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COMBINED PACKAGING AND SUPPORTING MEMBERS

Alfred George Davidson, Jr., North Haven, Conn., assignor to The American Rondo Corporation, Hamden, Conn., a corporation of Connecticut

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This invention relates to a combined packaging and supporting member for packaging and supporting during shipment or storage, a plurality of articles, such, for example, as compacts, watch cases, etc., in closely spaced relationship but out of contact with each other.

It is among the objects of this invention to provide a combined packaging and supporting member which can be readily and easily loaded and unloaded; which provides complete protection for the articles during shipment, storage, etc.; which results in a saving in time, labor and expense in effecting packaging of the articles and the removal of the articles from the package; which permits the ready packaging of a plurality of the articles and results in a package or carton of reduced size, as compared with the size of the package heretofore required for packaging the same number of the same articles; and which results in a carton or box protecting the articles therein, and this at minimum expense.

Other objects and advantages of this invention will be apparent from the following detailed description thereof.

In accordance with this invention a combined packaging and supporting member is provided for supporting a plurality of articles in spaced relation out of contact with each other. The member comprises a flat support provided with score lines dividing the support into panels, which, when folded along the score lines, completely envelop the articles placed in the packaging member. At least two of the panels have thereon article holders consisting of a plurality of substantially parallel undulations providing spring clip-like holders for the articles, the undulated holders of one panel being in registry with those of another panel. The member having the holders thereon is adapted to be disposed flat permitting the ready insertion of a plurality of articles in the undulations. Thus, the loading of the package is greatly facilitated. Thereafter the member may be folded along the score lines causing the other panel or panels having the undulated holders thereon to engage the articles firmly supporting the same out of contact with each other. When in folded position the panels form a carton or box completely enveloping the articles.

In the preferred embodiments illustrated on the drawing, the invention is shown incorporated in a combined packaging and supporting member in which in one embodiment the article is supported by a pair of undulated holders and in another embodiment the article is supported by three undulated holders producing respectively in the one case a parallelepiped package and in the other a package triangular in cross section. The present description will be confined to these two illustrated embodiments of the invention. It will be understood, however, that the novel features and improvements are susceptible to other applications, such, for example, as combined packaging and supporting members of other shapes. Hence, the scope of this invention is not confined to the embodiments herein described.

In the accompanying drawing, forming a part of this specification and showing, for purposes of exemplification,

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preferred forms of this invention without limiting the claimed invention to such illustrative instances,

Figure 1 is a perspective view showing a combined packaging and supporting member embodying this invention disposed flat for loading with articles;

Figure 2 is a vertical section through a completed package;

Figure 3 is a longitudinal vertical section taken in the plane passing through line 3—3 of Figure 2;

Figure 4 is a perspective view of a modified form of the invention showing the combined packaging and supporting member disposed flat for loading; and

Figure 5 is a vertical section through the package produced by folding the member of Figure 4; for the sake of clarity, the articles have been omitted from the package of Figure 5 and only one such article shown in Figures 1 to 3, inclusive.

Referring to Figures 1 to 3 of the drawing, 10 indicates a flat support provided with four score lines 11 defining marginal panels 12, 13, central panel 14 and intermediate panels 15 and 16. In the embodiment of the invention shown in the drawing, support 10 is in the form of an oblong having the panels running the full width thereof. Secured to the intermediate panels 15 and 16 are holders 17 and 18, respectively, each consisting of a plurality of substantially parallel undulations 19, which, as best shown in Figure 3, have restricted openings 20 at their tops providing spring clip-like holders for the articles to be packaged.

Support 10 may be made of cardboard or pasteboard of a thickness commonly used in the manufacture of cartons or boxes. The holders 17 and 18 are each composed of a flat pasteboard strip A to which is adhesively secured the undulating or corrugated strip B also of pasteboard or thin cardboard. The assembly of flat strip A and corrugated strip B may be produced in long lengths, as disclosed in Patent 2,525,202, granted October 10, 1950, and cut into sections of the desired length. Such sections are adhesively secured to the support 10 in spaced relation, as shown in Figure 1. Simultaneously with the application of the holders 17 and 18 to the support 10, the latter may be scored to produce the score lines 11. Alternatively, the score lines may be formed before or after the application of the holders to the support 10. Also, if desired, long assembly strips A and B from which the holders are to be cut may be adhered to a web and the resultant assembly cut into sections each constituting a combined packaging and supporting member, as shown in Figure 1.

It will be noted that this member, as shown in Figure 1, lies flat. When in this position the individual undulations 19 of holder 17 are in registry with those of holder 18, i. e., the first and each succeeding undulation of a row is directly opposite the corresponding undulation of the other row. To load the member, say with compacts 21 or other articles it is only necessary to stand a plurality of the articles on edge in the undulations 17. The spring-like clips of the holders tend to center the articles to be packaged as they are placed thereon, position them in desired spaced relationship and maintain them in vertical position once they are placed in the undulations. Hence, it is possible to supply a plurality of articles to a holder 17 and by a simple pressing action with the palm of the hand place such articles in the holders 17. When this holder is filled with the desired number of articles, the supporting member 10 is folded along its score lines. This results in the holder 18 being superimposed over 17 so that each undulation of one row is directly over the corresponding undulation of the other row. Thus, as shown in Figure 3, the article is firmly held by the spring clip-like action of the undulation at its top and bottom within the resultant package.

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The double side walls 22 (Figure 3) separated by air space 23 defining one wall of each undulation acts as a cushion preventing contact between adjacent articles and providing a flexible support for the sides of the articles which prevents injury or damage to the articles in shipment, storage, etc.

As best seen in Figure 2, the support, when folded, results in a carton or box completely enveloping the articles. If desired, flaps 12 and 13 may be adhesively secured to each other to maintain the box closed. Alternatively, a label may be pasted about the outside of the package to maintain the package closed. If desired, flaps 12 and 13 may be adhesively secured and in addition a label applied to the outside of the package for ornamental or advertising purposes. The label may be so designed that it acts as a closure for the opposite ends of the package, or separate labels, if desired, may be applied to the ends of the package to seal the same.

In the embodiment of the invention shown in Figures 4 and 5, support 10' is provided with score lines 11' defining marginal flaps 25, 26 and panels 27, 28 and 29 having undulated holders 30, 31 and 32, respectively, thereon consisting of parallel undulations having spring clip-like holders for receiving the articles to be packaged. The undulations of the holders 30, 31 and 32 are in registry with each other, i.e., the first and each succeeding undulation of each row is directly opposite the corresponding undulations of the other two rows. Thus, when the support is folded, corresponding (e. g., first, second, etc.) undulations of each row engage the base and two sides of the article placed in the undulations firmly supporting the article at three spaced areas on the opposite sides thereof. The support 10' with its associated holders may be produced in substantially the same manner as the support and holders of Figure 1, except for the different position of the score lines and the number of holders adhesively secured to the support 10'. It will be understood that each undulated holder 30, 31 and 32 consists of an assembly of a flat sheet and an undulated strip corresponding to A and B of Figure 3.

The combined packaging and supporting member of Figure 4 may be loaded while flat, as shown in Figure 4, in much the same manner as the loading of the member of Figure 1. Thereafter the member is folded along its score lines 11'. This results in the articles placed in one of the undulations, say 30, being engaged along two other portions by the other two undulated holders 31 and 32 coming in contact with such other portions of the articles in the production of the triangular package shown in Figure 5. The resultant package may be maintained sealed by adhesively securing flaps 25 and 26 to the panels 29 and 27, respectively. The resultant package may have a label enveloping it, and, if desired, labels or other seals may be applied to the ends to seal these ends.

It will be noted this invention provides a combined packaging and supporting member which can be easily manufactured economically and can be easily loaded and unloaded requiring a simple movement of the hand to dispose a plurality of the articles in the undulating holders, the articles being thus automatically positioned in desired spaced relationship. The finished package can readily be produced by simply folding the supporting member along its score lines, which automatically results in the individual articles being supported and cushioned along a multiplicity of points with complete protection to

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the articles. In view of the ease with which the combined packaging and supporting member may be loaded, the simplicity of this operation and likewise in view of the ease with which the completed package may be made and the simplicity of this operation, unskilled labor may be used. In practice it has been found the combined packaging and supporting member results in a saving in time, labor and material costs. The combined package is compact and yet each article is adequately held and cushioned against shock. The final package, it has been found, for a given number of articles is smaller than those heretofore used for packaging the same number of the same articles. Hence, the invention results in a reduction in the size of the carton or box required for packaging a predetermined number of articles, as compared with the size of boxes used prior to this invention for packaging the same number of the same articles.

Since different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

What is claimed is:

1. A rectangular blank having at least four parallel score lines defining at least five panels, three of which are adjacent, of substantially similar width and define two opposed and one intermediate panel, each of said opposed panels having secured thereto a similar undulate strip forming similar article receiving channels, the walls of each channel being in spaced relation with the walls of an adjacent channel and the width of each channel at the open end thereof being slightly less than the width at its base, the channels on said opposed panels being in alinement, and the combined depth of said alined channels being substantially equal to two thirds the width of said intermediate panel, each undulated strip being substantially coextensive in length with that of the panel to which it is attached, said blank being adapted when articles are placed in said channels to be folded along said score lines with the said panels in angular relation to each other to enclose said articles in the container formed thereby.

2. An article holder comprising, an elongated container, rectangular in cross section, two opposed walls of said container each having on the inner surface thereof an undulated strip secured thereto, said strips forming opposed article receiving channels, the walls of each of said channels being spaced from the adjacent channel walls, each channel being slightly narrower at the open end thereof than at the base and the combined depth of opposed article receiving channels being substantially two thirds of the distance between the said opposed walls of the container, and each undulated strip being substantially coextensive in length with the container wall to which it is secured.

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