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3,301,460

PARTITION

Filed Feb. 1, 1965

2 Sheets-Sheet 1

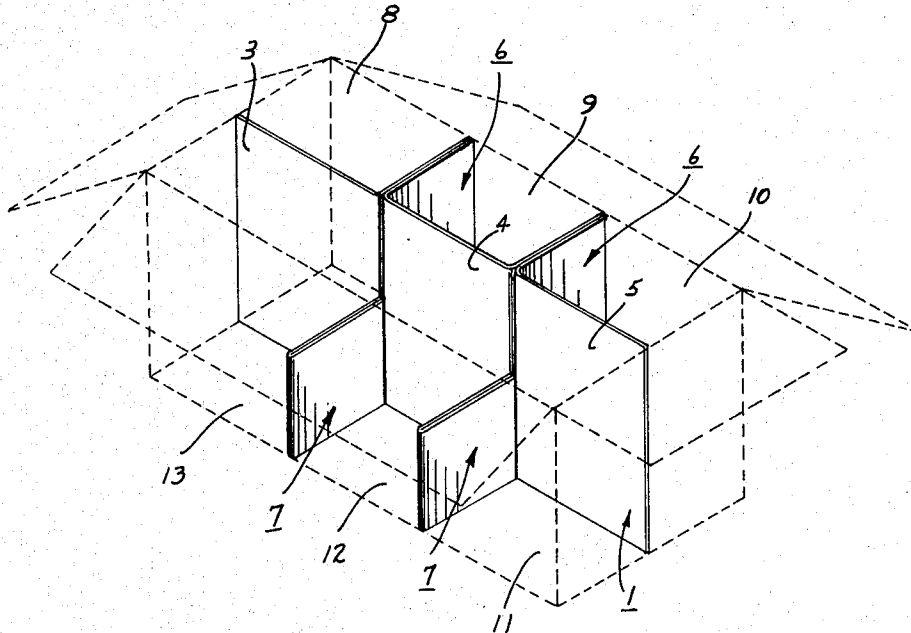


Fig. 1

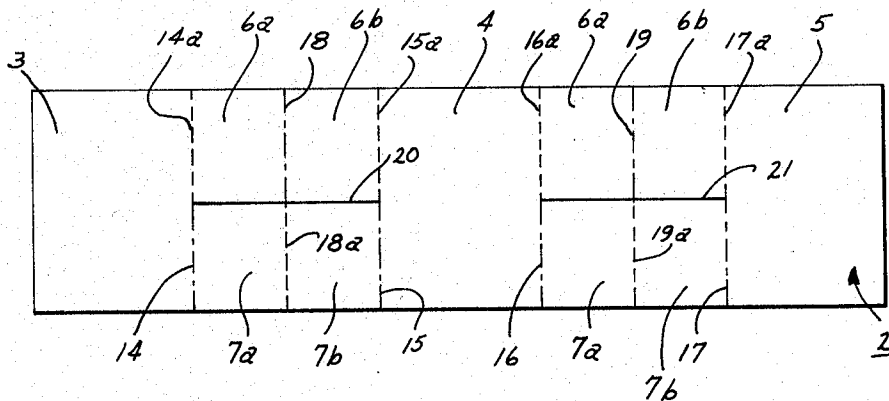


Fig. 2

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2 Sheets-Sheet 2

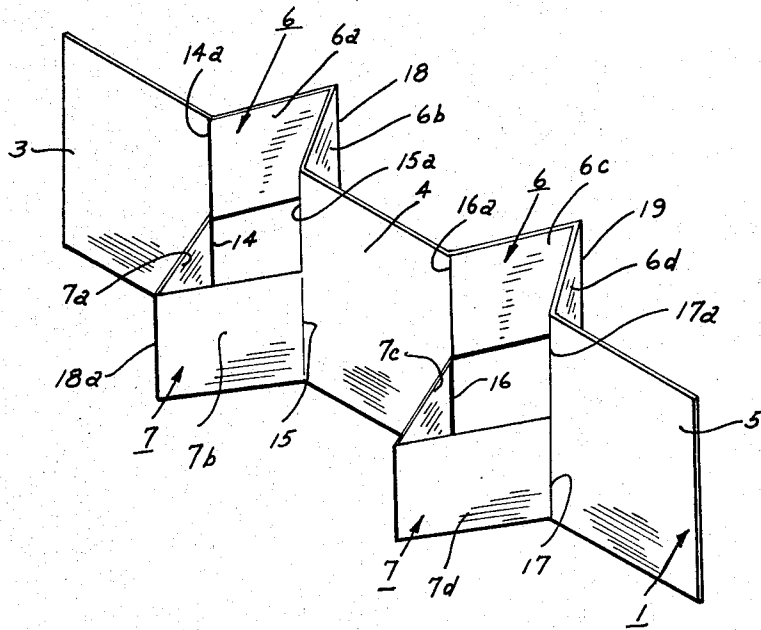


Fig. 3

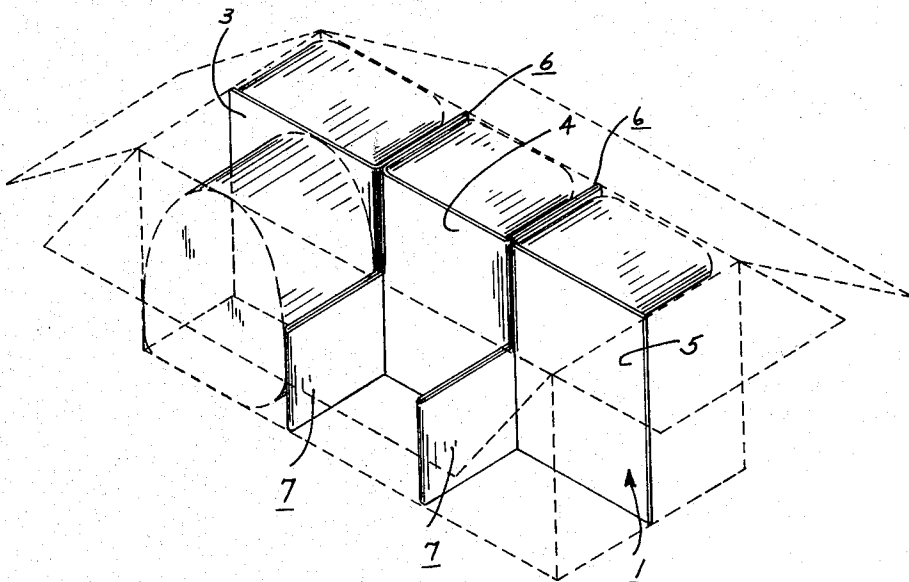


Fig. 4

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1

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This invention relates to packaging or containers for articles and, more particularly, to an improved partitioning means for a package for dividing a container into a plurality of article receiving cells and for minimizing damage to articles contained therein during handling and/or storage.

Heretofore, various types of packaging have been proposed for the shipping and storage of articles. Generally, it is desirable from the standpoint of merchandising and economy to provide containers that will hold a plurality of articles to be shipped or stored. It is also desirable that the containers and any inserts therefor be collapsible so that these components may be shipped or stored in a flat condition and then set up at the time it is desired to insert articles therein.

Accordingly, one of the principal objects of the invention is to provide an improved insert or partition means for a container that will securely hold articles to be stored therein in desired relation to each other while simultaneously minimizing damage to such articles during handling and transportation by preventing harmful contact therebetween.

Additional objects of the provision of an improved insert or partitioning means that is quickly and easily formed and inserted into a container and which, upon forming, automatically provides a plurality of article receiving cells with appropriate dividers and partitions; provides partitioning means that minimizes inventory requirements, set up and positioning labor requirements, as well as minimizing the amount of material and the waste material required to make such partitioning means; and the provision of an improved partitioning means that may be made from a one piece blank without cutouts, separate pieces, etc. and thus may be most economically manufactured and, if desired, may be made of paperboard or corrugated paperboard.

These and other objects of the invention will become apparent from the following description taken in connection with the accompanying drawings in which:

FIGURE 1 is a perspective view of partition means in accordance with the invention inserted in a container, shown in phantom, and ready to receive articles for shipment and/or storage;

FIGURE 2 is a plan view of a blank from which the partition means of FIGURE 1 is formed and illustrating the various score and cut lines thereon;

FIGURE 3 is a perspective view of the partition means in a partially folded position intermediate between those illustrated in FIGURES 1 and 2 and showing the various folds and other elements thereof; and,

FIGURE 4 is a perspective view of the embodiment of FIGURE 1 illustrating a 6-article container into which 4 articles have been inserted.

In general, the invention contemplates the provision of a one piece or unitary construction cut from a single rectangular blank and provided with certain combinations of score lines, cut lines and slit score lines with a minimum of or no waste material and arranged so that it can be quickly and easily formed and inserted into a container and, upon forming automatically provides a plurality of cells for the reception of articles to be placed therein with appropriate dividers and partitions to isolate and to protect articles placed in such cells against harmful contact

2

that may result from rough handling during transportation.

In the following description, the invention will be described in reference to a partition means for canned hams which, due to their weight, density, and pear shaped containers, may be easily damaged in handling and transportation and which present difficult problems in attempting to minimize the possibility of dented cans, distorted chimes, or other damage that may result from handling during transportation and/or storage.

However, it is to be understood that such description is by way of illustration and not of limitation since the invention is generally useful and is not limited in its use in connection with any particular article.

As is best illustrated in FIGURES 1, 2 and 3, the improved partition means of the present invention is designated generally at 1 and is made from a single blank designated generally at 2. As illustrated, the partition comprises central panels 3, 4, 5. Upper spacer panels, designated generally at 6, are connected to and between central panels 3 and 4 and also to and between central panels 5 and 6. Similarly, there are provided lower spacer panels, designated generally at 7 that are similarly connected to and between central panels 3 and 4 and also to and between central panels 4 and 5.

As is best illustrated in FIGURE 1, when partition means in accordance with the invention are inserted into a carton or other suitable container, illustrated in phantom, the central panels 3, 4, 5 assume the position indicated in FIGURE 1 by virtue of the contact between the edge portions thereof with the walls of the carton into which the partition means is inserted so that central panels 3, 4, 5 are in alignment to form a central wall which is substantially unbroken and which divides the carton or container into 2 longitudinally extending cells or compartments that can receive articles to be placed therein.

Initially, the completed improved unitary construction partition means of this invention is of a length substantially greater than that of a carton or container into which it is intended to be inserted. In order to insert the partition means into the container, the central panels 3 and 5 are moved relatively together and in a direction that will result in ultimate substantial alignment of central panels 3, 4, 5 results in the folding of upper panels 6 and lower panels 7 in a manner that is best illustrated in FIGURE 3. As the central panels 3 and 5 continue to move relatively together, such folding action of upper spacer panels 6 and lower spacer panels 7 continues until the partition means reaches the ultimate position indicated in FIGURE 1, in which position the entire partition means can be inserted into the carton or other container. In such ultimate position, the upper spacer panels 6 as well as the lower spacer panels 7 extend outwardly from the substantially unbroken central panel which includes panels 3, 4, 5 and in a direction transversely to the general extent of said panels 3, 4, 5. Thus, as noted heretofore, the substantially unbroken central panel which includes panels 3, 4, 5 divides the interior of the carton or other container into 2 longitudinally extending areas for the reception of articles to be placed therein. And each of said two longitudinally extending areas is further divided by upper spacer panels 6 and lower spacer panels 7 into three smaller areas so that the carton or other container has now been subdivided into six areas designated 8, 9, 10, 11, 12, 13 into which articles to be stored or shipped can be received. The manner in which the foregoing is achieved will now be described in greater detail.

A rectangularly shaped blank 2 is cut to desired dimensions from a material that is foldable without rupturing the material. For example, one such suitable ma-

3

material is corrugated paperboard and the following description in reference thereto. Transversely of blank 2 are spaced parallel score lines 14, 15, 16, 17. Central panel 3 is thereby defined between the left hand extremity of the blank and score line 14; central panel 4 is defined between spaced parallel score lines 15 and 16; and central panel 5 is defined between score line 17 and the right hand extremity of blank 2. The material of blank 2 that lies between score lines 15, 16 and that lying between score lines 16, 17 is utilized to form the upper spacer panels 6 and the lower spacer panels 7.

A score line 18 is provided parallel to and spaced midway between score lines 14 and 15; and similarly a score line 19 parallel to and spaced midway between score lines 16 and 17 is provided; in order to separate the blank material into portions that will form respectively upper spacer panels 6 and lower spacer panels 7, the blank 2 is cut in a longitudinal direction along cut lines 20, 21 that are normal to and extend between, respectively, score lines 14, 15 and between score lines 16, 17.

In alignment with and superimposed upon score lines 14, 15, 16, 17 are slit score lines 14a, 15a, 16a, 17a, extending between cut lines 20, 21 and the upper edge of blank 2 as shown in FIGURE 2. Similarly, slit score lines 18a, 19a, are aligned with and superimposed upon score lines 18, 19. Slit score lines 18a, 19a extend downwardly from cut lines 20 and 21, respectively, to the lower edge of blank 2 as shown in FIGURE 2. Those skilled in the art will understand that by the term "slit score" is meant that the blank material is partially slit in reference to the thickness thereof but that said slit does not extend completely through the material as is the case of a cut line. The slit score lines facilitate folding or bending of the material and at the same time leave sufficient material to provide the necessary connection and permit bending without rupture of the material.

From the foregoing description concerning the manner of preparing the blank 2, it will be appreciated that substantially all of the blank material is utilized thus minimizing waste material and material cost.

Likewise, from the foregoing description of the manner of achieving the folding required prior to insertion of the partition into a carton or other container, it will be appreciated that the invention permits pre-cut and pre-prepared blanks to be shipped in a flat condition and that the set-up labor is not only facilitated but is minimized.

As is best illustrated in FIGURE 1, and as noted heretofore, spacer panels 6, 7 cooperate with the substantially unbroken central panel formed by the positioning of panels 3, 4, 5 when the partition is inserted into a carton to subdivide the interior space within the carton into smaller individual spaces 8, 9, 10, 11, 12, 13 into which articles may be placed for shipment or storage. As is best illustrated in FIGURES 2 and 3, upper spacer panels

4

6 and lower spacer panels 7 are reinforced in the sense that their thickness is double that of the material from which the blank 2 is cut. This is due to the fact that panel 6 comprises panel portion 6a and panel portion 6b folded back upon one another along line 18. Similarly, panel portions 7a and 7b are similarly folded along line 18a. This feature is of considerable importance particularly when it is desired to ship articles having a cross section other than rectangular as, for example, the pear shaped cans in which canned hams are packed. As is illustrated in FIGURE 4, such pear shaped objects may be packed in an upright position, that is with the butt end down so that the maximum dimension thereof will be separated by the lower spacer panels 7 while those packed on the opposite side of the central panels 3, 4, 5 are packed upside down, with the butt end up.

Thus, it will be seen that the invention provides maximum protection against harmful contact of the articles to be stored or shipped in a container and is economical to manufacture and assemble.

While a particular embodiment of the invention has been illustrated and described, it will be obvious to those skilled in the art that various changes and modifications can be made without departing from the invention and it is intended in the appended claims to cover all such changes and modifications that fall within the true spirit and scope of the invention.

What is claimed is:

1. Partition structure formed from a blank of foldable sheet material comprising
 - central panels foldably interconnected by intermediate complimentary panels each reversely folded upon itself and in opposite relation to each other and with said central panels in substantial alignment and forming a single wall with said complimentary panels extending transversely outwardly in opposite directions from opposite sides of said wall.
2. Structure in accordance with claim 1 wherein said complimentary panels are defined by and folded along spaced transverse score lines and are separated by a cut extending between said score lines.

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