Dec. 16, 1924. 1,519,207

C. F. KAY

DISPLAY DEVICE

Filed May 7, 1923 4 Sheets-Sheet 1

Fig. 1.

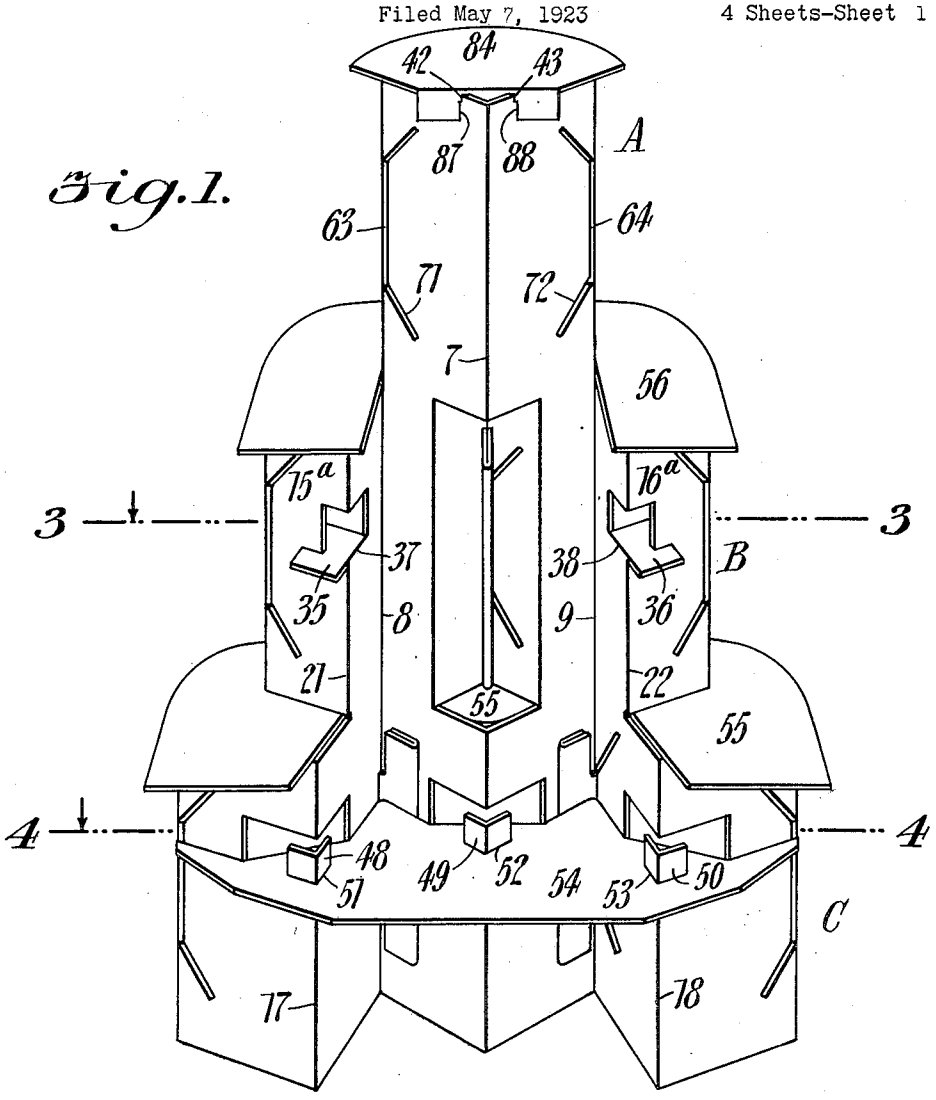
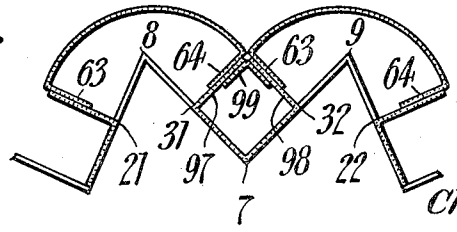


Fig. 13.



Inventor,
Charles F. Kay;
By Wilbur M. Stone
his Attorney.

Dec. 16, 1924. 1,519,207

C. F. KAY

DISPLAY DEVICE

Filed May 7, 1923 4 Sheets-Sheet 2

Fig. 2.

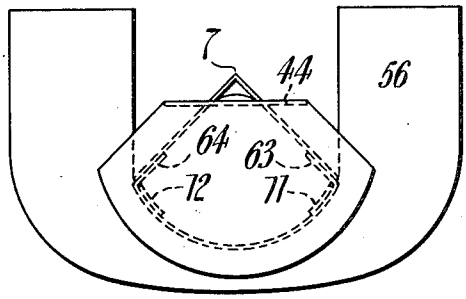


Fig. 3.

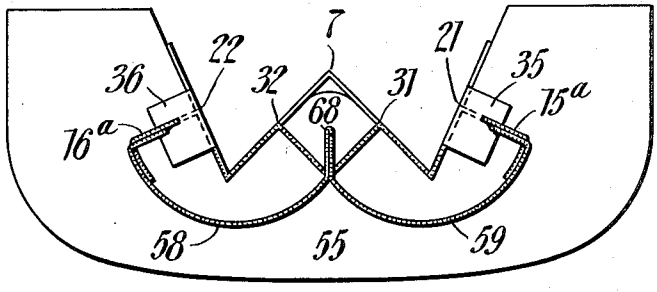
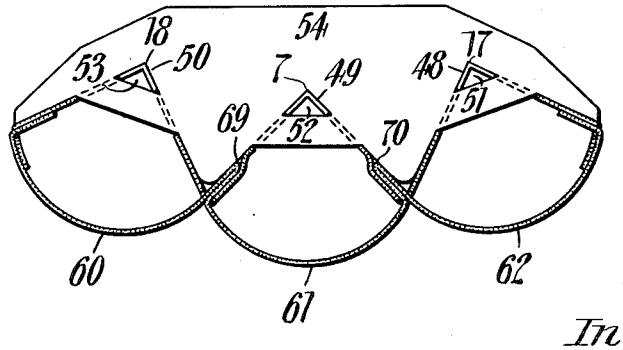


Fig. 4.



Inventor,
Charles F. Kay;
By Wilbur M. Stone
his Attorney.

Dec. 16, 1924. 1,519,207

C. F. KAY

DISPLAY DEVICE

Filed May 7, 1923. 4 Sheets-Sheet 3

Fig. 6.

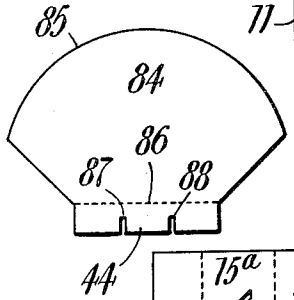


Fig. 7.

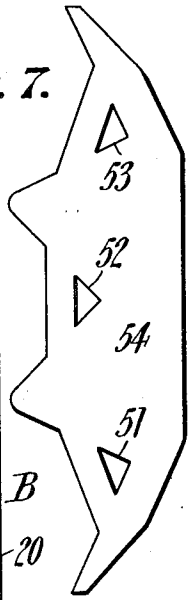


Fig. 5.

Fig. 8.

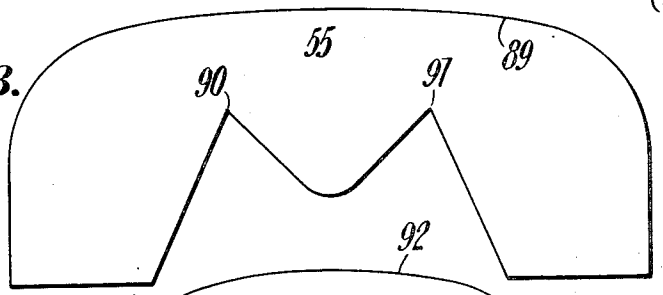
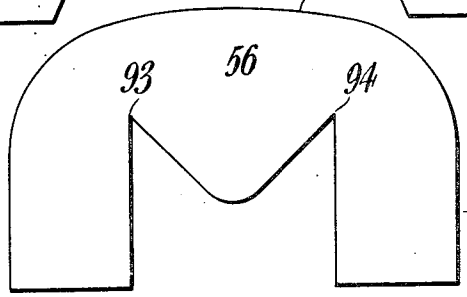


Fig. 9.



Inventor,
Charles F. Kay;
By Wilbur M. Stone
his Attorney.

Dec. 16, 1924. 1,519,207

C. F. KAY

DISPLAY DEVICE

Filed May 7, 1923 4 Sheets-Sheet 4

Fig. 10.

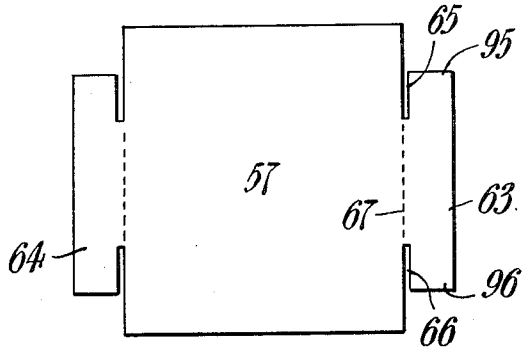


Fig. 11.

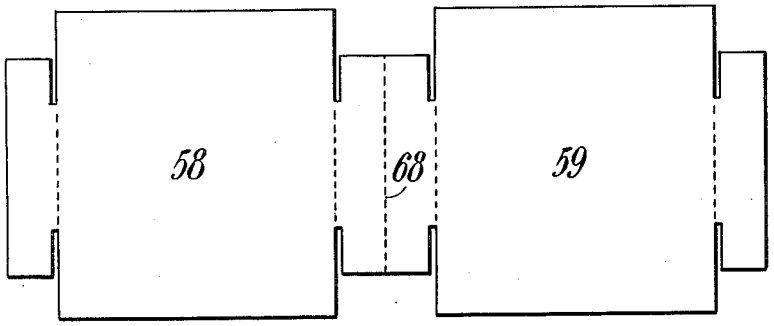
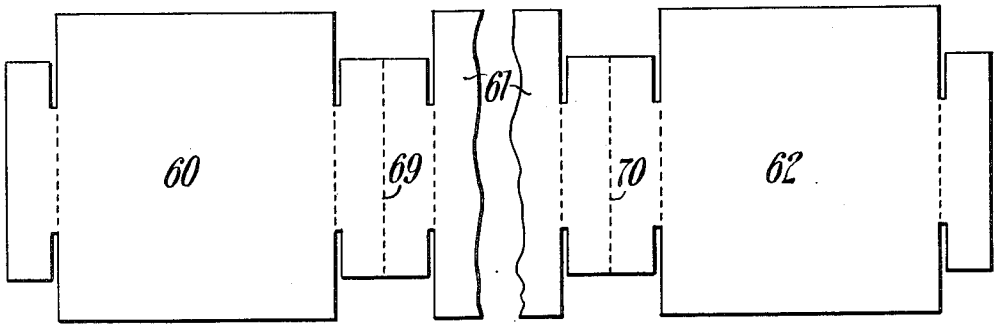


Fig. 12.



Inventor,
Charles F. Kay;
By Wilbur M. Stone
his Attorney.

Patented Dec. 16, 1924. 1,519,207

UNITED STATES PATENT OFFICE.

CHARLES F. KAY, OF NUTLEY, NEW JERSEY.

DISPLAY DEVICE.

Application filed May 7, 1923. Serial No. 637,090.

To all whom it may concern:

Be it known that I, CHARLES F. KAY, a citizen of the United States, and a resident of Nutley, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Display Devices, of which the following is a specification.

This invention relates to display devices, and has for its object to provide a device of the character specified of simple construction and which may readily be erected into display position.

My improvements comprise features illustrated in their preferred embodiment in the drawings accompanying this specification, wherein:

Figure 1 is a rear perspective view of my improved device in assembled condition. Fig. 2 is a top plan view of the upper portion of the device. Fig. 3 is a cross sectional plan view on line 3, 3 of Fig. 1. Fig. 4 is a similar cross sectional view on line 4, 4 of Fig. 1. Fig. 5 is a rear elevation of the main supporting member of the device spread out in one plane. Fig. 6 is a plan view of the cap member of the device. Fig. 7 is a plan view of the transverse locking member. Fig. 8 is a plan view of the lower transverse shelf. Fig. 9 is a plan view of the intermediate transverse shelf. Figs. 10, 11 and 12 are front elevations, respectively, of the several display members spread out in one plane. Fig. 13 is a cross sectional view of a modification of my improvements. All the figures of the drawings are to one scale.

My present improvements, while applicable to a variety of display devices, are illustrated as particularly applied to the well known general type of pyramidal displays, wherein a plurality of articles or containers are illustrated in stacked relation, each ascending row containing fewer articles than the row below. Also the present device is preferably arranged for assembling without the use of adhesives, the several parts being provided with interlocking features, respectively, so that the device may be partly assembled by the maker, collapsed into flat form for packing, and then set up in display position with a minimum of effort by the user. Also each of the members of the device may be formed from flat sheets of cardboard or other suitable material, and punched out into the desired profiles. The front or display members may bear any suitable pattern or device in representation of the article or container which it is desired to simulate, such for instance as the front half of a cylindrical can, see Figs. 2, 3 and 4.

The present showing represents a stack of cylindrical containers, of which three are arranged side by side in the bottom row, two side by side in the next row above, and one container on top. It will be obvious to those skilled in the art that the stack may be continued indefinitely downwardly by the addition of other rows, each with an increasing number of units therein.

Main supporting member or back 2, shown flat in Fig. 5, is of stepped pyramidal profile and is shown as comprising three transverse portions A, B and C of increasing width but preferably of equal heights. Upper portion A is divided into two adjacent panels 5, 6 symmetrically disposed relatively to central vertical score line 7 and bounded laterally by similar vertical score lines 8, 9. Said score lines 8, 9 extend downwardly over portions B and C to bottom edge 10. To the left and right of score lines 8, 9 in portion A are narrow wings 11, 12, respectively. Said wings are separated from portion B therebelow by slots 13, 14 extending inwardly from the outer edges of said wings to score line 8, 9, respectively. Upper edge 41 of panels 5, 6 have notches 42, 43 cut therein, respectively, for engagement with rear flange 44 of the cap member of Fig. 6.

Portion B has a width in excess of that of portion A equal to twice the width of either panel 5 or 6 and said extra width is included in opposite equal panels 15, 16 reaching outwardly to the left and right from score lines 8, 9, respectively. Said panels carry on their outer edges, defined therefrom by score lines 17, 18, wings 19, 20, respectively, similar to wings 11, 12. Said score lines 17, 18 extend downwardly over portion C to bottom edge 10. Said panels 15, 16 are each divided into two equal sub-panels 15^a, 15^b, 16^a, 16^b by vertical score lines 21, 22, respectively. Wings 19, 20 and sub-panels 15^a, 16^a are separated from portion C by slots 23, 24 extending inwardly from the outer edges of said wings to score lines 21, 22, respectively. Those portions of panels 5, 6 lying within portion B are divided into two equal sub-panels 5^a, 5^b and 6^a, 6^b, respectively by vertical score lines 31, 32, re-

spectively, and said score lines are joined at top and bottom by cuts 33, 34 respectively. Panels 15, 16 are provided with latches 35, 36, cut free of said panels except as indicated by dotted score lines 37, 38 connecting said latches with sub-panels 15^b, 16^b, respectively. Said latches are provided with notches 39, 40 in their upper edges, respectively.

Portion C has a width in excess of that of portion B equal to twice the width of either panel 5 or 6 and said extra width is included in opposite equal panels 25, 26 reaching outwardly to the left and right from score lines 17, 18, respectively. Said panels carry on their outer edges, defined therefrom by score lines 27, 28, wings 29, 30, respectively. In said portion C, disposed symmetrically relatively to score lines 17, 7 and 18, are openings 45, 46, 47, upstanding in which are tabs 48, 49, 50, respectively. Said tabs are also disposed symmetrically relatively to said score lines. These tabs are for engagement with openings 51, 52, 53, respectively, in transverse sustaining member 54, Fig. 7.

For insertion between the bottom row of front members, Fig. 12, and the middle row of front members, Fig. 11, shelf 55, Fig. 8, is provided, and for insertion between said middle row of front members and the top member, Fig. 10, shelf 56, Fig. 9, is provided.

The front members of my improved display are illustrated in detail in Figs. 10, 11, 12. Said members, as 57, Fig. 10, are formed from sheet material, such as cardboard, preferably somewhat thinner than the cardboard employed for the back, shelf and sustaining members, and have a height substantially equal to the height of any one of the wings, such as 11. The width of the main portion of said front member is substantially equal to the combined width of any two panels, as 5, 6, of the back member and when laid over said panels will extend from score line 8 to similar line 9. Said front member is provided with opposite outwardly extending side ears 63, 64. Said ears are preferably shorter than the height of said front member and are partially divided therefrom by upper and lower vertical slots, as 65, 66 of ear 63, and said slots are connected by score lines, as 67 of ear 63. Said ear is thereby provided with opposite lobes 95, 96 for interlocking with engaging parts on the back member as hereinafter described. This front member 57 is adapted for interlocking in any one of six positions on the device, but for convenience of manufacture and assembly, front members 58, 59 for section B of the device are formed in one piece, their adjacent ears being connected along vertical score line 68, and members 60, 61, 62 for section C are formed in one piece, their adjacent ears being connected along score lines 69, 70, respectively.

Reverting now to Fig. 5, means for engaging and interlocking with the ears of the front members are provided in each of portions A, B and C of the back member. In portion A, opposite vertical slots 71, 72 of a length substantially equal to the distance between the roots of slots 65, 66 of the front member, Fig. 10, are located midway the height of said portion A and coincident with score lines 8, 9, respectively. Reaching inwardly from the opposite ends of slot 71, and diverging from each other at an angle of about ninety degrees are extension slots 73, 74, respectively. These angularly disposed slots terminate at a distance from score line 8 about equal to the width of one of the ears of a front member, as ear 63 of front member 57. Slot 72 is similarly provided with angular extension slots 75, 76. Portion B is provided with slots 77, 78, 79 coincident with score lines 17, 7, 18, respectively, and each of said slots has angular extensions similar to those described in connection with slot 71. Portion C has similar angularly ended slots, 80, 81, 82, 93, the vertical portions of which coincide with score lines 27, 8, 9, 28, respectively.

Cap member 84, Fig. 6, has a front curved profile 85, corresponding approximately with the curve of front member 57 when that front member is in display position, and rear flange 44 is connected to the body of said cap along score line 86. Said flange has slots 87, 88 in its rear edge for engagement with the upper portions of panels 5, 6, respectively.

Shelf 55 has a curved front edge 89 and is notched at 90, 91 at the rear to fit about the forwardly projecting corners of the back member when the device is erected. Shelf 56 also has a curved front edge 92 and is notched at 93, 94 to fit about portions of said back member when the device is erected.

The mode of assembly will be understood by reference to Figs. 1, 2, 3 and 4. For instance, ears 63, 64 of front member 57 are inserted, with lobes as 95, 96 flat, in the angularly ended slots 71, 72, respectively, see Fig. 2, wings 11, 12 and ears 63, 64 being folded inwardly so as to be hidden when the device is erected. The other front members are similarly assembled with the corresponding slots of the back member, respectively. The back member carrying said front members interlocked therewith may then be spread out flat for stacking, for shipping or storage. For erection in display position, the back member is folded into zigzag panels along the vertical score lines. Score line 7, in portions A and C will define the apex of a rearwardly projecting corner, and in portion B, the apex of a forwardly projecting corner. Score lines 8,

9 will define the apexes of forwardly projecting corners, respectively, in portions B and C. Score lines 17, 18 will define the apexes of rearwardly projecting corners in portion C.

Transverse sustaining member 54 is then introduced with its opening 51, 52, 53 in register with tabs 48, 49, 50, respectively, of the back member, and said member 54 is pressed down over said tabs, see Fig. 1. Portion B is then folded along lines 21, 22 to form rearward corners, and latches 35, 36 are folded to cause their notches 39, 40 to engage sub-panels 15^a, 16^a respectively. The front members are thereby bowed outwardly into cylindrical contour. Cap 84 is then placed in position with notches 87, 88 thereof interlocking with notches 42, 43, respectively, the back member, and shelf 55, is inserted between the lower and middle rows of the front members, and shelf 56 is inserted between the middle row and the top front member.

In the modification of Fig. 13 the front members have their ears 63, 64 glued to wings hinged along score lines, 21, 31, 32, 22, respectively, those wings being separated from each other along lines 8, 9, respectively. Mid-wings 97, 98 have their free ends joined by angle piece 99.

I claim:

1. In a collapsible display device the combination of a back member foldable along vertical lines into zigzag panels presenting a plurality of projecting corners, a plurality of front members removably interlocked at their vertical edges with said projecting corners and with the outer portions of the outer panels respectively, said front members being in plural bowed relation to said back member, and means for sustaining the panels of said back member in zigzag relation, said back member and said front members being foldable into substantial parallelism upon the release of said sustaining means.

2. In a display device the combination of a back member foldable along vertical lines into zigzag panels presenting a plurality of forwardly and rearwardly projecting corners, a plurality of front members attached at their vertical edges to said forwardly projecting corners and to the outer edges of the outer panels respectively, a transverse sustaining member having angular seats therethrough, and angular ears formed in said rearwardly projecting corners for engaging said seats.

3. In a display device the combination of a back member having stepped side edges, said member being foldable along vertical lines into zigzag panels presenting a plurality of forwardly and rearwardly projecting corners, a plurality of front members attached at their vertical edges to said forwardly projecting corners and to the outer edges of the outer panels respectively, a transverse sustaining member having engaging means, and means formed in said rearwardly projecting corners for engaging said sustaining member engaging means.

4. In a display device the combination of a back member having stepped side edges, said member being foldable along vertical lines into zigzag panels presenting a plurality of forwardly and rearwardly projecting corners, a plurality of front members arranged in pyramidal relation in superimposed rows respectively attached at their vertical edges to said back member, a shelf slidably inserted between the top and bottom of adjacent rows, a cap on the uppermost front member interlocking with a rearwardly projecting corner of said back member, and means engaging rearwardly projecting corners of said back member for sustaining the panels of said back member in zigzag relation.

In witness whereof, I hereby affix my signature this 3rd day of May, 1923.

CHARLES F. KAY.