Dec. 19, 1961 D. L. BRODY 3,013,655

HANDLE WRAPPER AND PACKAGE

Filed Dec. 24, 1959

Fig. 1

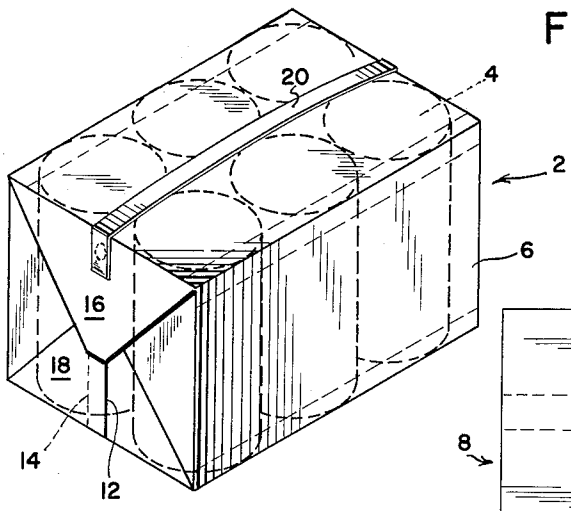


Fig. 2

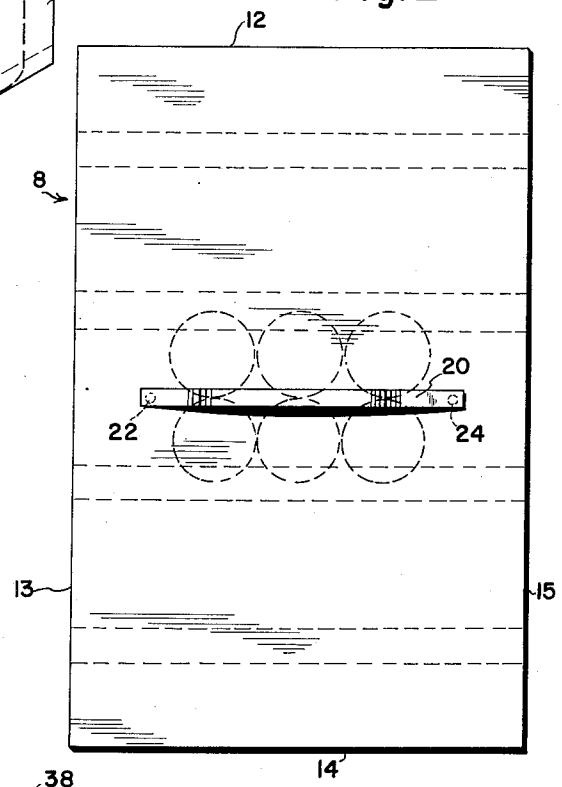


Fig. 3

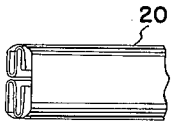
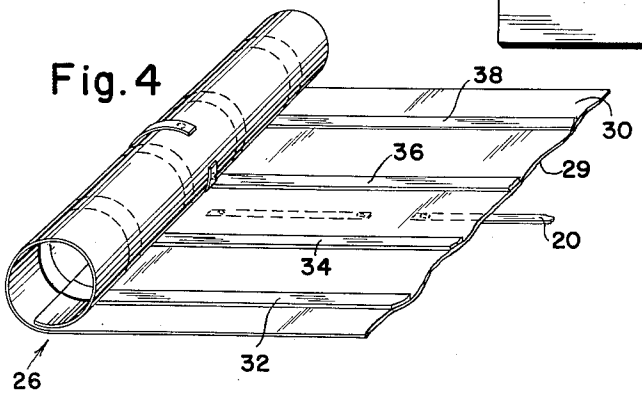


Fig. 4



INVENTOR.

David L. Brody

BY

Curtis, Morris & Safford

ATTORNEYS

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HANDLE WRAPPER AND PACKAGE

David L. Brody, Yonkers, N.Y., assignor to Hudson Pulp & Paper Corp., New York, N.Y., a corporation of Maine

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This invention relates to packaging, and more in particular to paper wrappers in a continuous roll form which is cut into lengths and formed into special packages, and and to the special packages so formed.

In the past, a great deal of time and effort has been devoted to providing thoroughly satisfactory packaging for various items and products, such as, beer and other beverages in cans, frozen fruit juices in cans, etc., which are purchased by the eventual consumer in groups, as distinguished from those which are purchased individually. Some such items and products have been packaged in cartons formed of heavy paper or box board, and containing, for example, six cans. However, packaging in that manner has certain inherent disadvantages. It is an object of the present invention to provide improved packaging for such items and products. It is a further object to provide especially prepared wrapping or packaging material. It is a further object to provide wrapping paper which may be used to automatically package products such as those referred to above. It is a further object to provide an improved package formed by a group of cans or other items enclosed within a wrapper having a handle thereon. It is a further object to provide packages of the above character which will withstand abuse, and which will give improved performance in use. It is a further object to provide packaging materials for carrying out the above which are adaptable to various conditions of use. It is a further object to provide for the above in a manner which is economical and thoroughly satisfactory from all standpoints. These and other objects will be in part obvious, and in part pointed out below.

In the drawings:

FIGURE 1 is a package constituting one embodiment of the invention;

FIGURE 2 is a plan view of a sheet of especially prepared wrapping paper which is used to form the wrapper for the package of FIGURE 1.

FIGURE 3 is a full-scale view of one end of the handle on the wrapping paper of FIGURE 2; and,

FIGURE 4 is a roll of the wrapping material which is severed into lengths to form wrappers as in FIGURES 1 and 2.

Referring to FIGURE 1 of the drawing, a package **2** is formed by a group of six cans **4** which are in two parallel lines of three each, and enclosed within a wrapper **6** of heavy kraft paper. Wrapper **6** is formed by folding a rectangular wrapper or sheet **8** of paper (see FIGURE 2) around the group of cans positioned as indicated in broken lines. In practice, the cans are at this time resting on the sheet, and FIGURE 2 can be considered as a bottom view. With the cans thus positioned upon the sheet **8**, the paper is first folded upwardly along the sides of the rows of cans so that the edges **12** and **14** of the sheet are overlapped and glued together to form a rectangular tube. The ends of this tube are formed by the edge **13** and **15** of sheet **8**, and end portions of the tube project beyond the cans. These end portions of the tube are then folded in, thus leaving top and bottom extensions in the planes of the tops and bottoms of the cans. These extensions are somewhat triangular, and are folded against the cans to form end walls. In FIGURE 1, these triangular portions on the near end of the package are indicated at **16** and **18**,

respectively. However, in FIGURE 1, the package has been inverted, so that the central portion of the original sheet or wrapper **8** is on top of the group of cans. The overlapped edges **12** and **14** terminate in the triangular portions **18**, and each of these triangular portions is folded in against the cans underneath its triangular portion **16**. As indicated above, the overlapping portions of the wrapper or sheet at edges **12** and **14** are glued together to form a continuous seam; also, the triangular portions **16** and **18** are glued to the adjacent surface. This provides a compact and secure package.

Attached to sheet **8** intermediate the edges **12** and **14** is a handle **20** which is spot glued at its ends to the sheet at glue zones **22** and **24**. Also, between the glue zones **22** and **24**, handle **20** is slightly longer than the length of the adjacent portion of sheet **8** between these zones, so that the handle bows away from the surface of the sheet. Therefore, when the package is formed using the sheet **8**, as in FIGURE 1, the handle **20** bows upwardly from the top surface of the package, so that it can be grasped readily. Referring to FIGURE 4 which shows a roll **26** of the continuous sheet from which sheets **8** are cut, the side **29** of the sheet to which handles **20** are attached is on the outside of the roll. This relationship is maintained while the handles are being attached to the sheet, and this provides extra length in the handles with respect to the adjacent portions of the sheet which makes the handles bulge away from the sheet.

Upon the side **30** of the sheet which is uppermost in the right in FIGURE 4, four parallel reinforcing strips **32**, **34**, **36** and **38**. These strips are so spaced that they extend along the longitudinal edges of the finished package **2** (FIGURE 1), thus to reinforce the package within the edge zones where the wrapper engages the top and bottom edges of the cans. These reinforcing strips extend to the edges **13** and **15** of sheet **8**, and therefore also provide reinforcements for the end walls of the completed package. In this embodiment, handles **20** are formed of a strip of paper which has been folded as shown in FIGURE 3, and then cut into lengths. This handle has sufficient strength to support the package and to withstand considerable abuse, and yet it is sufficiently flexible to be grasped comfortably.

It should be noted that the complete package is a unitary structure with reinforced end walls, and with the reinforcing strips at the edges of the side walls. These reinforcing strips withstand the sheering forces which are encountered during handling and shipping of the packages when they are bumped at the top and bottom edges of the cans. It has been indicated above that the packaging sheet of FIGURE 4 is adapted for use in automatic packaging operations. During such use, the sheet is drawn from the roll, as illustrated in FIGURE 4, into a wrapping machine. The sheet is then cut into lengths to form the individual sheets **8**, and the groups of cans or other units are positioned on the top of each sheet portion **8**.

In the illustrative embodiment, the sheet is bleached kraft having a basis weight of 50 to 90 pounds. The reinforcing strips **32**, **34**, **36** and **38** are formed of creped paper tape of a basis weight of 30 to 90 pounds, and are spot glued to the sheet. Under some circumstances, these strips may be glued to the sheet throughout the entire contacting surfaces. Illustratively, the paper from which handles **20** are formed has a basis weight of 50 to 90 pounds; and, the strip of paper is initially 3¼" wide, and the finished handle is 9/16" wide. The handle is of sufficient length to extend down along the end walls of the package, so that lifting does not tend to peel the handle from the package. It has been indicated above that the handles **20** are bowed outwardly from the paper,

and it should be understood that this bowing may be greater than illustrated. Also, the handle may be the same length as the adjacent portion of the sheet so that it lies flat against the wrapper. However, with that arrangement, the handle will still tend to bow upwardly due to the slack in the portion of the wrapper beneath it.

The invention contemplates that handles **20** and the reinforcing strips may extend transversely of the continuous sheet of FIGURE 4, while retaining many of the advantages of the invention. Also, the handles may be attached to the side walls of the finished package rather than to the ends, as in FIGURE 2. In the illustrative embodiment, six cans of the size and proportions presently used for beer are illustrated, but it is understood that cans of other sizes and other items or units may be packaged in the same manner. The sheet **8** may be printed to identify the brand, and for decorative purposes. While the simple handle **20** is quite functional in the form shown, it may also be modified in shape and in material from which it is formed.

It should be pointed out that an important phase of the invention is the web with handles attached which may be referred to as handle wrapping material. This may be utilized in high-speed packaging machinery to form packages such as shown in FIGURE 1, with each package having a properly positioned and fully satisfactory handle. The invention contemplates that the type of handle may be varied in size and thickness, but the web can still be rolled into a compact roll for storage and handling. The longitudinal reinforcing strips act as spacers between the layers so as to build up the thickness of the roll near the outer edges.

As many possible embodiments may be made of the steps of the method and the mechanical features of the above invention herein described, all without departing from the scope of the invention it is to be understood that all matter hereinabove set forth, or shown in the accompanying drawings, is to be interpreted as illustrative and not in a limiting sense.

What is claimed is:

1. A package formed by a plurality of cans positioned in side-by-side relationship and a wrapper providing a snug enclosure for said cans, said wrapper comprising, a sheet of kraft paper folded into a rectangular package and having side walls and folded end walls, a plurality of reinforcing strips attached to said sheet in parallel relationship throughout the portions of the sheet which form top and bottom edges of the side walls of the package in contact with the respective top and bottom rims of the cans, and a longitudinal handle having its ends attached to the respective end walls and having a central portion free to be grasped for carrying the package.

2. A package as described in claim 1, wherein there are two rows of cans positioned side by side, and wherein there are four reinforcing strips positioned along the inner surface of the wrapper.

3. A package as described in claim 1, wherein said handle comprises a handle formed by a strip of paper which has been folded to a plurality of thicknesses.

4. A wrapper which is adapted to be formed into a rectangular package for cans or the like and having four parallel edge portions, comprising, a sheet of kraft paper, four reinforcing strips attached to one side of said paper throughout zones which are adapted to form said four parallel edge portions of the package, and a handle comprising a strip of folded paper attached at its ends to said sheet, and having a length slightly greater than the corresponding dimension of the portion of the sheet between the zones of attachment whereby the handle tends to push itself slightly away from the sheet surface.

5. A roll of wrapping material comprising, a continuous strip of kraft paper or the like, a plurality of reinforcing strips positioned in spaced parallel relationship and attached to said sheet, and a plurality of handles attached to said sheet and spaced from each other a distance equal to the length of the sheet required to form a package.

6. A roll of wrapping material as described in claim 5, wherein there are four reinforcing strips extending longitudinally of the sheet, and wherein each of said handles comprises a longitudinal loop handle attached at its ends to the sheet and having a length between the zones of attachment which is slightly greater than the sheet portion therebetween.

7. A roll of wrapping material comprising, a continuous sheet of kraft paper, four reinforcing strips attached to one side of said sheet in parallel spaced relationship and spaced from the edges of the sheet, and a continuous series of spaced handles attached to the opposite side of said sheet, each of said handles being attached to the sheet only at its ends and at zones on the sheet which are spaced a distance which is less than the intervening length of the handle, whereby the handle tends to push itself away from the sheet surface.

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