Sept. 13, 1966 R. A. KRZYZANOWSKI 3,272,328

COMMODITY SUPPORT CARD

Filed July 22, 1964 2 Sheets-Sheet 1

Fig. 1

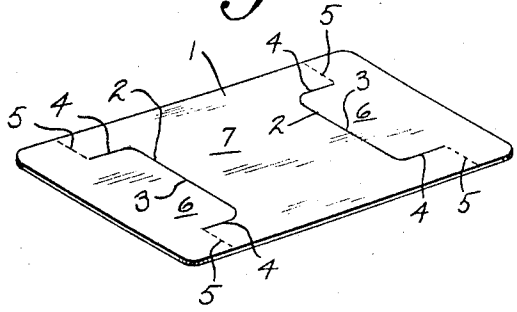


Fig. 2

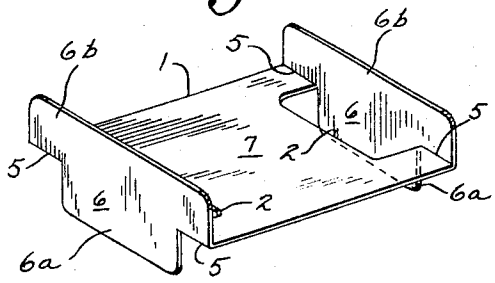


Fig. 3

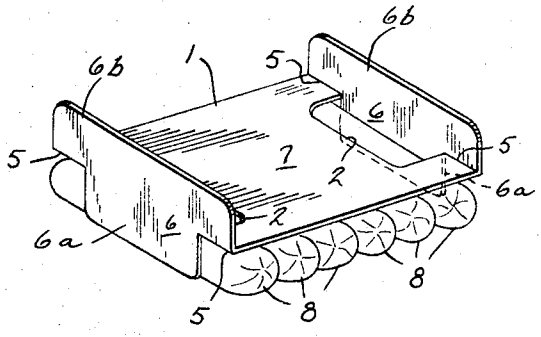


Fig. 4

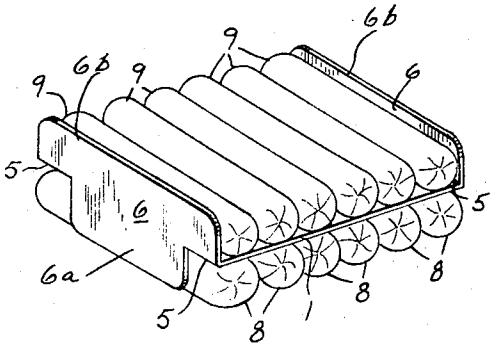
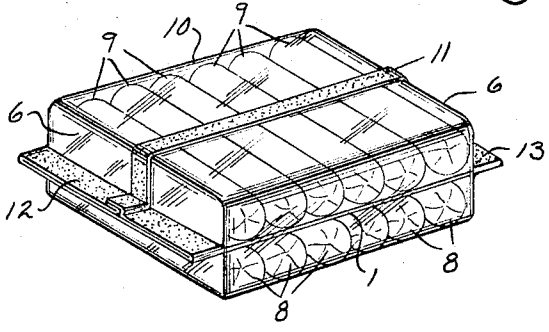


Fig. 5



INVENTOR
ROBERT A. KRZYZANOWSKI

BY Donald G. Casse

ATTORNEY

Sept. 13, 1966 R. A. KRZYZANOWSKI 3,272,328

COMMODITY SUPPORT CARD

Filed July 22, 1964 2 Sheets-Sheet 2

Fig. 6

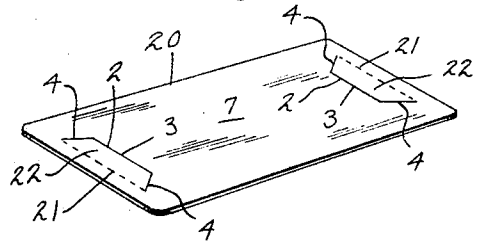


Fig. 7

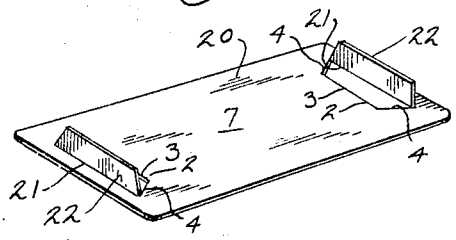


Fig. 8

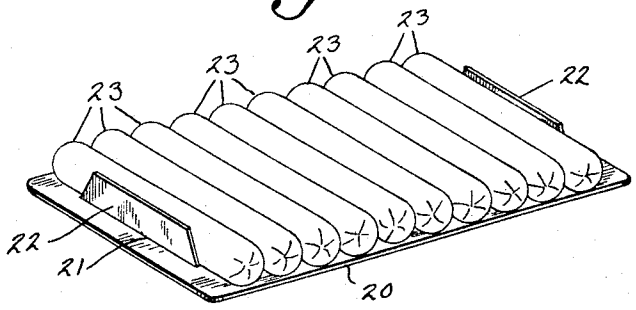
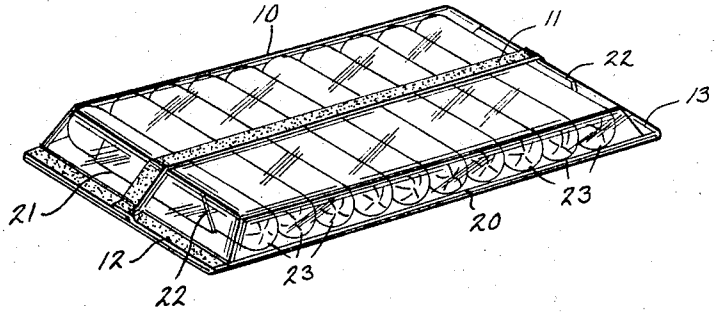


Fig. 9



INVENTOR
ROBERT A. KRZYZANOWSK

BY Donald J. Carter

ATTORNEY

United States Patent Office

3,272,328

Patented Sept. 13, 1966

3,272,328

COMMODITY SUPPORT CARD

Robert A. Krzyzanowski, Milwaukee, Wis., assignor to Milprint, Inc., Milwaukee, Wis., a corporation of Delaware

Filed July 22, 1964, Ser. No. 384,306
3 Claims. (Cl. 206—65)

This invention relates generally to packaging, and specifically relates to the provision of a card-like carrier or support member for a commodity, which member includes foldable retainer panels that can be swung to an upright position to abut opposite portions of the commodity placed on the carrier member. This facilitates holding the commodity on the carrier while it is fed through packaging operations, such as an overwrapping or pouch-making machine. The invention is particularly useful in the packaging of a group of similar articles, such as a stack of frankfurters, clothes pins, sausages, etc., and can be effective with the articles arranged in either one or two rows.

A principal object of this invention is to provide a member for carrying or supporting a commodity which is to be packaged, such as by being transported through a pouch-making machine, over-wrapping machine, or other packaging apparatus, wherein the member holds the commodity in such a manner as to reduce displacement thereof during the packaging operation. Another object is to provide a member for holding a plurality of similar articles in a stack or group without one or more of the articles becoming dislodged from the stack or group while it is being moved through packaging operations. Another object is to provide a flat card-like member that has a pair of panels defined therein which can be swung to an upright position to engage opposed ends of a stack or body of a commodity placed on the card-like member so as to hold the commodity in place. A related object is to provide a member of the foregoing type that carries two rows of articles arranged one row on each side of the card and wherein one row assists in maintaining the panels upright to thereby help hold the other row of commodity in place. A still more specific object is to provide a flat card having cut lines and fold lines arranged to define foldable retainer panels on at least two opposed sides of the card, which panels may be swung into a position to engage commodity placed on the card and thereby assist in holding the commodity thereon. Another object is to provide a package including commodity arranged on a card-like member as defined in any of the preceding objects and an outer wrapper enclosing the card and commodity and snugly conforming to the outlines thereof. A further object is to provide packaging methods for utilizing card members according to any of the foregoing objects.

The foregoing and other objects will become apparent from the following description wherein several specific embodiments of this invention are described for the purposes of illustration and to enable those skilled in the art to practice the present invention. However, it is to be understood that other embodiments of this invention may be used and that structural changes in the forms described herein may be made by those skilled in the art without actually departing from the true scope of this invention. The scope of the present invention is best defined by the claims and, except as otherwise stated, limitations set forth in the following detailed description should be interpreted as being illustrative only. In the following description and in the claims, various structural features have been identified by specific names or relative positions or directions. These, however, are intended to be construed in a broad generic, not limitative,

sense. As much as possible, the same reference characters refer to like parts in the several drawings.

In the drawings:

FIG. 1 is a perspective view of the support card including foldable retainer panels, in accordance with this invention;

FIG. 2 is a perspective view of the support card of FIG. 1 with the foldable retainer panels in an upright condition ready to receive a commodity;

FIG. 3 is a perspective view showing the support card placed about a first row of commodity;

FIG. 4 is a perspective view showing a second row of commodity added to the support card;

FIG. 5 is a perspective view showing transparent, flexible sheet material wrapped about the support card and its commodity shown in FIG. 4;

FIG. 6 is a perspective view of a second form of support card;

FIG. 7 is a perspective view of the card of FIG. 6 with the retainer panels in an upright position;

FIG. 8 is a perspective view of the card of FIG. 7 supporting a single row of commodity; and

FIG. 9 is a perspective view showing transparent, flexible sheet material wrapped about the support card and its commodity shown in FIG. 8.

In FIG. 1 there is shown a flat card **1** that is cut and scored to include panels which define a supporting member in accordance with this invention. Near each end of the card **1**, there is formed a bent or U-shaped cut indicated generally as **2**. The cuts **2** include a transverse central cut **3** extending partly across the card and a longitudinal cut **4** extending from each end of the transverse cut toward the end of the card and terminating short thereof; as indicated, the central cut and two longitudinal cuts may meet at rounded corners. A transverse fold line **5** extends at right angles from the end of each longitudinal cut **4** that is not connected to the central cut to the nearest side edge of the card; the fold lines may be parallel to the transverse cut **3**. The cuts are herein shown as solid lines to denote that they extend entirely through the thickness of the card, but they can also be formed by perforated lines. The fold lines are shown as dashed lines to indicate that they do not extend through the card but are merely creased areas scored in the card to serve as hinges for folding. The various cuts and fold lines can be formed by means or devices generally used in the manufacture of foldable cartons, for example, the cut lines may be formed by die-cutting through the card and the fold lines can be formed by scoring the card so that it will bend easily about the scored portions. The card is best made of foldable material of the type commonly used in the manufacture of cartons such as paperboard, cardboard, or any other similar material, although plastic materials, particularly the self-hinging synthetic plastics also may be utilized in its construction.

The cut lines and fold lines define a panel **6** at each end of the card **1** which can be rotated about the fold lines to the upright position shown in FIG. 2. When in this condition, the lower portion **6*a*** of each panel **6**, being that portion bounded by a bent cut **2**, is folded from the plane of the card and underneath the central portion **7** of the card. At the same time, the upper portion **6*b*** of each panel **6**, bounded by the end and side edges of the card and the fold lines **5**, is folded out of the plane of the card to assume an upright position above the central portion **7** thereof. Due to the resiliency of the material, the panels **6** will tend to fold inwardly to return towards their original position. The card is now in an erected condition ready for use in packaging any desired commodity, herein illustrated as frankfurters.

Turning now to FIG. 3, a group of frankfurters **8** is arranged in a row with each abutting its neighbor in the

lengthwise direction. It is desired to maintain the frankfurters in this arrangement as they proceed through the packaging operation, and the card **1** of this invention is designed to assist in accomplishing this end. After the card **1** is erected as shown in FIG. 2, it is placed over the row of frankfurters **8** in the manner shown in FIG. **3** with the lower portion **6***a* of each rotatable panel **6** contacting each end frankfurter of the row. The distance between the panels **6** when erected is selected to be approximately equal to the length of the row of commodity so that when the card **1** is placed over the row, the resiliency of the material will act to urge the lower portions **6***a* inwardly so they can rather firmly engage the ends of the row of commodity. This serves to keep each individual article firmly in the row and prevents the end pieces, in particular, from separating from the group. Additionally, this aids in keeping the panels **6** in their upright positions.

As indicated in FIG. 4, an upper row of frankfurters **9**, arranged in the same manner as the lower row, is then placed on top of the card **1** between the erected upper portions **6***b* of the two foldable panels **6**. The upper row of frankfurters is also firmly held in place so that the row will not become disassembled. If the frankfurters in the lower row tend to separate, they will urge the lower portions **6***a* of the panels **6** outwardly and the upper portions **6***b* will bear against the ends of the frankfurters in the upper row to prevent the lower portions from being pushed outwardly so far as to enable the lower row to become separated. Conversely, if the frankfurters in the upper row tend to separate, the upper portions **6***b* of the panels will move outwardly slightly and the portions **6***a* will engage the ends of the lower row of frankfurters to prevent further outward movement of the upper portions so that additional disarrangement of the upper row will be prevented. Thus the card of this invention is constructed and loaded with commodity in such fashion that the panels and commodity cooperate to retain the commodity in an orderly arrangement on the card.

The assembly of FIG. 4 is now ready to be wrapped in a suitable protective material to form the completed package. Any suitable packaging machinery can be used, although the present invention is particularly adapted for apparatus of the type that will fold a web of film about the assembly to form a pouch that tightly conforms to the contours of the assembly; vacuum packaging apparatus or apparatus which displaces air in the package with an inert gas such as carbon dioxide to form a hermetically sealed package is preferred when food is the commodity. A typical finished package is shown in FIG. 5. A sheet **10** of transparent flexible sheet packaging material is folded about the assembly of the card **1** and the frankfurters and sealed (as by heat-sealing) along a longitudinal seam **11**. Transverse end seams **12** and **13** are formed across each end of the package. A pouch that snugly engages the outer surfaces of the assembly is thus formed; for best results, the pouch is formed by vacuum packaging equipment so that it is drawn tightly against the upright panels **6** to prevent the assembly from shifting. Examples of suitable materials for the sheet **10** are polyethylene coated cellophane and polyethylene coated polyester film, although other useful materials are available.

FIGS. 6–9 illustrate another form in which some of the principal features of the present invention may be embodied. A flat card **20** is shown as including a bent cut **2** near each of its ends. Each cut **2** includes a transverse cut **3** and a longitudinal cut **4** extending from each end of the cut **2** towards the outer ends of the card, but terminating short thereof. The cuts **4** may be flared slightly outward as indicated and form sharp corners where they intersect the transverse cut. A transverse fold line **21** is formed in the card **20** to connect the two outer ends of each pair of longitudinal cuts **4**; the fold lines **21** may be parallel to the transverse cuts **3**. The

transverse fold lines **21**, in effect, extend across the open ends of the bent cuts **2** to form a hinged panel or flap **22** at each end of the card **20**.

When using the card **20** for packaging any desired commodity, each panel **22** is folded about its fold line **21** to the upright position out of the plane of the central portion **7** of the card as shown in FIG. 7, and then arranged about a body of commodity, such as the frankfurters **23**, so that the upright panels **22** engage opposed portions of the body in the manner illustrated in FIG. 8. The panels **22** abut opposite ends of the commodity so as to hold it in place on the card. The resiliency of the card material is utilized in keeping the panels in the desired position with respect to the body of commodity. To complete the package, a sheet of flexible, packaging material is folded about the card and commodity assembly so as to snugly conform to the outlines thereof and then sealed along longitudinal seams **11** and transverse end seams **12** and **13** to form a completely sealed package as shown in FIG. 9.

As is indicated in the preceding drawings, the card **1** of FIGS. 1–5 is adapted to support two rows or layers of a commodity whereas the card **20** of FIGS. 6–9 is adapted to support only one row or layer. When the card **1** is used, the wrapper **10** can carry any desired printing for decoration, product information, trademarks, etc. This can also be done where the card **20** is used, but, additionally, the same information can be printed on the back of the card **20** itself and the finished product displayed with the printed board up so as to both protect the packaged product from light and to enhance display of the printed information; when used in the latter fashion, the wrapper **10** would preferably be entirely transparent (i.e. without any printing).

One of the important advantages of the cards disclosed herein is that they greatly facilitate the packaging of a group of individual articles in an automatic wrapping or pouch-forming machine. In a typical machine of the type referred to, the articles to be packaged are moved along an infeed conveyer that travels at an angle to a moving web of flexible packaging film. Near the end of the infeed conveyer, the articles are transferred to the moving web of film and then transported by the film as it moves through the folding stations for folding the film about the articles and then through the sealing mechanisms to form a closed package. Usually, the web of film travels slightly faster than the infeed conveyer. Although the infeed conveyer in a machine of this type will normally have separators or dividers to hold the commodity in place, the problem presented is that it is necessary for the commodity to maintain its form by itself while being transferred to the moving web of film and while being transported by the film through the package forming operations. With a group of individual articles, such as the frankfurters shown herein, one or more articles may become separated from the group and thereby prevent satisfactory maintenance of the group for the wrapping and/or folding operations. Although continuous bands or collars that wrap entirely around the body of commodity are sometimes used to prevent these problems, they are not completely satisfactory and require time-consuming and cumbersome operations to be fixed in place. The article support members of this invention solve the foregoing problems and act to prevent individual members of a group of articles from becoming separated as the group is being moved through an automatic packaging machine. They are easily placed in position with a minimum of time and efficiently hold a commodity in place. In addition, they act to keep the commodity in place in the finished package and provide a relatively compact stiff package that reduces flexing and its attendant adverse effects of causing the package to crack and leak. In this latter connection, a carbon dioxide filled vacuum package, for example, formed about a loosened group of articles results in a finished package that is subject to greater flexing than one which is formed about a

compact, tight group of articles, and this increased flexing can result in an increased number of cracked, leaky packages.

There has thus been described two constructions of a support member, adapted to hold a commodity to be enclosed in an outer wrapper. In accordance with this invention, the support member comprises a flat card of foldable material having at least two retainer panels formed in opposite portions of the card. Each retainer panel is defined in part by a bent cut having spaced legs opening away from the center or central portion of the card, and each such leg terminates short of the end edges of the card. Fold lines are formed in the card so that the portion of each panel defined by the bent cut can be hinged or folded to an upright position about the fold lines to be out of the plane of the central portion of the card, and commodity to be supported on the card can be placed between the upright foldable retainer panels. The panels will then engage opposed portions of the commodity to aid in retaining the same on the card; the resiliency of the card stock is thusly utilized to aid in holding the retainer panels in their desired position. In the principal embodiment of the invention, each retainer panel has two portions, one extending above the plane of the central portion of the card and the other extending below the plane of the central portion of the card when the panels are folded to their upright or commodity-retaining position, so that one layer of commodity can be positioned between the upper portions of the opposed panels and a second layer can be positioned between the lower portions of the panels. In an alternate form, important features of this invention are incorporated in a card constructed to retain or support a single layer of commodity. To complete the package with either card illustrated herein, an outer wrapper encloses the card and commodity and snugly conforms to the outlines thereof.

Although two specific examples of this invention have been described in detail for the purpose of illustration, it is to be understood that it is intended to cover all changes and modifications of these two examples as well as other card constructions not specifically herein illustrated, which do not constitute a departure from the spirit and scope of this invention.

I claim:

1. A package comprising:

(1) a support member comprising a flat card including a central portion and at least two spaced panels in an upright position out of the plane of the central portion of the card, each panel being defined by a generally U-shaped bent cut formed in the card having spaced legs opening away from the central portion of the card and fold lines intersecting said legs and about which a panel is foldable to its upright position;

(2) commodity arranged on the central portion of the card between the upright spaced panels, said panels contacting opposed portions of the commodity to hold the panels upright and to retain the commodity on the card; and

(3) an outer wrapper enclosing the card and commodity and snugly conforming to the outline thereof.

2. A package comprising:

(1) a support member comprising a flat card including side and end edges, a central portion and at least two spaced panels in an upright position out of the plane of the central portion of the card, each panel having an upper portion above the plane of the card and a lower portion below the plane of the card, one of said panel portions being defined by a bent cut formed in the card and having spaced legs opening away from the central portion of the card, and one part of the other of said panel portions being defined by fold lines extending from each spaced leg to the nearest side edge of the card and another part of said other panel portion being defined by end edges of the card;

(2) commodity arranged in two layers on the central portion of the card, one layer extending between the upper portions of the panels and the other layer extending between the lower portions of the panels, with the portion of each panel defined by a bent cut contacting opposed sides of the commodity to hold the panels upright and to retain the commodity on the card; and

(3) an outer wrapper enclosing the card and commodity and snugly conforming to the outline thereof.

3. A package comprising:

(1) a support member comprising a flat card including a central portion and at least two spaced panels in an upright position out of the plane of the central portion of the card, each panel defined by a generally U-shaped bent cut having spaced legs opening away from the central portion of the card and a fold line extending between the spaced legs of each bent cut about which each panel is hinged to the card;

(2) commodity arranged on the central portion of the card between the upright spaced panels, said panels contacting opposed portions of the commodity to hold the panels upright and retain the commodity on the card; and

(3) an outer wrapper enclosing the card and commodity and snugly conforming to the outline thereof.

References Cited by the Examiner

UNITED STATES PATENTS

1,142,017	6/1915	Brown	229—42
2,278,198	3/1942	Hall.	
2,711,819	6/1955	Vander Lugt	206—45.31
2,745,545	5/1956	Dunning	206—78
2,809,896	10/1957	Pierson et al.	229—42

LOUIS G. MANCENE, *Primary Examiner.*

THERON E. CONDON, *Examiner.*

W. T. DIXSON, *Assistant Examiner.*