

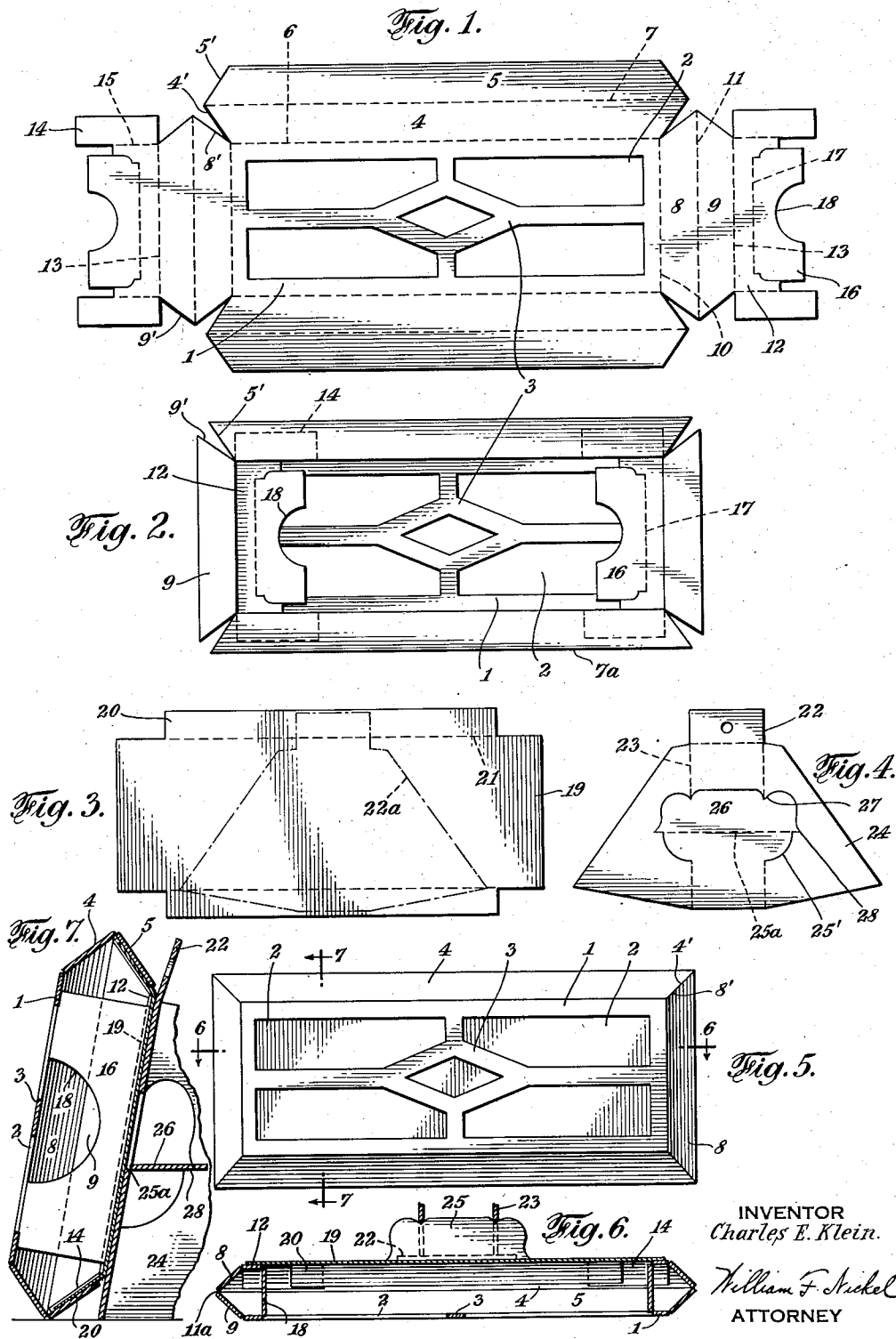
Nov. 20, 1951

C. E. KLEIN
DISPLAY DEVICE

2,575,452

Filed April 24, 1947

2 SHEETS—SHEET 1



Nov. 20, 1951

C. E. KLEIN
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2 SHEETS—SHEET 2

Fig. 8.

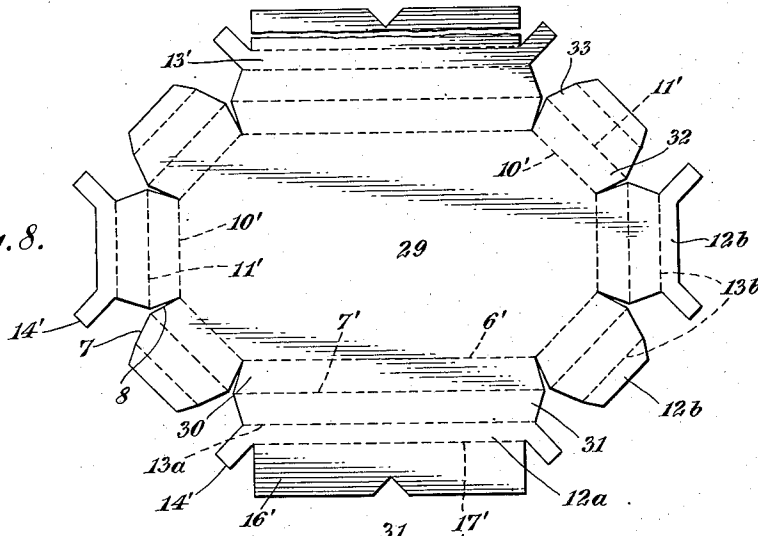


Fig. 9.

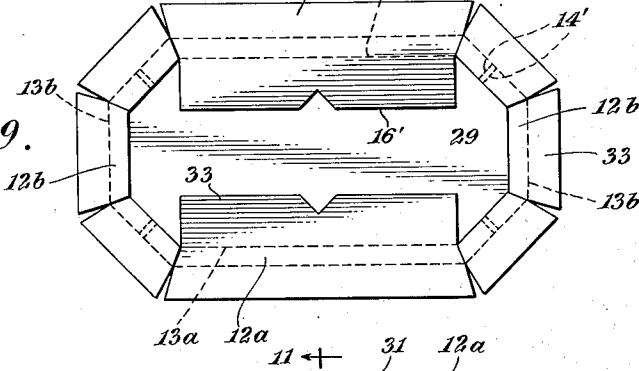


Fig. 10.

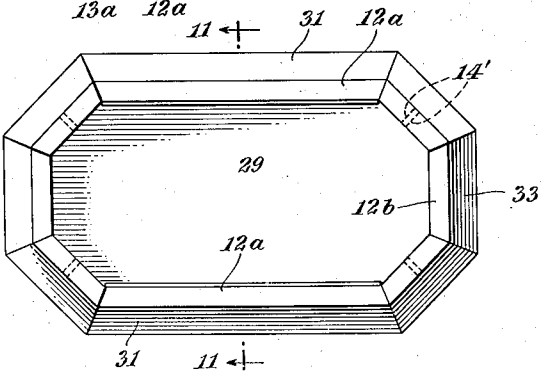
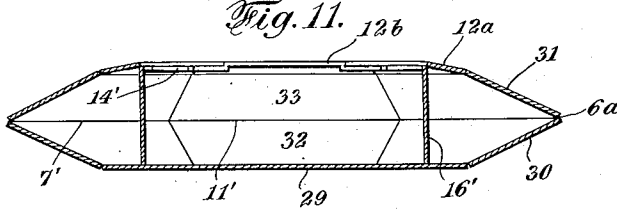


Fig. 11.



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DISPLAY DEVICE

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This invention is an improvement in display devices; and particularly a display device or stand made of cardboard or other sheet material with score lines to allow the parts thereof to be easily bent or folded into the required positions.

An object of the invention is to provide a display structure comprising a body having a unique border so formed and connected with the body that it can be collapsed for storage or shipment or readily manipulated to impart to the structure the desired finished configuration.

Another object is to provide a display structure having a body with a front to facilitate the presentation of the matter to be exhibited, and a member or section at the rear that preferably closes the device in the back; the body also having an encircling border with all of its parts and sections united permanently to the body and so disposed relative thereto and to one another that the border can be collapsed or flattened and still retain its substantial outline and shape. Therefore by simply distending the border, the user can give the device its complete predetermined shape and appearance.

The invention is made plain in the following description and accompanying drawings, which illustrate some preferred embodiments of the improvement. But the disclosure is by way of example only, and variations in structural details, not necessarily shown or otherwise set forth herein, may be adopted without deviation from the essential characteristics wherein the invention actually resides.

On the drawings:

Figure 1 is a front view of a blank out of which a display device or stand according to this invention can be made.

Figure 2 is a front view of the completed article with all parts in collapsed positions.

Figure 3 is a rear view of same.

Figure 4 shows an easel or support for the device.

Figure 5 is a front view of the device with all parts in set-up positions.

Figure 6 is a longitudinal section on line 6—6 of Figure 5.

Figure 7 is a transverse section on line 7—7 of Figure 5.

Figure 8 shows a cardboard blank for making a modification of the device.

Figure 9 is a front view thereof with all parts in collapsed positions.

Figure 10 shows the same construction with all parts in set-up positions; and

Figure 11 is a transverse section on line 11—11 of Figure 10.

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The cardboard blank of which the device is made comprises a section or panel 1, having the shape of a frame of rectangular or other outline, because the section is cut out in the middle to form a large oblong opening 2. In this opening, attached to the frame or otherwise mounted in place, is the design 3 to be exhibited. This design may be a name, a product or a picture, or any other matter. The frame 1 and the design 3 compose the front of the device, and the rear face may be closed, or open to some extent also, if preferred; and the entire device has a support at the rear, as will be described later.

The device has a border with bevelled forward and rear faces, that extend from the front and rear of the device and meet in a common plane between said faces and parallel thereto when the device or stand is set up to be shown. The border has a hinged connection with the device and its forward and rear faces are also hinged together so that they can be collapsed or distended to assume operative position. The border comprises sections, each containing parts 4 and 5, extending along the top and bottom of the frame, the former being united to the device along score lines 6 and the latter to the parts 4 by score lines 7, on the long sides of the blank. These parts 4 and 5 have the shape of isosceles trapezoids, with their bases coinciding along the score lines 7, and their lateral edges 4' and 5' respectively about equal in length; but of course extending diagonally in opposite directions and at about an angle of 45 degrees to the lines 6. The border also comprises sections containing parts 8 and 9 at the ends of the device, the former secured to the device along hinge score lines 10, and the two joined along hinge score lines 11. These parts also have the outline of isosceles trapezoids, with their bases coinciding along the lines 10; and their lateral edges 8' and 9' also extending in diagonally opposite directions. When the blank is flat, the edges 8' of the parts 8 will be close to the edges 4' of the parts 4.

The outer edges of the parts 9 have extensions 12 united to the sections along hinge score lines 13. The extensions 12 are longer than the parts 9, and have elongated portions 14 extending across their ends, and beyond the extensions 12 and are made to be bent about score line 15. These projections 14 are glued to the under sides of the parts 5; see Figure 2; and the parts 5 and 9 are thus secured together. Each section of the border therefore, has two parts or halves overlying and is made of two layers. Flaps 16, partly cut out of the extensions 12, lie between the projections 14, and

are hinged to the extensions 12 along score lines 17. At the outer edges these flaps have notches 18. When the blank is bent into final shape, the halves 5 and 9 of each section of the border are turned back along the lines 7 and 11 respectively to bring the lateral edges or ends 5' and 9' of the parts 5 and 9 close together. The extensions 12 now lie as shown in Figure 2, and the parts 5' cover the projections 14 and are glued thereto, the extensions being bent about the lines 13. A sheet of cardboard or the like 19 is secured as by gluing to the rear of the device. It has projections 20, that can be bent about score lines 21, the projections being placed under the parts 5, between the projections 14 and glued to the parts 5. When the device is flattened, the edges 5' and 9' of the border will be slightly separated, and so will the edges 4' and 8'. But when the device is set up the edges 4' and 8' will be in contact (Figure 5) and so will be the edges 5' and 9'; and the frame 1 will then not lie against the sheet 17, but will be separated therefrom by a sufficient distance. As means for distending the structure, the flaps 16 are employed. They are manipulated by one's finger in the notches 18. The ends of the sheet 19 beyond the projection 20 cover the flaps 16, but can be lifted. When the device is to be distended, the sheet 16 is pulled up a little at its ends, or by inserting a finger in the opening 2, and the distension means 16 are bent in till they engage the inner face of the frame 1 at the front. The halves 4' and 5' then move about the hinge lines 6' and 7', the halves 8' and 9' about the lines 10' and 11', and the halves of the sections of the border along the top, bottom and sides of the device assume inclined positions, with respect to each other, bringing the ends 4' and 5', 8' and 9' together and giving the border a beveled appearance on both front and rear. To collapse the device, the elements 16 are simply disengaged and the border pressed flat about the lines 7' and 11' so that the halves 4' and 8' of each section lie on the halves 5' and 9'.

The display structure is provided with an easel to support it in display position. This easel consists of a cardboard member 22 affixed to the back cover sheet 19, as indicated in broken lines on Figure 3. It has side parts with diagonal edges, sloping in opposite directions, and vertical score lines 23 adjacent said edges, to permit the parts to be bent out to form legs 24. The member has a curved transverse cut 25', which starts at the lower parts of the score lines 23, runs out into the side parts 24 and towards the top, and then across the score lines 23. The cardboard within this cut is bent outward along a horizontal score line 25a, which crosses the lines 23. The part in question thus forms a catch, with notches 27. The cut 25' leaves openings in the sides of the legs, and the notches 27 engage shoulders 28 in these openings to keep the catch 25' horizontal and hold the legs out in the position of Figure 7.

The embodiment shown in Figures 8 and 11 inclusive is similarly constructed. The central part 29 of the sheet forms the rear face; it is octagonal in shape, and its transverse dimension is the longest. The blank is symmetrical about the vertical axis; and the parts for the border are attached to the eight edges. At the top and bottom along the two longest edges are sections comprising folding parts 30 and 31 attached to the panel 29 by hinge lines 6'; and these parts or halves are hinged together along score lines

7'. On each of the other three edges of the panel at the two sides or ends are sections comprising parts or halves 32 and 33, hinged to the panel 29 along lines 10' and to each other along lines 11'. The halves 31 have extensions 12a at their outer edges, and the halves 33 have extensions 12b, all hinged along lines 13a and 13b. The extensions 12a at top and bottom and the extensions 12b of the sections in the middle at the ends or sides of the panel 29 have terminal projections 14'. When the blank is bent to form the device, the sections of the border are turned round the score lines 6' and 10', and then about the lines 7' and 11' to fold the halves of the sections together in a double layer as before. The projections 14' then are bent under the halves 33 of the adjacent sections of the border and glued or otherwise made fast. The device then has substantially the outline and appearance of Figure 10, with an open front surrounded by the extensions 12a and 12b, all in the same plane and having the effect of an open frame such as the frame 1. A design of any suitable character can be mounted in this opening or secured against the faces of the frame.

On the extensions 12a are notched members 16' hinged thereto at their outer edges along score lines 17'. These members are bent down against the rear panel 29 when the device is to be distended and set up. At other times, when the device is collapsed, the members 16' are bent towards each other and laid flat on the panel 29. In this position, the ends of the two layers of the border are slightly separated, with the exception of the extensions 12a and 12b, as presented in Figure 9; but when the device is set up the edges of all parts of the border are in contact; and the border again has a beveled face in both front and rear. An easel may be attached to the outer or rear face of the panel 29, as before, to support the device in display position.

The above description makes plain the chief advantages of the invention, and the structure is well calculated to gain all the objects thereof.

Having described my invention, what I believe to be new is:

1. A display device of sheet material having a border hinged to its peripheral edges, said border being made up of sections arranged end to end, each extending along one of said edges and divided lengthwise into halves that are doubled upon themselves; two of said sections on opposite peripheral edges each having an extension along its free edge and of substantially the same length as said section, each of said extensions having a projection pointing outward at an angle on each end to be attached to an adjacent section to secure said sections together end to end, and flaps hinged to the extensions between the projections for bending inward and distending the device by holding the halves of each section separated from each other.

2. A display device of sheet material having a border hinged to its peripheral edges, said border being made up of sections arranged end to end, each extending along one of said edges and divided lengthwise into halves that are doubled upon themselves; two of said sections on opposite peripheral edges each having an extension along its free edge and of substantially the same length as said section, each of said extensions having a projection pointing outward at an angle on each end to be attached to an adjacent section to secure said sections together end to

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end, and flaps hinged to the extensions between the projections for bending inward and distending the device by holding the halves of each section separated from each other, the ends of the halves of each section being inclined in opposite directions and meeting in an outward projecting point to impart a bevelled front and rear to the border when the device is set up, the halves of each section being disconnected from the ends of the halves of an adjacent section, so that the border can be collapsed without detaching said projections.

3. A display device of sheet material having a hinged border comprising sections arranged end to end and divided lengthwise into halves which are doubled upon themselves so that each section is made up of two layers each, two opposite sections each having an extension on its free edge, means on said extensions to connect said sections together end to end, hinged flaps between the projections for distending the device with halves of each section separated from each other, and a support for said device comprising a sheet at the rear, with hinged projections at its upper and lower edges, said projections being secured inside the top and bottom sections.

4. A display device of sheet material having a border hinged to its peripheral edges, said border being made up of sections arranged end to end, each extending along one of said edges and

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divided lengthwise into halves that are doubled upon themselves; two of said sections on opposite peripheral edges each having an extension along its free edge and of substantially the same length as said section, each of said extensions having a projection pointing outward at an angle on each end to be attached to an adjacent section to secure said sections together end to end, and flaps hinged to the extensions between the projections for bending inward and distending the device by holding the halves each section separated from each other, and a support for said device comprising a sheet at the rear, with hinged projections at its upper and lower edges, said projections being secured inside the top and bottom sections.

CHARLES E. KLEIN.

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