

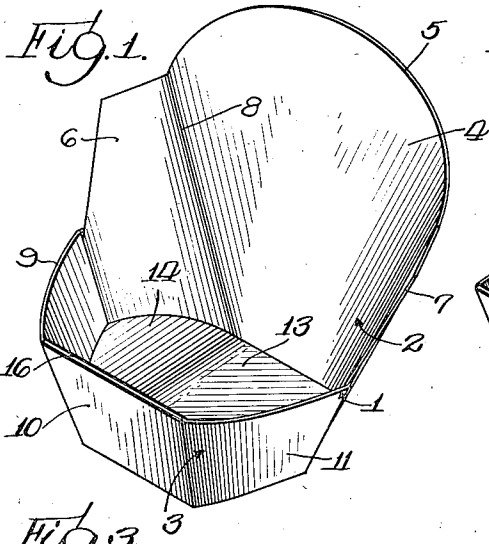
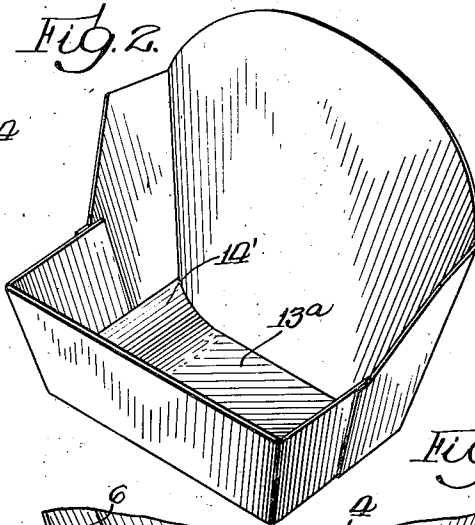
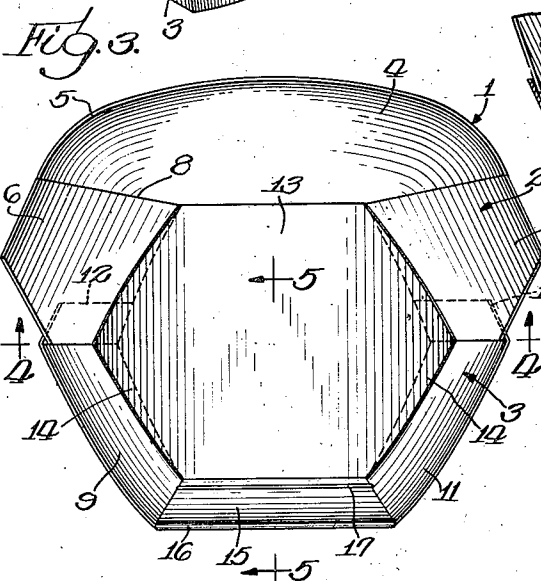
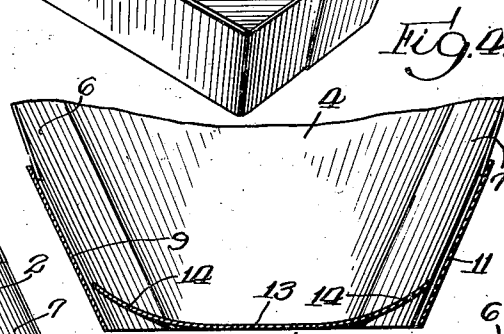
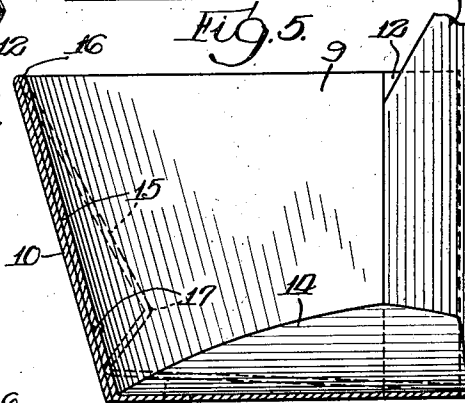
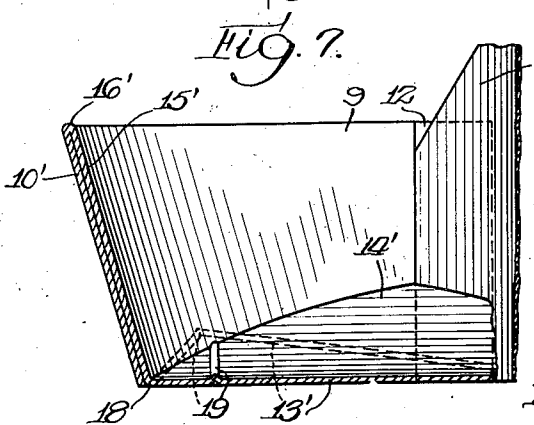
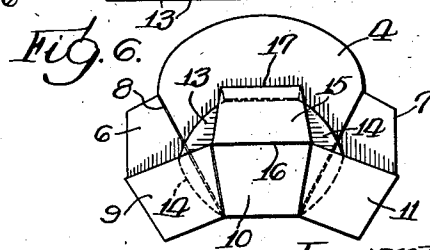
April 20, 1937.

W. J. STEPHENS

2,078,038

DISPLAY RECEPTACLE

Filed June 10, 1935



Inventor,
Walter Jay Stephens,
By Dr. F. H. K. O'Connell atty.

UNITED STATES PATENT OFFICE

2,078,038

DISPLAY RECEPTACLE

Walter Jay Stephens, Chicago, Ill.

Application June 10, 1935, Serial No. 25,745

8 Claims. (Cl. 229—41)

This invention relates to improvements in foldable receptacles, having for an object to provide a receptacle particularly advantageous for the reception and display of commodities, packaged or otherwise, the construction of which is such that the same may be folded into substantially flat formation when not in use, hence, greatly facilitating its handling, shipment, etc.

It is also an object of the invention to provide a foldable display receptacle which, when in "set up" or operative position, will constitute a sturdy operative shape or form sustaining character and wherein the co-operative parts going to make up the receptacle will be prevented from having relative movement to an extent, such as to prevent undesirable collapsing thereof.

It is one of the more specific objects of the invention to provide a display receptacle of the character mentioned whose bottom, when in operative position, will be firmly and securely retained in such position and against upward or downward movement with respect to the receptacle sides through the medium of a toggle-like retaining arm, hence, insuring its proper functioning, and likewise, retaining the receptacle sides in expanded position.

Other objects of the invention will be in part obvious and in part pointed out hereinafter.

In order that the invention and its mode of operation may be readily understood by those skilled in the art to which its appertains, I have in the accompanying drawing and the detailed description based thereupon, set out several embodiments of my invention.

In the drawing:

Figure 1 is a perspective view of one embodiment of the invention;

Figure 2 is a similar view of a slightly modified form of the invention, wherein the shape of the receptacle is shown to be substantially rectangular;

Figure 3 is a top plan view of that form of invention illustrated in Figure 1;

Figure 4 is a fragmentary vertical longitudinal section taken on the line 4—4 of Figure 3, looking in the direction in which the arrows point;

Figure 5 is a fragmentary vertical transverse section taken on the line 5—5 of Figure 3, looking in the direction in which the arrows point;

Figure 6 is a plan view of the blank from which the receptacle illustrated in Figure 1 is made, and,

Figure 7 is a fragmentary vertical transverse section through a slightly modified form of re-

ceptacle wherein a portion of the receptacle bottom is scored for articulation.

Having more particular reference to the drawing, in connection with which like characters of reference will designate corresponding parts throughout, and referring in particular, to the form of the invention illustrated in the Figures 1 and 3 to 6 inclusive, the receptacle blank is designated in its entirety by the numeral 1, comprising constructional portions 2 and 3, made of cardboard or other suitable sheet material which, with formation or folding of the receptacle, constitute the rearward and forward sides thereof; the opposite ends of the forward side 3 being suitably joined to the adjacent and opposite ends of the rearward side, as shown in the Figures 1 and 3 and as hereinafter more specifically described. The portion 2 consists of a substantially segmentally shaped panel-like rear wall 4, the upper edge of which may be curved or otherwise finished, as indicated at 5. Wing-like sides 6 and 7 are integral with the opposite sides of the back 4, and are rendered swingable with relation thereto by scoring or weakening the same along their points of jointure therewith, as indicated at 8; the outer ends of the sides being reduced and formed with substantially straight edges.

Advertising matter of suitable character is adapted to be presented upon either one or both sides of the back 4, and if desired, upon the surfaces of the wing-like sides 6.

The portion 3, is formed with sides 9, 10, and 11; the free ends of the sides 9 and 11 being formed with transversely articulated flaps 12 adapted to have overlapping engagement with portions of the straight edge free sides 6 and 7 and to be securely joined thereto by adhesive or like medium. The sides 9, 10, and 11 of the portion 3 are transversely articulated with respect to each other by scoring or similar weakening thereof, thus allowing for movement therebetween in order that the receptacle may be "set up" in an operative or expanded position, or that it may be folded into its inoperative or collapsed position.

Hingedly connected to the normally lower end of the back 4 is the receptacle bottom 13, made of material corresponding to that from which the portions 2 and 3 are constructed and capable of flexing movement, having its opposite ends reduced, as at 14, or otherwise shaped so that it will snugly and flexingly engage with the adjacent portions of the sides 6, 7, 9, 10, and 11 when the box is in an operative or expanded condi-

tion. The normally forward and straight edge portion of the bottom 13 hingedly carries an outwardly reaching arm 15, of corresponding material, the shape of which generally conforms with that of the side 10 of the portion 3. The remaining end of the arm 15 has hinged connection with the upper and straight edge portion of the side 10, as at 16, while an intermediate part of the same is articulated along the transversely scored line 17 to provide what may be identified as a hinged break-joint between its opposite portions, swingable in a direction opposite to that in which the hinged connection between said arm and the bottom 13 moves. Thus, it will be understood that the arm 15 constitutes a toggle-like connection between the normally outer end of the bottom 13 and the point of its hinged connection with the side 10 at 16.

When the receptacle blank 1 is arranged in its operative or expanded position, as shown in the Figure 1, it will be noted that the various sides thereof are provided with an upward and outward flare, and that the bottom 13 generally conforms in shape to the receptive space therebetween. However, the bottom 13 is slightly oversized with respect to the lower portion of the receptive space within said sides, and consequently, with its movement into an operative position, the reduced opposite ends 14 thereof will have binding engagement with adjacent portions of the sides 6, 7, 9, and 11, as shown in the Figure 3, hence, insuring retention of the basket in its operative or expanded position, as well as preventing the opposite ends of the bottom 13 from moving below or outwardly of the adjacent end portions of said sides 6, 7, 9, and 11. At this point, it is, of course, to be understood, that the bottom 13 need not be oversized with respect to the receptive space between the sides 4, 6, 7, 9, 10, and 11 to cause flexingly binding engagement of its end portion 14, when in operative position, with the sides 6, 7, 9 and 11. To the contrary, said bottom may be of a size approximately conforming to the receptive area immediately adjacent the lower marginal portions of these sides 4, 6, 7, 9, 10 and 11, depending upon the retaining or securing ability of the toggle connection or arm 15 for its retention in a proper operative position and against excessive downward movement with respect to the receptacle sides.

In order that the receptacle may be effectually folded into its inoperative or flat position, as shown in the Figure 6, it is necessary that the combined over-all length of the arm 15, from its point of engagement with the side 10 to the point of transverse articulation 17, and the depth of such side 10 shall correspond to the combined over-all length of that portion of the toggle connection or arm 15 from its point of transverse articulation 17 to its point of hinged engagement with the adjacent end of the bottom 13 and the width of the bottom 13, i. e., that width represented along the line 5—5 of Figure 3. Thus, it will be seen that by inwardly moving the transversely articulated or toggle connection arm 15 with respect to the side 10, the free end adjacent side of the bottom 13 will be caused to move slightly upward, whereupon said bottom may be upwardly thrust and swung into the position shown in Figure 6, causing the part of the arm 15 from its articulation point 17 to its hinged connection to the bottom 13 to be moved into substantial parallelism with the latter and the remaining portion of the arm 15 to follow through with the pivotal movement, thereby allowing for

the flat folding or collapsing of the receptacle sides 9, 10 and 11 so that the sides 9, 10 and 11 will have inward swinging movement at their points of hinged connection to the sides 6 and 7, and said sides 6 and 7 will be swung into substantial parallelism to the panel-like back 4, thus, permitting of juxtaposed and relatively parallel positioning of the portions 2 and 3. If the transverse area of the receptacle should be increased or decreased, i. e., along the line 5—5 of Figure 3, it will be understood that the point of transverse articulation 17 through the arm 15 will be so proportionately changed or varied that the combined over-all lengths of the parts or elements above described will correspond, and by consequence, will permit of flat folding or collapsing of the receptacle and particularly, the portions 2 and 3, the bottom 13, and the arm 15.

Whereas the toggle-like formation of the arm 15, as illustrated in the Figures 3 and 5, represents an advantageous form of construction for retaining the bottom 13 in its operative position and against either subsequent upward or downward movement with respect to the receptacle sides, I desire to have it understood that such construction may be modified to accomplish, more or less, the same results. In exemplification hereof, the type of construction illustrated in the Figure 7 may be substituted therefor. In this particular form of the invention, the arm 15' is of solid formation throughout, that is, it is without the transverse articulation 17. The length of the arm corresponds to the depth of the receptacle side 10', its inner end being hinged, at 16', to the normally upper edge of the side 10' and its lower or inner end being hingedly connected to the adjacent end of the receptacle bottom 13', as at 18. The receptacle bottom 13 has a portion thereof longitudinally scored along a straight line, at 19, thus providing for its longitudinal articulation. Thus, when the bottom 13' is in an operative position so as to retain the receptacle sides in expanded position, the articulated portions thereof will be in relative parallelism, as shown in said Figure 7. When it is desired to collapse or fold the receptacle, an upward thrust is imparted to the bottom 13' adjacent its point of longitudinal articulation 19, causing said articulated portions of the bottom to assume those positions as shown in dotted lines in Figure 7. At this time, by imparting further upward or inner movement to the bottom 13' and compression to the side 10', it will be seen that the blank sections of the box, together with the bottom 13' and the arm 15' may be moved into substantially that relative positioning as illustrated in the Figure 6. It will be borne in mind, however, that the width of the bottom 13' from its point of hinged connection to the back or normally rearward side of the receptacle to its point of longitudinal articulation 19 must correspond to the combined over-all width of that portion of said bottom 13' outwardly of or beyond the longitudinal articulation 19, the arm 15' and the side 10'. Dependent upon the transverse depth or width of a receptacle thus constructed and when in its expanded or operative position, the location of the longitudinal line of articulation 19 will vary, this being necessary in order that the width of the main portion of the bottom 13' will correspond to the combined over-all length of its outer portion plus the arm 15' and the side 10'.

As shown in the Figure 2, my improved receptacle may be made of different shapes than that illustrated in the Figure 1. In said Figure 2, the

receptacle is shown to possess a substantially rectangular horizontal cross-sectional shape and the bottom 13^a of this particular form of the receptacle, instead of having the reduced end portion 14, as heretofore described, is provided with end portions 14' constituting complementary continuations of the body portion of said bottom portion 13^a and being adapted to flex upon themselves as shown in the Figure 2 when the bottom is placed into operative position. It is also to be understood that the bottom 13^a need not necessarily be provided with its extensions 14', but to the contrary, that said bottom may be of a shape and size substantially corresponding to the receptive space between the basket sides when in an expanded or operative position, and in such event, the bottom 13^a will be securely locked and retained in a properly and effectually operative position by means of the toggle connection or arm 15, or the arm 15', in event that the character of articulation as shown in the Figure 7 should be utilized.

A receptacle constructed in accordance with the herein described invention is capable of advantageous use for displaying various commodities and it will be noted that because of the greater lengths of the sides 6 and 7, that the articles placed within the receptacle may be slopingly piled or arranged therein from the panel-like back 4 for their more effective and attractive display.

Manifestly, the construction shown is capable of considerable modification, and such modification as is within the scope of my claims, I consider within the spirit of my invention.

I claim:

1. A display receptacle comprising a plurality of hingedly interconnected sides, a bottom hinged at one of its edges to the lower portion of one of said sides, and a toggle-like connection of a shape and size substantially corresponding to that of one of the sides hinged at one end to an upper portion of the side and hinged at one end to the free and opposite edge of the bottom, said toggle-like connection being movable outwardly with respect to the receptacle into substantial parallelism with the last mentioned side for locking said bottom in an operative position, and at other times, being movable inwardly with respect to the receptacle whereby to permit hinging movement of the bottom to an inoperative position.

2. A display receptacle comprising a plurality of hingedly interconnected sides adapted, when in expanded relation, to provide an upwardly flared receptive area therebetween, a bottom hinged adjacent one of its edges to one of said sides and swingable into the lower portion of the upwardly flared receptive space between such sides when in their expanded relation, and a toggle-like connection of a shape and size substantially corresponding to that of one of the receptacle sides hinged at one end to the upper edge of said side and hinged at its remaining end to the free and opposite edge of the bottom, said toggle-like connection being movable outwardly with respect to the receptacle into substantial parallelism with the last mentioned side for locking said bottom in an operative position, and at other times being movable inwardly with respect to the receptacle whereby to permit hinging movement of the bottom to an inoperative position.

3. A display receptacle comprising a plurality of relatively swingably connected sides, a bottom hinged at one of its sides to one of said swing-

ably connected sides, and a toggle-like connection hinged at one end to a portion of another of said swingably connected sides and hinged at its remaining end to the adjacent and free side of said bottom, said toggle-like connection being movable outwardly with respect to the receptacle into substantial parallelism with said last mentioned side for locking said bottom in an operative position, and at other times, being movable inwardly with respect to the receptacle, whereby to permit hinging movement of the bottom to an inoperative position with movement of the swingably connected sides to their collapsed positions.

4. A display receptacle comprising a plurality of relatively swingably connected sides, a bottom hinged at one of its sides to one of said swingably connected sides, and a toggle-like connection of a length substantially equal to the depth of one of said swingably connected sides hinged at one end to an upper portion of said last mentioned swingably connected side and hinged at its remaining end to the adjacent and free portion of said bottom, said toggle-like connection being movable outwardly of the receptacle into substantial parallelism with said last mentioned swingably connected side for locking said bottom in an operative position, and at other times, being movable inwardly of the receptacle whereby to permit hinging movement of the bottom to an inoperative position upon movement of the swingably connected sides to their collapsed positions.

5. A display receptacle, comprising a plurality of relatively swingably connected sides, a flexible bottom hinged adjacent one of its sides to one of said swingably connected sides and adapted, with arrangement of the swingably connected sides in their operative positions to be bindingly engaged therewith and therebetween, and an outwardly swingable toggle-like connection hinged at one of its ends to an upper portion of one of the swingably connected sides, and hinged at its remaining end to the free portion of said flexible bottom.

6. A display receptacle, comprising a plurality of relatively movably interconnected sides, said sides, at times, being adapted to be arranged in relatively extended positions, a bottom hinged adjacent one of its edges to a portion of one of said interconnected sides, said bottom being of a shape and size to snugly engage in the receptive space between said interconnected sides when they are extended, and a toggle-like connection hinged at one end to an upper portion of one of the interconnected sides and hinged at its remaining end to the free side of said bottom, said toggle-like connection being movable outwardly of the receptacle into substantial parallelism with respect to said last mentioned interconnected side for locking said bottom in an operative position, and at other times, being movable inwardly of the receptacle whereby to permit movement of the hinged bottom to an inoperative position collectively with movement of the interconnected sides to their relatively collapsed and folded positions.

7. A receptacle including relative movably interconnected side and end walls, a bottom swingably connected at one of its edges to one of said side walls adapted, at times, to be swung into substantial parallelism thereto, an arm swingably connected at one of its ends to an upper portion of another of the side walls, and an outwardly swingable toggle-like connection interposed between and connected to portions of said bottom and said arm, said toggle-like connection being so arranged with respect to the bottom and the

arm whereby when the bottom is swung upwardly toward said first mentioned side wall it will compensate for variance between the transversal width of the bottom and the combined over-all length of the arm and the depth of that side wall to which it is swingably connected to permit said bottom and said arm and side wall to which the arm is swingably connected to move into relative substantially parallel planes and into substantial parallelism to the first mentioned side wall.

8. A receptacle including relatively movably interconnected side and end walls, a bottom swingably connected at one of its edges to one of said side walls adapted, at times, to be swung into substantial parallelism thereto, an arm swingably connected at one of its ends to an

upper portion of another of the side walls, and a piece interposed between portions of said bottom and said arm swingably connected at its opposite side portions to adjacent portions of the bottom and the arm whereby when the bottom is swung upwardly toward said first mentioned side wall, said piece will compensate for variance between the transversal width of the bottom and the combined over-all length of the arm and the depth of the side wall to which said arm is swingably connected to permit said bottom and said arm and said side wall swingably connected to the latter to move into relative substantially parallel planes and into substantial parallelism to the first mentioned side wall.

WALTER JAY STEPHENS.