Oct. 16, 1962 T. G. MAIRS 3,058,582

DISPLAY PANEL SUPPORTS

Filed Aug. 17, 1960

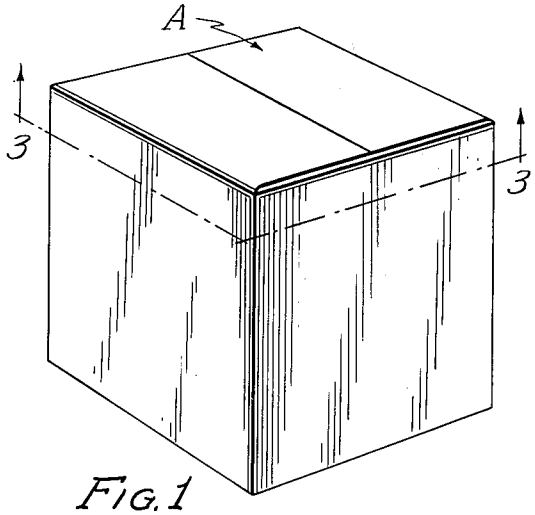



FIG. 1

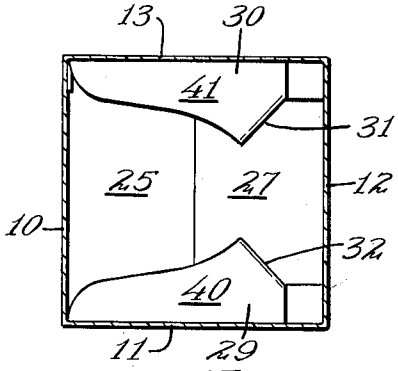



FIG. 3

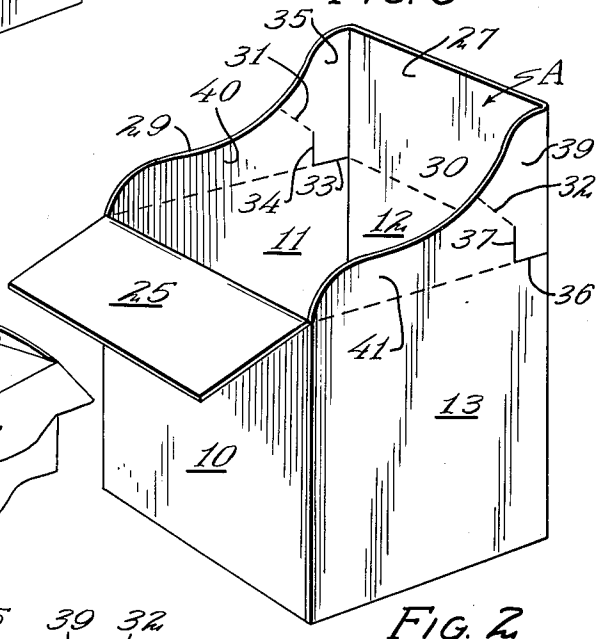



FIG. 2

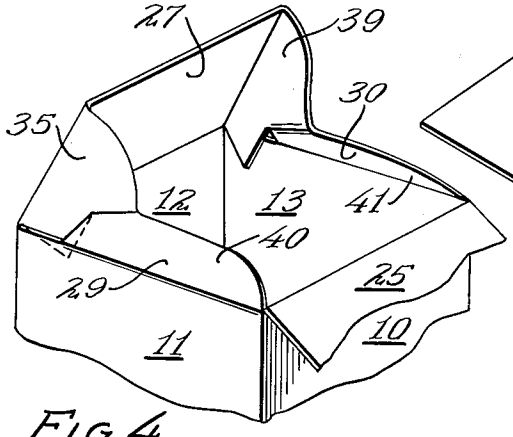



FIG. 4

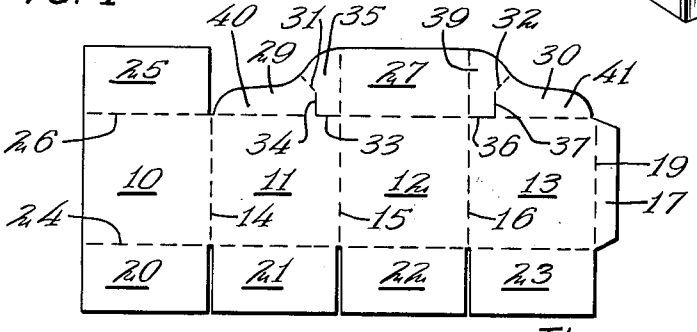



FIG. 5

INVENTOR

Thomas G. Mairs

BY Robert M. Dunning

ATTORNEY

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# DISPLAY PANEL SUPPORTS

Thomas G. Mairs, St. Paul, Minn., assignor to Waldorf Paper Products Company, St. Paul, Minn., a corporation of Minnesota

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This invention relates to an improvement in display panel supports and deals particularly with a simple means of holding a display panel in upright position.

Many displays are formed by leaving certain of the panels of a rectangular container connected and folding them down along diagonal fold lines during shipment. Thus the display forms the container for the shipment of the goods to be displayed. When the container is opened, the display panel, together with the adjacent panels which act as supporting panels, are folded into upright form to form the display. Normally, the inside surface of the container is printed so that the panels may form an attractive display for the goods contained.

One of the difficulties which has been experienced with displays of this type lies in the fact that after the supporting panels which are designed to support the display panel in upright position have been diagonally folded for a period of time, difficulty is experienced in maintaining them on a common plane. In other words, the supporting panels tend to buckle inwardly, allowing the display panel to incline forwardly. It is the purpose of the present invention to provide a simple and effective means for holding the supporting panels in parallel upright planes, thereby supporting the display panel in a vertical position.

A feature of the present invention resides in the fact that no added attachments are required or no extra paperboard is required in the accomplishment of the result. The entire result is accomplished by the provision of two angular cut lines which may be formed at the time the display is die cut and creased.

A feature of the present invention resides in terminating the diagonal lines of fold in the supporting panels short of the juncture between the supporting panels and the lower panels of the container. An angular cut line extends along the line of fold connecting the supporting panel to the bottom panel for a short distance and then extending upwardly to the end of the diagonal fold line. This angular cut defines a triangular tab which is integral with the portions of the supporting panel above the diagonal fold line and folds in conjunction therewith. Accordingly, the cut lines do not interfere with the folding of the supporting panels into horizontal position. However, when the supporting panels are folded into upright position, and the generally triangular tabs are forced back into position, the tendency for the supporting panels to collapse inwardly is entirely lost.

These and other objects and novel features of the present invention will be more clearly and fully set forth in the following specification and claims.

In the drawings forming a part of the specification:

FIGURE 1 is a perspective view of the display container in closed position.

FIGURE 2 is a perspective view of the display container in open position.

FIGURE 3 is a sectional view through the container, the position of the section being indicated by the line 3—3 of FIGURE 1.

FIGURE 4 is a perspective view of the upper portion of the container in partially folded condition.

FIGURE 5 is a diagrammatic view of the blank from which the display container is formed.

While the present structure has been described as a display container, it is obvious that the same principle



can be used in conjunction with any pair of panels having flaps foldably connected to an end which is designed to fold from horizontal position to upright position. One of the most common uses of such a structure however, is in a display container, and it is for this reason that the arrangement is shown as such.

The blank for forming the display container A is shown in FIGURE 5 of the drawings as including a front panel **10**, a side wall panel **11**, a rear wall panel **12**, and a side wall panel **13** which are foldably connected along parallel lines of fold **14**, **15** and **16**. A glue or stitch flap **17** may be connected to one end panel of the series, such as the panel **13**, by a fold line **19**. Alternatively, the flaps **17** may be omitted and the walls secured in tubular relation by tape.

Bottom closure flaps **20**, **21**, **22** and **23** are foldably hinged to the lower ends of the panels **10**, **11**, **12** and **13** respectively along the line of fold **24**. In the arrangement illustrated, these bottom closing flaps fold into edge abutting relation as the display is shown as being square in cross section.

A panel **25** is hingedly connected to the top of the front wall panel **10** along a fold line **26**. A display panel **27** is hingedly connected to the rear wall panel **12** along a continuation of the same fold line **26**. Supporting panels **29** and **30** are hingedly connected to the upper edges of the side wall panels **11** and **13** respectively along this fold line **26**. Diagonal fold lines **31** and **32** extend partially across the panels **29** and **30** respectively, these diagonal fold lines normally being at substantially 45 degrees from the fold line **26** so that the parts of the panels **29** and **30** on opposite sides of the diagonal fold lines may fold into face contact. The diagonal fold line **31** is directed toward the juncture between the fold lines **26** and **15** while the fold line **32** is directed toward the intersection between the fold lines **26** and **16**.

Angular cut lines are provided in the panels **29** and **30**, these cut lines forming the basis of the present invention. The cut line in the panel **29** includes a portion **33** which extends along the fold line **26** for a short distance and is angled to provide a portion **34** which is at right angles to the cut line portion **33** and which extends to the inner end of the diagonal fold line **31**. The cut line portions **33** and **34** form a triangular projection connected to the upper portion **35** of the panel **29** between the diagonal fold line **31** and the fold line **15**. The cut lines in the panel **30** include a portion **36** which extends along the fold line **26** for a short distance, and a generally right angular portion **37** which extends generally parallel to the fold line **16** to the end of the diagonal fold line **32**. The cut line portions **36** and **37** form a generally triangular projection attached to the upper portion **39** of the panel **30** which lies between the diagonal fold line **30** and the fold line **16**.

In use, the container is secured in flat tubular form by securing the manufacturers joint in any suitable manner. When used, the bottom closing flaps are folded into right angular relation to the panels to which they are hinged and are adhered in this position. In closing the upper portion of the container, the lower portions **40** and **41** of the side wall flanges **29** and **30** are folded inwardly and downwardly and the display panel **27** is simultaneously folded inwardly and downwardly. The upper portions **35** and **39** of the panels **29** and **30** thus fold between the lower portions **40** and **41** of these panels **29** and **30** and the display panels **27**. The triangular projections formed by the cut lines remain in the plane of the upper portions **35** and **39** of the panels **29** and **30**, as indicated in FIGURES 3 and 4 of the drawings.

If the diagonal fold lines described extend to the corners of the container, as is usual practice, difficulty is experienced in folding the side wall panels **29** and **30**

in upright position, as they tend to buckle inwardly toward the position illustrated in FIGURE 4. However, with the present construction, when the triangular projections are forced back into the plane of the side walls **11** and **12**, they frictionally engage the portions of the container from which they are cut and these portions hold the side wall or supporting panels **29** and **39** in upright position as indicated in FIGURE 2 of the drawings.

Either the inner surface of the containers may be printed, or both surfaces may if desired so as to provide an attractive display when the case is in open position.

In accordance with the patent statutes, I have described the principles of construction and operation of my improvement in display panel supports, and while I have endeavored to set forth the best embodiment thereof, I desire to have it understood that changes may be made within the scope of the following claims without departing from the spirit of my invention.

I claim:

1. A foldable display including a pair of hingedly connected supporting panels and a pair of display panels hingedly connected to the upper edges of said supporting panels and hinged together along an extension of the line of fold connecting said supporting panels, a diagonal line of fold across one of said display panels from the outer edge thereof toward the juncture between all said panels and terminating short of said juncture, and an angular cut line extending from said juncture along the line of fold connecting said one display panel to its supporting panel, and extending from said last named line of fold to the end of said diagonal fold line.

2. A foldable display including a pair of hingedly connected supporting panels and a pair of display panels hingedly connected to the upper edges of said supporting panels and hinged together along an extension of the line of fold connecting said supporting panels, a diagonal line of fold across one of said display panels from the outer edge thereof toward the juncture between all said panels and terminating short of said juncture, and an angular cut line including two angularly related portions terminating at both ends at said diagonal line of fold.



3. A display container including a container body having rectangularly arranged walls, display panels hingedly connected to three adjoining walls of said body, said display panels being hingedly connected together, said display panels comprising a central display panel and two side display panels, diagonal lines of fold in said side display panels extending from the outer edges thereof toward the juncture of said side display panels with said central display panel and said walls of said body, and a cut line interrupting each diagonal fold line each cut line including a pair of connected angularly related cut line portions terminating at their unconnected ends at said diagonal fold lines.

4. The structure of claim 3 and in which one of said cut line portions of each cut line extends along the line of fold connecting said side display panels with their body walls.

5. A display container including a container body having rectangularly arranged walls, display panels hingedly connected to three adjoining walls of said body, said display panels being hingedly connected together, said display panels comprising a central display panel and two side display panels, diagonal lines of fold in said side display panels extending from the outer edges thereof toward the juncture of said side display panels with said central display panel and said walls of said body, said diagonal fold lines terminating short of said junctures, and cut lines extending from the inner ends of said diagonal fold lines and said junctures, said cut lines including cut line portions extending from said junctures along the lines of fold connecting said side display panels with a corresponding body wall, and cut line portions extending from said first named cut line portions to the inner ends of said diagonal fold lines.

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