April 8, 1958 W. E. JASON 2,829,816

DISPLAY DEVICES

Filed July 26, 1956

2 Sheets-Sheet 1

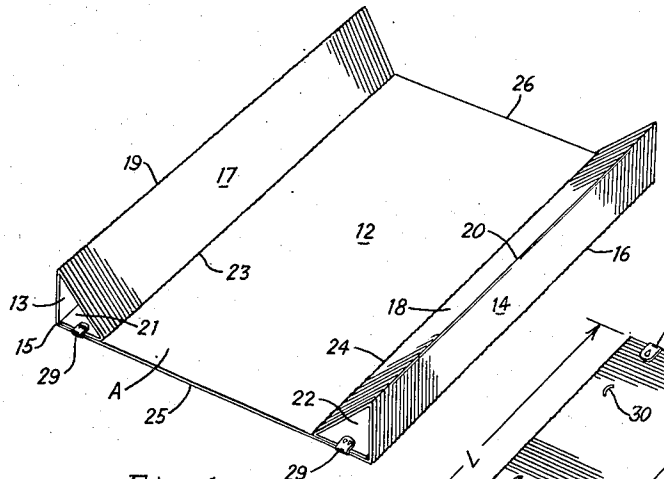


Fig. 1

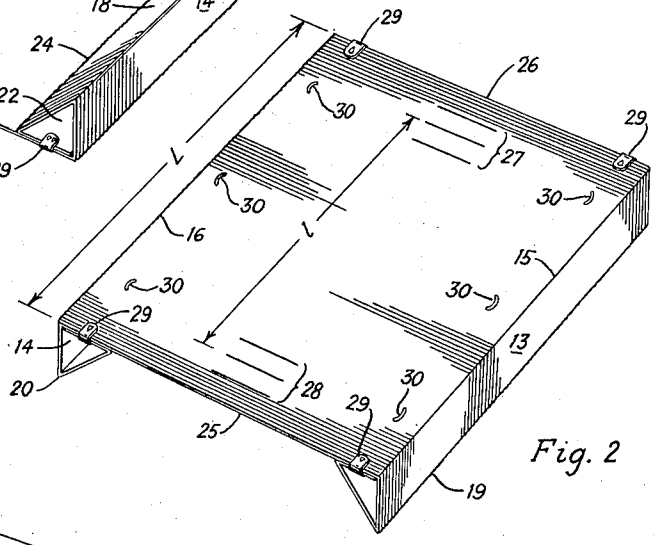


Fig. 2

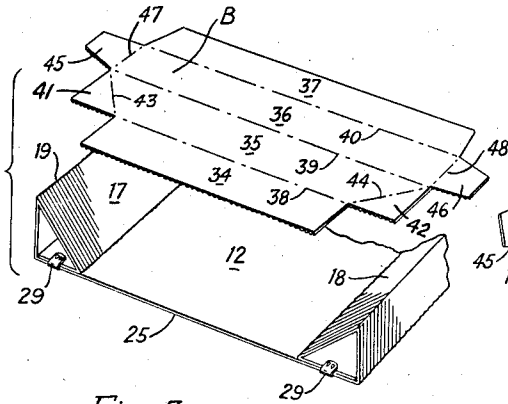


Fig. 3

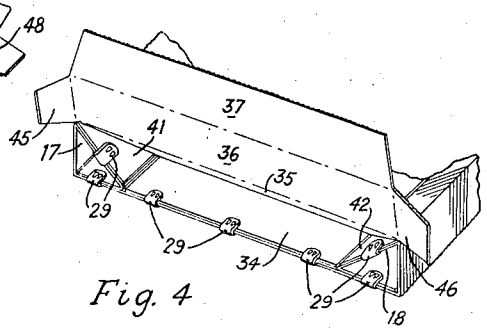


Fig. 4

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DISPLAY DEVICES

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2 Sheets-Sheet 2

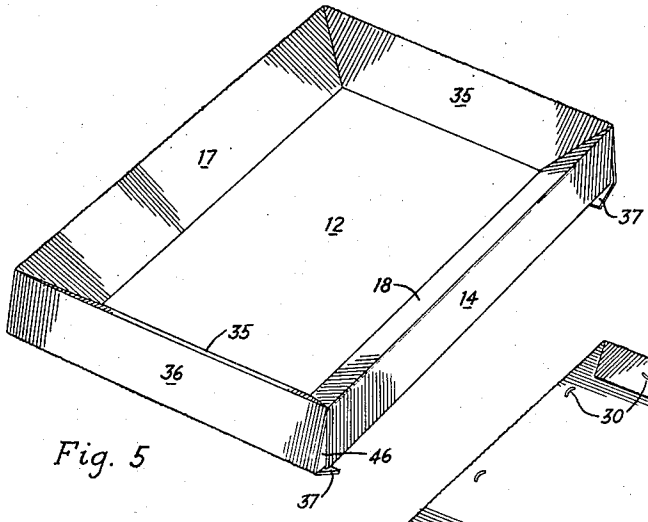


Fig. 5

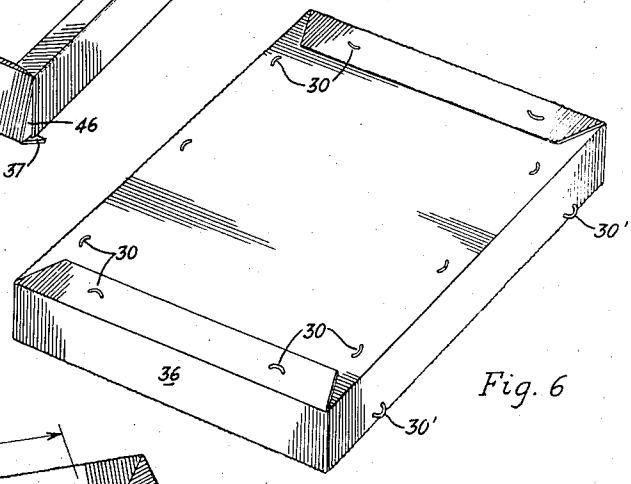


Fig. 6

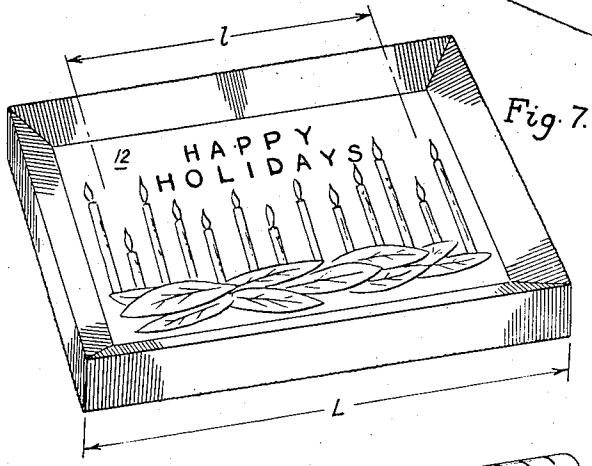


Fig. 7

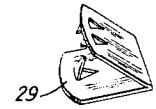


Fig. 8

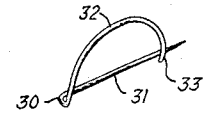


Fig. 9

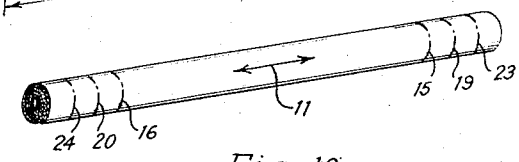


Fig. 10

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2,829,816

DISPLAY DEVICES

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Application July 26, 1956, Serial No. 600,246

5 Claims. (Cl. 229—23)

This invention relates to improvements in display devices of the type comprising a display panel surrounded by a decorative frame of triangular cross-section and constructed of paperboard. The invention has particular application to the construction of display devices of the aforementioned type in large dimensions of the order of several feet in height and an even greater dimension in length, presenting problems of weight, rigidity, stability, assembly, and transportation.

The present invention provides an improved display device which is constructed from single-faced corrugated board and can be stored and shipped in rolled up condition, and which is so constructed that the corrugations of the board provide rigidity in one direction and the folded panels provide rigidity at right angles thereto. Advantage is taken of the decorative appearance inherent in corrugated board and the frame is so constructed that its corrugations extend at right angles to the frame portions of the display device.

Display devices embodying the present invention are readily adaptable to different sizes in that their total length may be reduced to fit an available space simply by trimming one of its constituent blanks along one edge by a straight cut without impairing the panel or corner construction of the device, or its assembly.

The improved display device is composed of three separate blanks, a main blank from which the main portion is constructed and two identical blanks from which the end structures are assembled. This basic form of construction is known in display devices of this general type. The invention provides improvements of this basic form of construction by reason of which the display device is more readily assembled, and after assembly provides an attractive and decorative structure of greater strength and rigidity than provided by known forms of construction, light weight, strength and rigidity being important in large-size displays measuring several feet in length.

These and other objects, features and advantages of the invention will appear more fully from the detailed description which follows accompanied by drawings showing, for the purpose of illustration, a preferred embodiment of the invention. The invention also resides in certain new and original features of construction and combination of elements hereinafter set forth and claimed.

Although the characteristic features of this invention which are believed to be novel will be particularly pointed out in the claims appended hereto, the invention itself, its objects and advantages, and the manner in which it may be carried out, may be better understood by referring to the following description taken in connection with the accompanying drawings forming a part of it, in which:

Fig. 1 is a perspective view of the erected main blank of the display device, the front surface facing the observer;

Fig. 2 is a perspective view of the assembled main blank, the back surface facing the observer;

Fig. 3 is an exploded perspective view of an end portion of the erected main blank, a flat end blank being shown thereover;

Fig. 4 is a perspective view of the structure shown in Figure 3 after certain folding and securing operations;

Fig. 5 is a perspective view of the display device, the assembly of the ends being nearly completed;

Fig. 6 is a perspective view of the completed display device turned upside down;

Fig. 7 is a perspective view of the completed display device showing a representative form of printing thereon which lends itself to a reduction in length of the device;

Fig. 8 is a perspective of a pronged clip which may be used for fastening other elements of the device;

Fig. 9 is a view of a preferred form of pin clip which may be used in assembling the device; and

Fig. 10 is a perspective view of the display device knocked down and rolled up for shipment or storage.

In the following description and in the claims various details will be identified by specific names for convenience. These names, however, are intended to be generic in their application. Corresponding reference characters refer to corresponding parts in the several figures of the dawings.

The drawings accompanying, and forming part of, this specification disclose certain specific details of the invention, but it is understood that the details may be modified in various respects without departure from the principles of the invention and that the invention may be applied to other structures than the one shown.

The main blank A consists of a rectangular sheet of single-faced corrugated board, the corrugations extending in the direction of the arrow **11**. The blank A comprises a main display panel **12**, and outer side panels **13** and **14** articulated to the main panel **12** along outer side fold lines **15** and **16**. Inner side panels **17** and **18** are articulated to the outer side panels along ridge fold lines **19** and **20**, and inner bottom panels **21** and **22** are articulated to the inner side panels **17** and **18** along inner side fold lines **23** and **24**.

The outer and inner side panels and the inner bottom panels are so dimensioned as to produce a frame structure of triangular cross-section by folding as shown in Figure 1. In this position the outer side panels **13** and **14** are upright, the inner side wall panels **17** and **18** slope inwardly towards the main display panel **12**, and the inner bottom panels **21** and **22** lie underneath the inner side wall panels, preferably with their terminal edges in abutment with the outer side panels **13** and **14**.

The end edges **25** and **26** of the main blank A are straight and extend in line with the corrugations. Markings **27** and **28** may be imprinted on the main panel **12** at appropriate distances from the end edges as a guide for shortening the total length L of the main panel to a reduced length *l* as indicated in Figure 2. This may be complemented by an appropriate layout of the decorative subject matter, as will be described further below.

The decorative subject matter or the advertising message may be printed on either the face ply or on the corrugated ply. Detailed subject matter such as lithographic work is preferably printed on the face ply in which event the frame surrounding it has a corrugated appearance, the corrugations extending at right angles to the frame structure provided by the several side panels. It is also possible to print an advertising message accompanied by stylized illustrations on the corrugated ply in which event the frame appears smooth and provides a contrast. If desired, the face ply may also be printed to provide an appropriate color scheme with the message on the main panel.

The main blank A is delivered pre-scored to the user and may be shipped and stored in rolled condition as shown in Figure 10. After unrolling of the blank and

folding of the blank along the several side fold lines, the main portion of the display structure becomes a substantially rigid structure, the corrugations providing rigidity in the direction **11** and the triangular frame structures providing rigidity at right angles thereto.

After folding of the side walls, the inner bottom panels are secured to the main display panel by suitable means, for example by conventional pronged clips **29** shown in Figure 8. The main structure of the display device is then turned upside down as shown in Figure 2 and the inner bottom panels may be additionally secured to the main panel **12** by further fastening devices which may have the form of the pin clip **30** shown in Figure 9.

The pin clip **30** comprises a substantially straight shank portion **31** and a curved clip portion **32** extending from the end of the shank portion sufficiently far to extend across and beyond the shank portion at **33**, thus forming substantially the letter P. The shank portion extends through the main panel **12** into the corrugations of the inner bottom panels **21** and **22** and the clip portion **33** tends to draw the secured panel portions together, whereby a secure connection is provided without the use of adhesives.

The end blanks which form the end portions of the frame are of identical shape and may be produced by the same cutting and creasing die. A flat end B is shown in Figure 3. It is cut from single-faced corrugated board and comprises an inner bottom flat **34**, an inner end wall panel **35**, an outer end wall panel **36**, and an outer bottom flap **37**. These flaps and panels are articulated to one another along fold lines **38**, **39** and **40**. The fold lines extend transverse to the corrugations as shown and the end blanks may be rolled for shipment and storage, together with the main blank, preferably near the center of the roll.

The blank B further comprises a pair of securing flaps **41** and **42** articulated to the inner end wall panel **35** along oblique fold lines **43** and **44**. Side flaps **45** and **46** may be articulated to the outer end wall panel **36** along fold lines **47** and **48** extending in line with the corrugations.

The assembly of the end structures may proceed as follows. The blank B is lowered onto the erected main structure substantially as shown in Figures 3 and 4 and the inner bottom flap is attached to the main panel **12** by means of pronged clips **29**. The securing flaps **41** and **42** are folded over the inner side panels **17** and **18** and also secured thereto by further pronged clips **29**. In secured position the flaps **41** and **42** reinforce the corners of the display device and make the corners rigid.

After securing of the flaps **41** and **42** the inner end panel **35** assumes its proper slope with respect to the main panel **12** and it is only necessary to fold the outer end panels **36** into vertical position while also inserting the side flaps **45** and **46** into the hollow spaces of the side walls.

At this stage of assembly the display structure has the form shown in Figure 5, and it is only necessary to secure the outer bottom flaps **37** to the back surface of the main panel **12**. For this purpose the structure is preferably inverted as shown in Figure 6 and pin clips or other suitable securing elements are inserted through the outer bottom flap into the main panel as shown at **30** in Figure 6.

The display structure is then complete and may be suspended in any convenient manner. For this purpose a cord may be attached to inserted pin clips which also serve as fastening elements or further pin clips may be inserted as shown at **30'** to which a cord for suspending the display may then be attached.

Figure 7 illustrates a typical layout which lends itself to shortening, in the event the space available for the display is insufficient to accommodate the full length. As an example may be mentioned a display having a total length L of 60 inches which by suitable trimming may be reduced to a length *l* of approximately 40 inches by elimination of the end portions of the display while yet preserving the principal message.

The assembled display is of great rigidity and of light weight as can readily be seen from the fact that a display frame measuring 30 by 60 inches and having a depth of 2½ inches may be made to have a weight not to exceed 16 ounces. The display is readily set up by unskilled persons and can easily be recollapsed and reassembled if desired.

What is claimed is:

1. A knock-down display frame of the type comprising a main panel surrounded by a hollow frame assembly of triangular cross-section, the knock-down frame comprising three structures of single-faced corrugated board, namely, a main structure and two end structures, said main structure comprising lengthwise scores extending at right angles to the corrugations to define a main panel, and, on each side of the main panel, an outer side panel upright with respect to the main panel, an inner side panel articulated to the outer side panel along a ridge fold line and inwardly sloping toward the main panel, and an outwardly directed inner bottom panel overlying the main panel; each end structure comprising scores at right angles to the corrugations to define an inner bottom flap, an inner end wall panel, an outer end wall panel, and an outer bottom flap, in that order, said inner bottom flap overlying said main panel in a position in which its edge registers with the end edge of the main panel, each end structure further comprising a pair of securing flaps articulated to said inner end panel along oblique lateral fold lines, said securing flaps lying flat upon said inner side panels, and a pair of side flaps articulated to the outer end panel along fold lines parallel to the corrugations, said side flaps underlying said outer side panel in the hollow space formed by said inner side panel, said outer side panel and said main panel; clips securing the inner bottom flap to, and over, the inside of the main panel and further clips securing said securing flaps in overlying position to said inner side panels; and pin means securing the outer bottom flap to the back of said main panel and securing said inner bottom panel to said main panel.

2. A knock-down display frame as set forth in claim 1 in which the pin means are pin clips comprising a pointed substantially straight shank portion and a curved clip portion extending from the end of the shank portion sufficiently far to extend across and beyond the shank portion, thus forming substantially the letter P.

3. A knock-down display frame of the type comprising a main panel surrounded by a hollow frame assembly of triangular cross-section, the knock-down frame comprising three structures of single-faced corrugated board, namely, a main structure and two end structures, said main structure comprising lengthwise scores extending at right angles to the corrugations to define a main panel, and, on each side of the main panel, an outer side panel upright with respect to the main panel, an inner side panel articulated to the outer side panel along a ridge fold line and inwardly sloping toward the main panel, and an outwardly directed inner bottom panel overlying the main panel; each end structure comprising scores at right angles to the corrugations to define an inner bottom flap, an inner end wall panel, an outer end wall panel, and an outer bottom flap, in that order, said inner bottom flap overlying said main panel in a position in which its edge registers with the end edge of the main panel, each end structure further comprising a pair of securing flaps articulated to said inner end panel along oblique lateral fold lines, said securing flaps lying flat upon said inner side panels; pronged clips securing the inner bottom flap to, and over, the inside of the main panel and pronged clips securing said securing flaps in overlying position to said inner side panels; and pin clips securing the outer bottom flap to the back of said main panel and securing said inner bottom panel to the front of said main panel, said pin clips comprising a pointed substantially straight

shank portion and a curved clip portion extending from the end of the shank portion sufficiently far to extend across and beyond the shank portion, thus forming substantially the letter P.

4. A knock-down display frame as set forth in claim 1 in which the main panel comprises printed matter to be displayed and markings spaced from the end edges for reducing the length of the display by trimming the panel at said markings, the corrugations furnishing a guide for trimming.

5. A knock-down display frame of the type comprising a main panel surrounded by a hollow frame assembly of triangular cross-section, the knock-down frame comprising three structures of single-faced corrugated board, namely, a main structure and two end structures, said main structure comprising lengthwise scores extending at right angles to the corrugations to define a main panel, and, on each side of the main panel, an outer side panel upright with respect to the main panel, an inner side panel articulated to the outer side panel along a ridge fold line and inwardly sloping toward the main panel, and an outwardly directed inner bottom panel overlying the main

panel; means for securing said inner bottom panels to the top surface of the main panel adjacent its bordering lengthwise scores; each end structure comprising scores at right angles to the corrugations to define an inner bottom flap, an inner end wall panel, an outer end wall panel and an outer bottom flap, in that order, each end structure further comprising a pair of securing flaps articulated to said inner end panel along oblique lateral fold lines; means for securing said securing flaps to the inner side wall panels in a position in which the securing flaps lie flat upon the end portions of said inner side panels; and means for securing the outer bottom flaps to the back side of the main panel adjacent its end edges.

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