Nov. 20, 1928.

1,692,404

L. R. CONWELL

DISPLAY DEVICE

Filed May 17, 1926

2 Sheets-Sheet 1

Fig. 1.

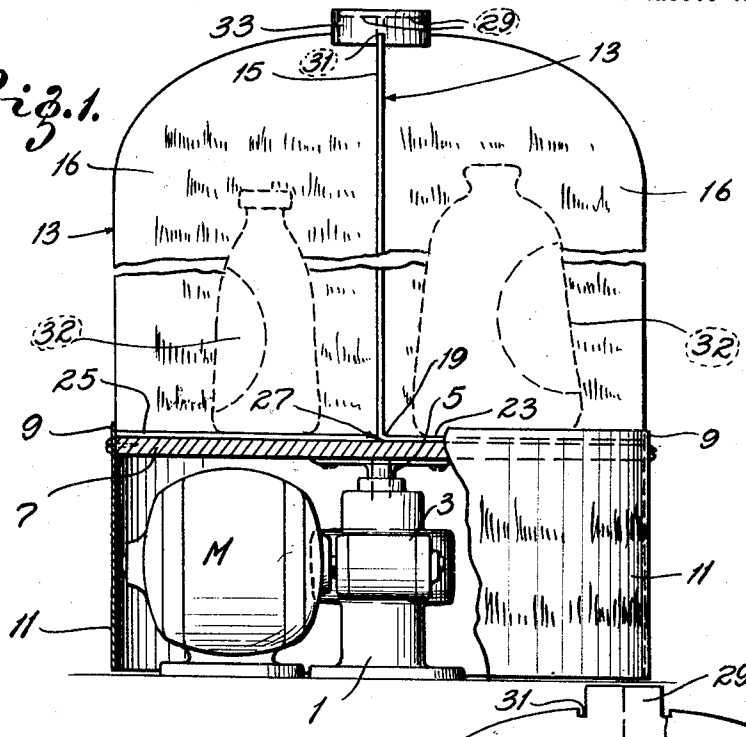


Fig. 3.

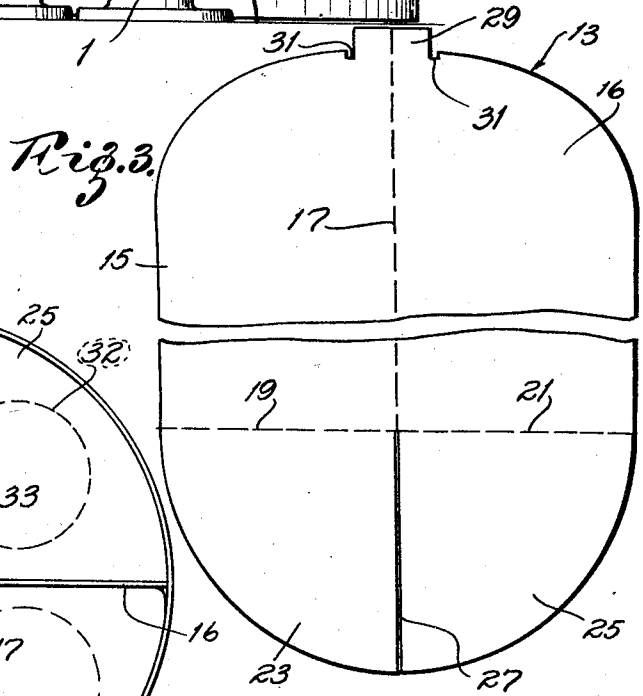
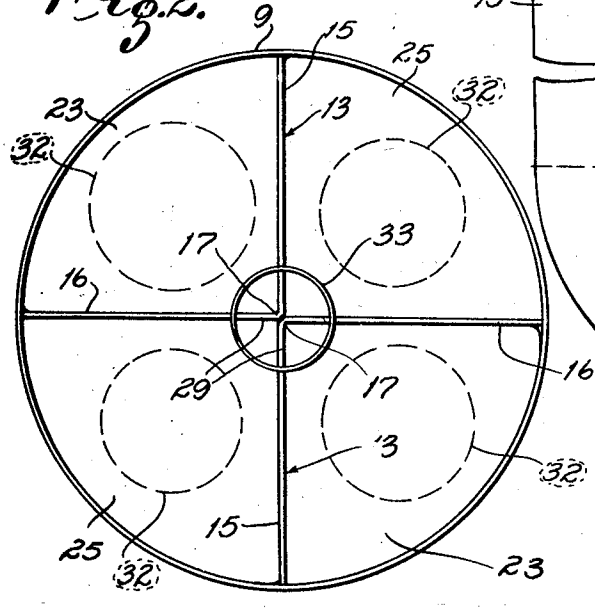


Fig. 2.



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Fig. 4.

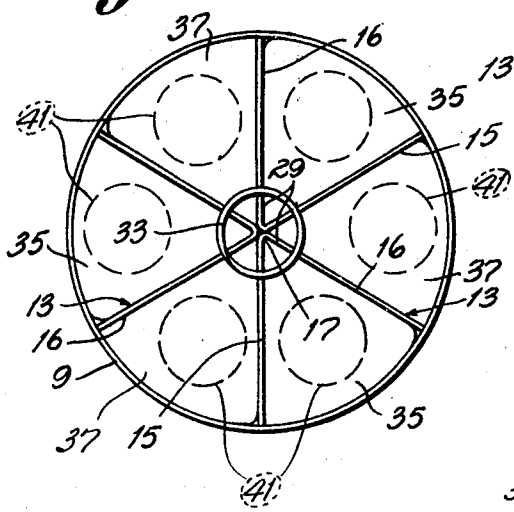


Fig. 5.

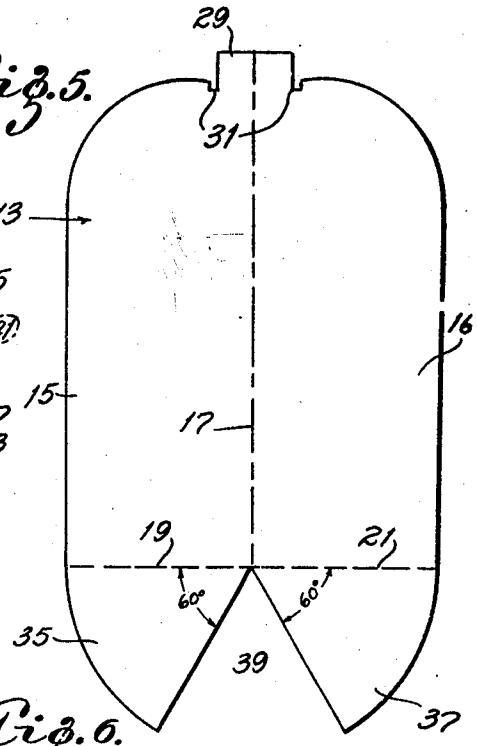


Fig. 6.



Fig. 8.

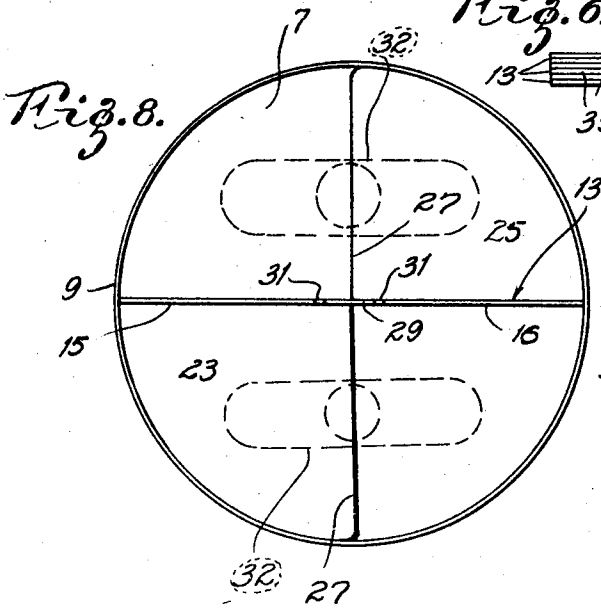
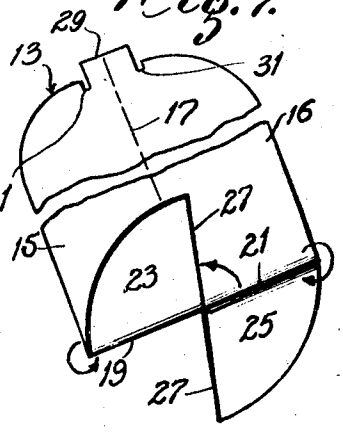


Fig. 7.



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Patented Nov. 20, 1928. 1,692,404

UNITED STATES PATENT OFFICE.

LEE R. CONWELL, OF ELMHURST, NEW YORK, ASSIGNOR TO CONWELL GRAPHIC COMPANY, INCORPORATED, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

DISPLAY DEVICE.

Application filed May 17, 1926. Serial No. 109,558.

This invention relates to display devices, and with regard to certain more specific features to rotatable advertising and display devices.

Among the several objects of the invention may be noted the provision of a rotatable display device which is adapted to have used as display area, almost the entire surface of both sides of the material comprising the device; the provision of a device of the class described which is completely demountable; and one which requires the manufacture of only two simple elements, one of which is used to multiply in a compound application thereof. Other objects will be in part obvious and in part pointed out hereinafter.

The invention accordingly comprises the elements and combination of elements, features of construction, and arrangements of parts which will be exemplified in the structure hereinafter described, and the scope of the application of which will be indicated in the following claims.

In the accompanying drawings in which are illustrated two of various possible embodiments of the invention,

Fig. 1 is a side elevation of a preferred form of the device, showing portions broken away;

Fig. 2 is a plan view of Fig. 1;

Fig. 3 is a view showing one of the elements of the display laid flat;

Fig. 4 is a plan view similar to Fig. 2, showing a modified form of the device;

Fig. 5 is a view similar to Fig. 3 showing a modified element laid flat;

Fig. 6 is an end view of a stack of elements ready for shipping;

Fig. 7 is a perspective view taken from the bottom of one of the elements illustrated in Figs. 1 and 2, but shows it only partially folded; and,

Fig. 8 is a plan view of a modified application of the elements shown in Figs. 1 to 3.

Similar reference characters indicate corresponding parts throughout the several views of the drawings.

Referring now more particularly to Fig. 1 there is illustrated at numeral 1 a base housing which carries a speed reducer 3, for the purpose of permitting a driving motor M to drive a vertical spindle 5 extending upwardly from said housing 1. The spindle 5 has fastened thereto a preferably circular platform 7 adapted, as described, to revolve more or less slowly. The upper substantially flat surface of said platform 7 is bounded by an upwardly projecting holding lip 9. A skirt 11 is adapted to extend downwardly to carry suitable display or other material and to obscure the described driving mechanism.

The present invention per se, comprises the construction on and about the platform 7. Fig. 3 illustrates an element 13 (preferably of cardboard), which comprises two panels 15 and 16 hinged along a score line 17. The height, width and shape of each panel 15 and 16 may be varied as a particular designer sees fit, except that there should be provided in each case, bottom score lines 19 and 21 formed preferably at right angles to the said score line 17. The said particular angle to be employed depends upon whether the surface of the platform 7 is flatly or conically shaped. Hinged in one direction from the panel 15 and along the score line 19 is a downwardly extending segmental quadrant 23. Hinged in the opposite direction from the panel 16 and along the score line 21 is another downwardly extending segmental quadrant 25. The said quadrants of ears or segments are separated by a gash 27 aligned with said score line 17. The segments 23 and 25 bend in opposite directions. Their edges preferably form a continuous semi-circle, that is, when positioned in a single plane.

At the upper end of the panels 15 and 16 is formed an extension 29 between the edges of which, and the said panels, are formed notches 31. The score line 17 intersects the extension 29. The purpose of the notches and the extension will be described hereinafter.

Two of the cardboard elements 13 are adapted to be mounted on the platform 7. In order to adapt the elements to a particular platform, the radii of the segments 23 and 25 should be equal to the radius of the platform 7 (out to the inner edge of the lip 9). The elements 13 are mounted by bending the segments 23 and 25 in opposite directions along the score lines 19 and 21 (Fig. 7), and then hinging the panels 15 and 16 along the score lines 17 until the score line 21 engages the gashed edge of the segment 23. The relative rotations are illustrated by means of arrows in Fig. 7. Fig. 7 does not show the panels 15 and 16 bent to a position at which they stand when the element 13 is applied to the platform 7 (see Fig. 2). It is

evident that the curved edges of the segments 23 and 25 form a semi-circle which snugly engages the inner edge of the lip 9. The panels 15 and 16 form a dihedral angle with one another while the segments serve as spacers to provide said angle (Fig. 2).

If two elements 13 are bent as described, they may both be applied to the circular platform 7, each taking up one-half of the area thereof. The pairs of segments 23, 25 abut one another to hold themselves in a somewhat flat position while the pairs of panels 15, 16 form four space quadrants around the platform. In order to more positively hold the display in position, objects 32, of which the display forms descriptive matter, are set down upon the segments. A cardboard crown piece 33 (of diameter adapted to snugly fit the projectors 29) is made to cooperate with the notches or recesses 31. By this means an effective display background is formed for the objects 32. It is to be understood that the upper portion of the ring 33 might be extended, flared or otherwise formed to provide increased display area.

Each element 13 is provided with lithographed or other illustrations and display material over the entire two faces thereof, excepting only one side of each segment 23, 25.

It is preferable not to print the sides of the segments which are positioned beneath when assembled but they may be so printed, whereby the folded positions of the segments may at any time be reversed to display a fresh area. It is evident that the elements of the invention comprise exceedingly simple features, inasmuch as the portions 13 may be die-cut, scored, and lithographed in a minimum number of operations. The rings 33 need merely be cut, illustrated and glued. Shipment of the elements 13 may be made by stacking them one on the other while in a flat position.

In Fig. 8 is illustrated a means for applying a single element 13 to the platform 7. In this case the pair of segments 23 and 25, or similar ones, are folded as described, but the panels 15 and 16 are left in a single plane, that is, they are not folded along the score line 17. By this means, the space above the platform 7 is divided into semi-circular portions instead of into four quadrants. The ring 33 is not required in this case. The score line 17 may or may not be formed between the panels.

Figs. 4 to 6 illustrate a modified form of the device in which the panels 15 and 16 are retained as well as the score lines 17, 19 and 21. The same type of extension 29 is used, employing the notches or recesses 31. The alternative feature in this modified form comprises different segmental shapes 35, 37. These have a radius adapted to cause the segments to fit the lip 9. The gash 27 of the first form has a notch 39 substituted therefor. This notch 39 is adapted to decrease the angles between the score lines 19, 21, and the two edges of the segments, from 90 degrees to 60 degrees. The exact angle to be employed depends upon the number of divisions required in the space above the platform 7. For instance, if the element of Fig. 5 is folded in the manner hereinbefore described, then its segments 35, 37 occupy 120 degrees of the platform 7. Hence three elements may be mounted on the platform and they will divide the space above said platform into six equal divisions. The fraction represented by the degrees in the segmental angle, divided by the 360 degrees (in a complete circle), is the reciprocal of the number of divisions above the platform 7.

The described modified elements are provided with advertising and illustrating matter in the same manner that the first form was provided therewith. Devices 41 (to be displayed) are used as weights and the ring 33 is again employed to support the structure.

Figure 6 illustrates the simple manner in which the panel elements may be shipped. They are merely laid flat, stacked and properly wrapped. The rings 33 may be shipped flat and then glued, or shipped in glued position by putting them in boxes or bags. It should be understood that the outer edges of the segments 23, 25 or 35, 37 may comprise straight lines to cooperate with the straight line of a polygonal shape which the platform 7 and lip 9 might be made to take. If the platform 7 were conical, then for a given number of divisions thereabove, the segmental angles would need to be modified. It should be further understood that, if desired, a given pair of segments might be made to have unequal angles, whereby the space above the platform 7 would be divided into alternate unequal divisions. For instance, if the segments of Fig. 5 were formed with 70 and 50 degree angles, the elements would yet each employ 120 degrees on the platform 7, but alternate large and small display sections would be formed above said platform. In any case twice as many displays are had as elements employed.

In view of the above, it will be seen that the several objects of the invention are achieved and other advantageous results attained.

As many changes could be made in carrying out the above constructions without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

I claim:

1. A display device comprising a platform, a holding lip thereon, display elements adapted to rest on the platform comprising

panels adapted to form dihedral angles with one another, segments hinged to said panels adapted to be folded to act as spacers for said angles and to fit said lip, and means for holding the upper ends of the panels in a predetermined relationship.

2. A display device comprising a platform, a holding lip thereon, display elements adapted to rest on the platform comprising panels adapted to form dihedral angles with one another, upper extensions on the panels, segments hinged to said panels adapted to be folded to act as spacers for said angles and to fit said lip and a crown piece adapted to fit over said extensions to hold the ends of the panels in a predetermined relationship.

3. A display device comprising a platform, a holding lip thereon, display elements adapted to rest on the platform comprising panels adapted to form dihedral angles with one another, and segments hinged in opposite directions to said panels adapted to be folded with respect thereto to space the angles between hinged pairs of panels and adjacent unhinged pairs, to rest on said platform and to fit said lip.

4. A display device comprising a platform, a holding lip thereon, display elements adapted to rest on the platform comprising panels adapted to form dihedral angles with one another, segments hinged in opposite directions to said panels adapted to be folded with respect thereto to space the angles between hinged pairs of panels and adjacent unhinged pairs, to rest on said platform and to fit said lip, and means for retaining the upper ends of the panels in position, comprising extensions thereon and a crown adapted to slip over said extensions.

5. A display device comprising a rotatable platform, a holding lip thereon, display elements adapted to rest on the platform within the bounds of the lip, said elements each comprising panels hinged in pairs to form dihedral angles, hinged ears on the panels adapted to swing in opposite directions to space the angles between hinged and adjacent pairs of panels, said ears being adapted to fit the contour of said lip.

6. A display device comprising a rotatable platform, a holding lip thereon, display elements adapted to rest on the platform within the bounds of the lip, said elements each comprising panels hinged in pairs to form dihedral angles, hinged ears on the panels adapted to swing in opposite directions to space the angles between hinged and adjacent pairs of panels, said ears being adapted to fit the contour of said lip and means for holding together the upper ends of the dihedrally spaced panels.

7. A display device comprising a crown piece, a rotatable platform, a holding lip thereon, display elements adapted to rest on the platform within the bounds of the lip, said elements each comprising panels hinged in pairs to form dihedral angles, hinged ears on the panels adapted to swing in opposite directions to space the angles between hinged and adjacent pairs of panels, said ears being adapted to fit the contour of said lip, and lie on the platform, means for holding the ears to the platform, and extensions on the panels adapted to be engaged by said crown piece to retain the panels in a predetermined position.

In testimony whereof, I have signed my name to this specification this 12th day of May, 1926.

LEE R. CONWELL.