Aug. 2, 1938. C. J. BACON 2,125,710

DISPLAY DEVICE

Filed March 12, 1938

2 Sheets-Sheet 1

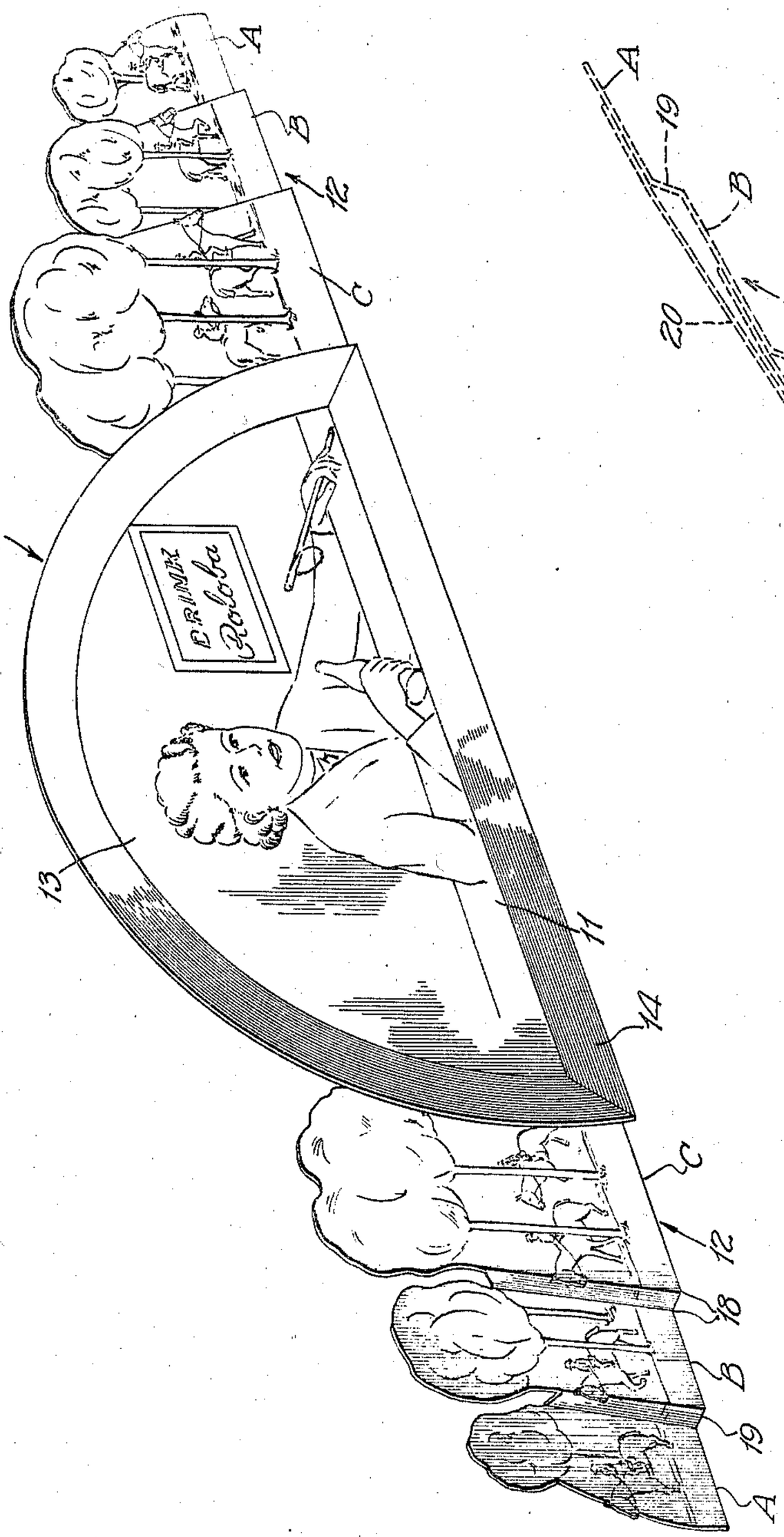

FIG. 1.

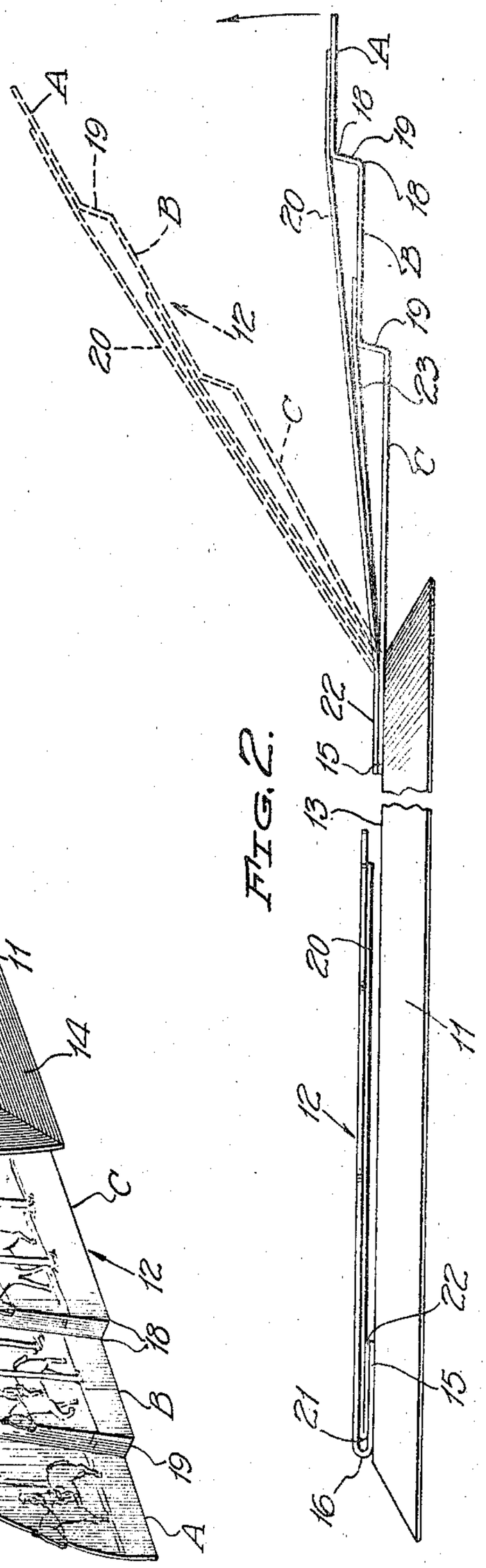

FIG. 2.

WITNESS:

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DISPLAY DEVICE

Filed March 12, 1938 2 Sheets-Sheet 2

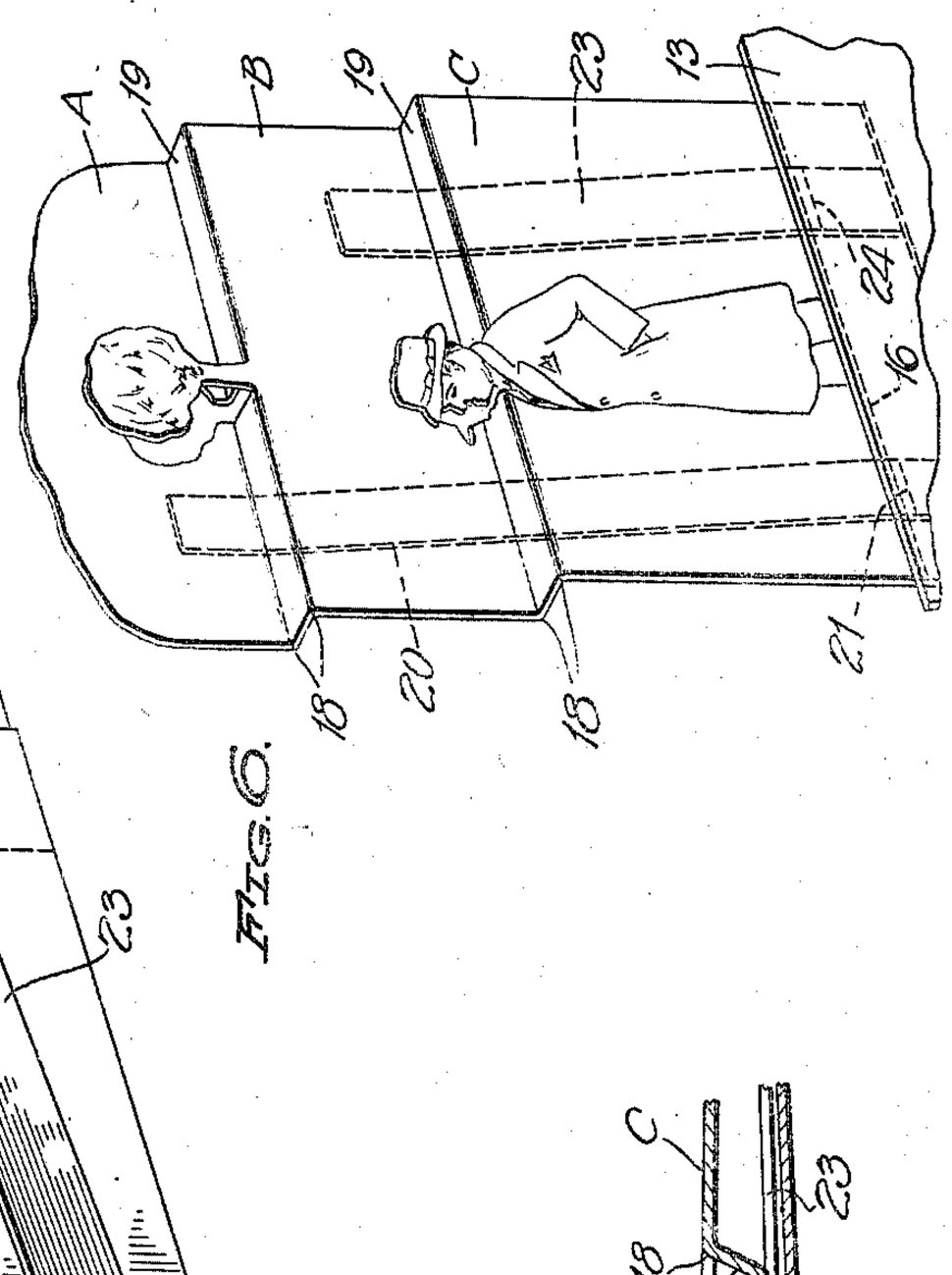

FIG. 6.

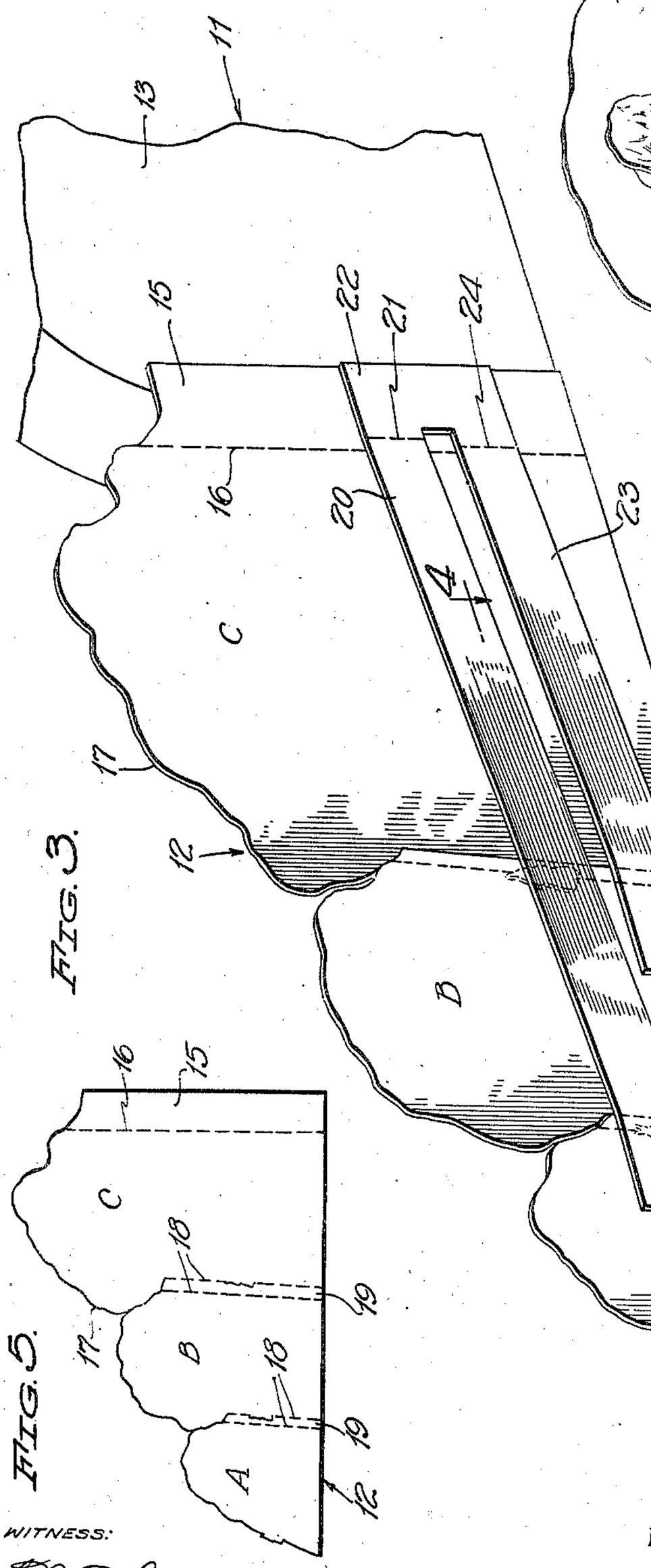

FIG. 3.

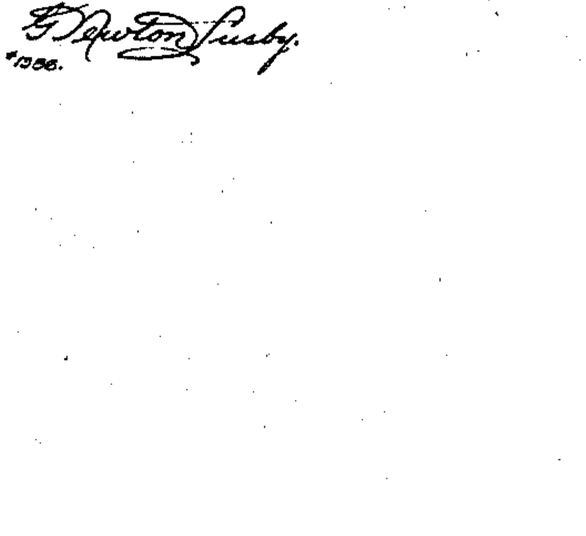

FIG. 5.

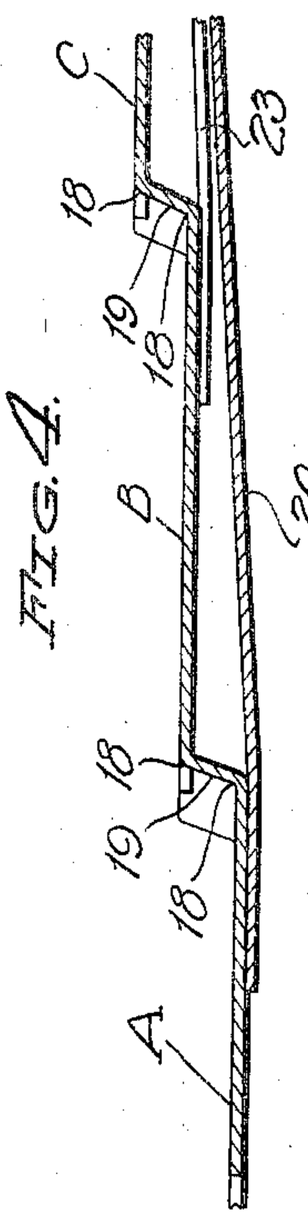

FIG. 4.

WITNESS:

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Patented Aug. 2, 1938 2,125,710

UNITED STATES PATENT OFFICE

2,125,710

DISPLAY DEVICE

Charles J. Bacon, Brooklyn, N. Y., assignor to The Mounting and Finishing Co., Inc., Brooklyn, N. Y.

Application March 12, 1938, Serial No. 195,498

8 Claims. (Cl. 40—124.1)

This invention relates to improvements in cardboard display articles.

The primary object of the invention resides in a collapsible cardboard display article which consists of two or more hingedly connected sections, which when disposed in collapsed or non-set up position, assume flat parallel planes for packing and shipping purposes, and which embodies a novel means for automatically transforming the flat plane surface of one or more of the sections into stepped back areas when the section or sections are swung on their hinge connections to operative display position to impart depth or the third dimension to the set up display article.

Another feature of the invention is to provide a simple and inexpensive means of transforming the normally flat plane surface of a hinged cardboard display panel into integral stepped back areas by eccentrically controlling the pivotal movement of the areas to be stepped back relative to the hinged axis of the display panel proper.

Other features of the invention will appear as the following specification is read in conjunction with the accompanying drawings, in which

Figure 1 is a perspective view of a display device constructed in accordance with the invention, and illustrating the auxiliary display section in extended set up position.

Figure 2 is a top plan view illustrating in full lines one of the auxiliary display sections in folded position and the other auxiliary display section in extended position, the dotted lines indicating the position of the extended display section when in partially collapsed position.

Figure 3 is a perspective view looking at the rear of one of the auxiliary display sections.

Figure 4 is an enlarged horizontal sectional view on the line 4—4 of Figure 3.

Figure 5 is a rear elevational view of one of the auxiliary display sections per se.

Figure 6 is a fragmentary perspective view illustrating the modified embodiment of the invention.

Referring to the drawings by reference characters, the numeral 10 designates my improved display device in its entirety, which includes a main body display section 11 and auxiliary wing display sections 12—12. In the drawings the main display section 11 is shown as a semi-circular shaped panel 13 of cardboard, framed in a border 14, but it will be understood that other shapes may be resorted to without in any way departing from the purpose of this invention. The body display section 11 is constructed of cardboard and the panel 13 is flat as illustrated in Figure 2 of the drawings.

Each of the auxiliary display sections 12 is constructed of cardboard and includes an attaching flap 15, and a swingable wing portion 17 divided by a hinge fold line 16. The flap 15 is adhesively or otherwise secured to the rear of the panel 13 of the main display section adjacent an end thereof. The wing portion 17 is provided with two sets of spaced fold lines 18—18, the said fold lines being scored in a manner to break in the direction illustrated in the drawings. The sets of score lines 18—18 divide the wing portion 17 into three panel sections A, B, and C, and the material between each pair of fold lines 18 may be termed webs 19, and which webs act to connect the panel sections A, B, and C, in relatively stepped back relation.

For the purpose of actuating the panels A, B, and C, to assume a stepped back position when the auxiliary panel is in display position and for causing the said panels to assume the same plane when in collapsed or non-display position, I provide a push and pull member in the form of a cardboard strap 20 which is hinged along the fold line 21 to an attaching flap 22. The attaching flap 22 is adhesively secured to the rear side of the main body section 11, although it overlaps the flap 15 and is so positioned that the hinge line 21 is disposed inwardly of the hinge line 16 of the auxiliary display section 12. The outer end of the strap 20 is adhesively secured to the outermost panel section A, as best seen in Figure 3 of the drawings. Integral with the attaching flap 22 is a brace strap 23, the outer end of which is connected to the rear of the panel section B and which acts to brace the panel section B when the display is in set-up position. A hinge line 24 separates the attaching flap 22 from the brace strap 23, and which hinge line is disposed outwardly of the plane of the hinge line 21. Whereas the auxiliary display section is divided into only three panels of the drawing, it will be understood that more of such panels may be formed, and in which case, any intermediate panels between the extreme end panels may be braced by members similar to those shown at 23 on the drawings.

When the display device is in a collapsed position, both of the auxiliary sections 12 are folded rearwardly behind the main body section 11, and the panels A, B, and C, are disposed on the same plane as will be seen by reference to the position of the left auxiliary panel in Figure 2 of the drawings. The auxiliary display sections

are folded rearwardly of the main display section 11, they assume planes parallel to the flat panel 13, and permits of the convenient packing and shipping of the display device. Should it be desired to set up the display device, the operator successively swings the auxiliary display sections 12—12 outwardly so as to be disposed coextensive with the opposite ends of the main display section 11. Due to the differential in the axes of the hinge connections 16 and 21, it will be seen that as an auxiliary section 12 is swung outwardly, the member 20 will exert a pull upon the outermost panel section A, thus causing the sections to fold on the fold or hinge lines 18, the webs 19 being moved to a position at an angle with respect to the flat plane surfaces of the panels A, B, and C. When the auxiliary sections 12 are swung to their fully extended position as shown at the right in Figure 2 of the drawings, the panels A and B assume a stepped back position relative to each other and relative to the panel C, thus providing a third dimension to impart depth to a picture or display which may be printed on the front of the auxiliary section. When swinging an auxiliary section 12, from a fully extended position to a collapsed non-display position behind the main display section 11, the strap member 20 pushes outwardly upon the outermost panel section A, and thus moves the panels to their original positions at which time the panels are on the same plane. The member 23 acts to brace the intermediate panel B when the auxiliary display section is in display position.

Whereas I have illustrated a particular pictorial display in Figure 1 of the drawings, I wish it to be understood that the pictorial matter is more or less illustrative and the principle of the invention involved is adaptable for extensive use.

In Figure 6 of the drawings, I have illustrated the same principle applied to a display wherein the stepped back panels are divided by hinge lines 18—18 disposed more or less on a horizontal plane whereas in the preceding figures, these folds were more or less vertical, or at a slight angle to the vertical. In view of the fact that the construction shown in Figure 6 is substantially the same as that shown in the preceding figures, like reference characters hereinbefore referred to designate like parts in Figure 6.

While I have shown and described what I consider to be the preferred embodiment of my invention, that such modifications may be resorted to as come within the scope of the appended claims.

Having thus described the invention, what I claim as new and desire to secure by Letters Patent of the United States, is:

1. In a display device, a pair of hingedly connected display sections normally disposed in a flat condition one against the other when in non-display position, one of said sections being provided with spaced parallel hinge lines extending from one edge of said section to the opposite edge thereof to divide the said section into integral separate panels, and hinged means connecting the outermost panel of the panel display section with the other of said sections for automatically causing a differential of pivotal movement between said panels when the sections are swung away from each other to cause the panels to assume different flat planes to impart relative depth thereto when in set up display position.

2. In a display device, a main display section, an auxiliary display section hingedly connected to said main display section for swinging movement to a non-display position against one side of said main display section, or to a display position co-extensive with respect to said main display section, said auxiliary display section being divided into two or more separate panels by one or more pairs of spaced parallel hinge lines, and hinged connecting means between the outermost of said panels and said main display section for automatically causing the panels to assume a position in the same plane when the auxiliary section is swung to non-display position and to cause said panels to move to relative offset planes when swung to display position.

3. A display device including a main display section, an auxiliary display section hinged to said main display section for swinging movement to a non-display position flat against said main display section, or to a display position co-extensive with respect to said main display section, said auxiliary display section being divided into three or more separate panels by two or more pairs of spaced parallel hinge lines, a pull element having one of its ends hingedly attached to the device inwardly of the hinge connection between said sections, the outer end of said pull element being fixedly secured to the outermost of said panels, and a brace element having its outer end attached to the intermediate panel and its other end hingedly connected to the device in alinement with or inward of the hinge connection between said sections, for causing the panels to assume a position in the same plane when the auxiliary section is swung to a non-display position, and to cause said panels to move to relative offset planes when swung to display position.

4. In a display device, a main display section, an auxiliary display section hingedly connected to said main display section for swinging movement to a non-display position flat against said main display section or to a display position to extend beyond said main display section, said auxiliary display section being divided into a plurality of separate panels by pairs of spaced hinge lines, a hinged pull element having its outer end fixedly attached to one side of the outermost of said panels and its inner end attached to the device inwardly of the hinge connection between said sections, the axis of the hinge of said hinged pull element being inwardly disposed relative to the axis of the hinge connection between said sections, whereby said panels move to a flat plane surface throughout said auxiliary section when the auxiliary section is in non-display position, and which panels move to successive different stepped planes when the auxiliary section is swung to display position.

5. In a display device, a main display section, an auxiliary display section hingedly connected to said main display section for swinging movement to a non-display position flat against said main display section or to a display position to extend beyond said main display section, said auxiliary display section being divided into a plurality of separate panels by pairs of spaced hinge lines, a hinged pull element having its outer end fixedly attached to one side of the outermost of said panels and its inner end attached to the device inwardly of the hinge connection between said sections, the axis of the hinge of said hinged pull element being inwardly disposed relative to the axis of the hinge connection between said sections, and a hinge brace element connecting each intermediate panel or panels of said auxiliary section

with the main display section adjacent the hinge connection between said main display section and said auxiliary display section, whereby said panels move to a flat plane surface throughout said auxiliary section when the auxiliary section is in non-display position, and which panels move to successive different stepped planes when the auxiliary section is swung to display position.

6. A cardboard display device including a main display section, an auxiliary display section hinged to said main display section, said auxiliary display section having spaced parallel fold lines dividing the auxiliary section into a pair of panels and a connecting web, and means rearward of and connected to said main display section and to the outermost of said panels responsive to the swinging movement of said auxiliary section away from the main display section to cause said panels to be disposed at different relative planes with the connecting web disposed at an angle relative thereto, and to cause said panels and web to be disposed on a common plane when said auxiliary section is swung toward and against said main display section.

7. In a display device, a pair of hingedly connected cardboard display sections adapted to be swung inwardly to a non-display back to back position, or outwardly to co-extensive display position, one of said display sections having spaced parallel fold lines dividing the same into a pair of panels and a connecting web, and hinged means connecting the other of said display sections and the outer panel for automatically deforming the last mentioned cardboard display section along its fold lines upon movement of said display sections to display position to divide the section having the fold lines into separate panels whose planes are offset relative to each other.

8. In a cardboard display device, a main display section, an auxiliary display section, hinge means connecting the sections for swinging movement to a non-display position in back to back relation, or to a set up display position in co-extensive relation, spaced parallel fold lines extending across said auxiliary display section from one edge to an opposite edge to provide a break in said auxiliary section and to divide the same into separate panels, a pull member having its outer end attached to the rear of the outer panel, hinge means connecting the inner end of said pull member to the rear of said main display section, the axis of the two hinge means being offset with respect to each other to provide a differential of swinging movement between said auxiliary display section and said pull member, substantially as and for the purpose specified.

CHARLES J. BACON.