one of said sections with coinciding vertical axes extending through the centers of said S shaped sections.

6. A carrier for a plurality of cylindrical containers comprising a molded pulp separator having a plurality of groups of substantially S shaped wall sections, having curved vertical surfaces, one group of said sections being connected together integrally and at least two sections being arranged in horizontal relationship to each other as mirror images with the plane of the mirror extending vertically at a connection of two of said S sections and each of said groups being attached to an adjacent one of said groups, said groups arranged in vertical relationship to each other with said S shaped sections alternately inverted and each of said sections attached to the vertically adjacent one of said sections with coinciding vertical axes extending through the centers of said S shaped sections, and wrapping means to hold the containers in position against said separator.

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