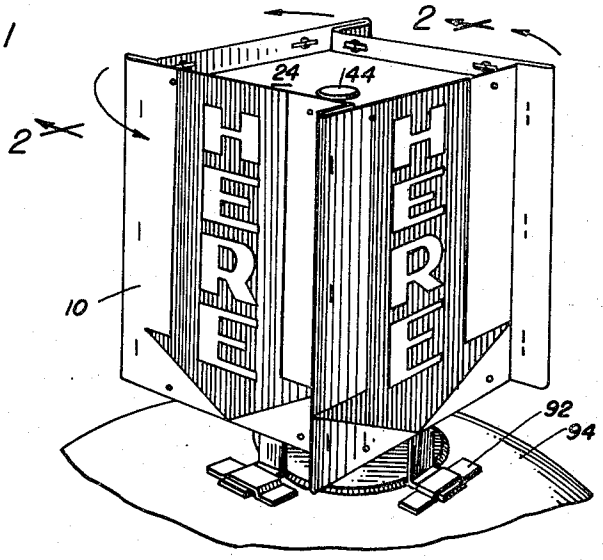
June 14, 1955 R. J. LEANDER 2,710,472

SPINNER DISPLAY

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FIG. 1



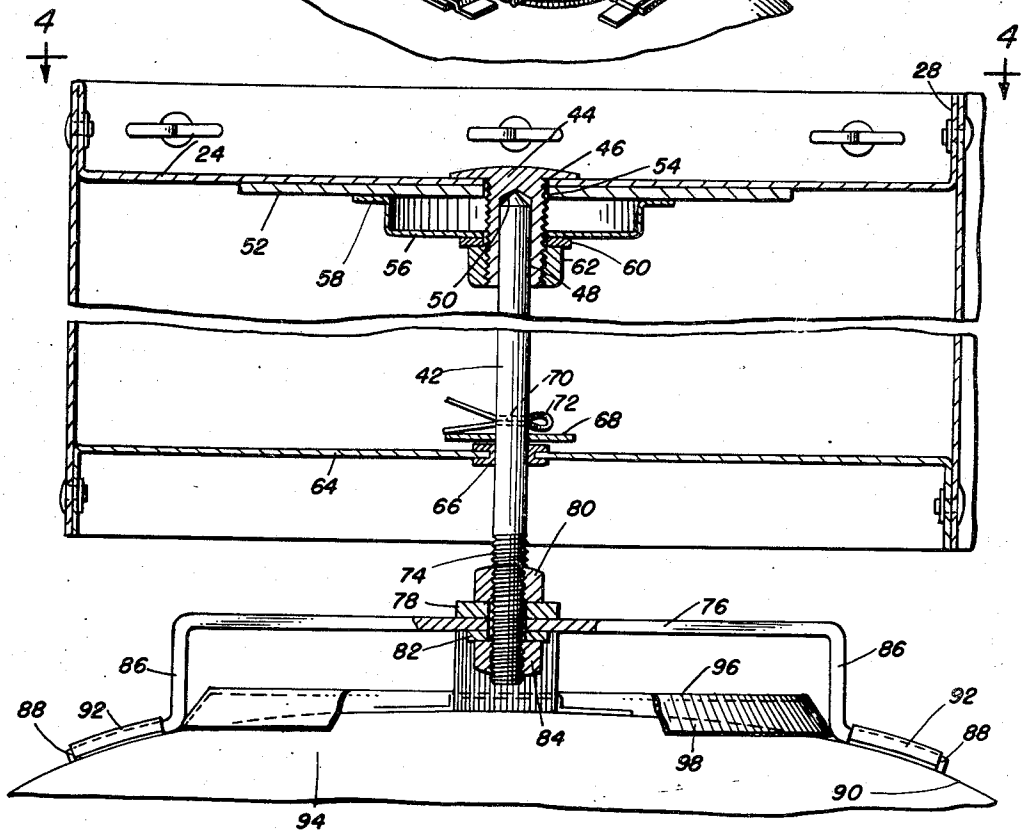


FIG. 2

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SPINNER DISPLAY

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FIG. 3

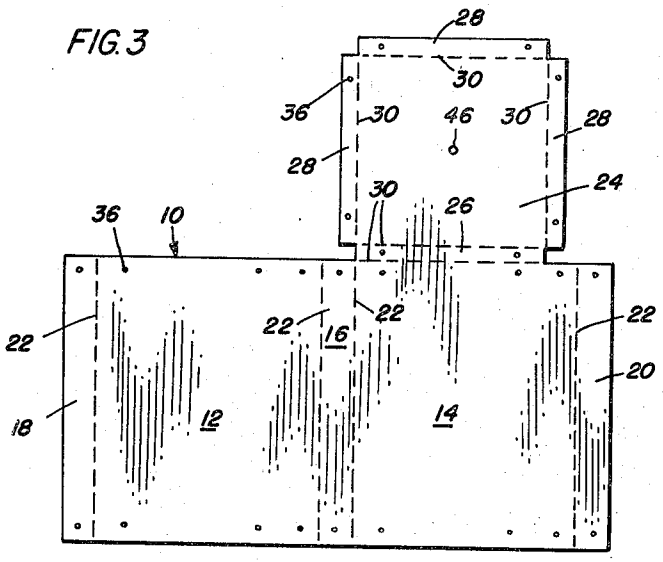


FIG. 4

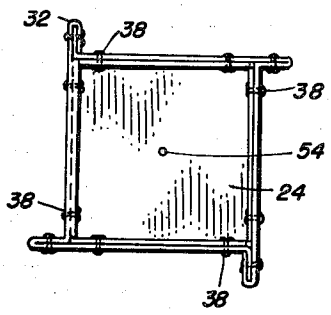
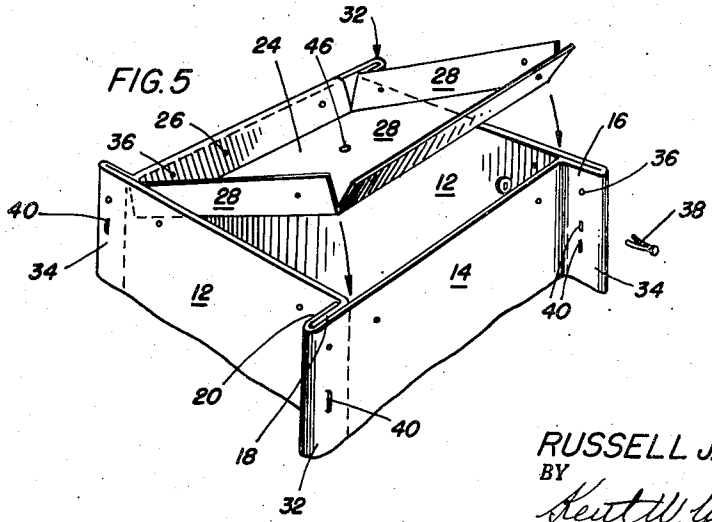


FIG. 5



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2,710,472

SPINNER DISPLAY

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Application November 24, 1950, Serial No. 197,331

1 Claim. (Cl. 40—39)

This invention relates in general to a rotatable display adapted to be made of sheet material and mounted upon a suitable support so that it will be actuated by a current of air causing it to spin in one direction and thereby constituting an attractive display.

The present invention provides a rotatable type of display which is preferably made of flexible sheet material such as cardboard which may be waxed, painted or formed of water resisting surface materials so that it does not tend to deteriorate due to various conditions of the weather.

This invention may be shipped in knock-down condition and assembled and set up at any desired location by an inexperienced person without the aid of any special tools and attached to a plain, curved or spherical surface without any material damage thereto. It may also be as easily taken down, folded compactly and applied in a different location. The construction thus adapts this particular display to be attached to sheet metal and glass as well as other supports without damage thereto and without marring and disfiguring them.

An important object of the invention is to provide a rotatable display which is composed of sheet material adapted to be folded in a substantially flat package and to be set up and assembled to form a display.

A further object of the invention is to provide improved means for holding the foldable display parts in distended position.

A further object of the invention is to provide improved means for mounting the display by supporting it at the base either upon a flat, curved or spherical support.

A still further object of the invention is to provide a sectional display made of a plurality of pieces adapted to be secured together and reinforced at the top and bottom to form a hollow drum having a central supporting shaft upon which the display portion is rotatable.

A still further object of the invention is to provide improved means for securing the base to a flat or curved support.

Other objects of the invention will appear in the specification and will be apparent from the accompanying drawings in which,

Fig. 1 is a perspective view of a spinner display in accordance with this invention;

Fig. 2 is a sectional view as taken on the line 2—2 of Fig. 1;

Fig. 3 is a development of one of two sections of which the display is composed;

Fig. 4 is a top view of the display as taken on the line 4—4 of Fig. 2; and

Fig. 5 is a perspective view of a portion of one end of the display showing how it is assembled and reinforced.

Provision is also made for attaching and supporting this display either upon a flat, curved or a spherical supporting surface such as might be encountered at the top of a globe upon which the spinner may be mounted.

Referring now more particularly to the drawings, the display portion comprises a pair of similar folding sections **10** preferably made of fiber, cardboard or any

other suitable material, each section being cut and scored to provide two side panels **12** and **14** connected by a flange **16** and with flanges **18** and **20** at the outer edges thereof. The flanges are connected to their respective panels by score lines **22** adapting them to fold upon themselves and against the panels at right angles without breaking. Connected to one of the panels as **14** at one end thereof, is a top (or bottom) **24** spaced from the panel by a flange **26** and the other side of the top has corresponding flanges **28** extending from each side and connected thereto by score lines **30**.

In the assembly of the display unit, two sections thereof are assembled to form four sides in rectangular open form as shown in Fig. 5, the flange **20** of one section folding over the flange **18** of another section which is bent at right angles to its panel **12**, thus forming a projecting fin **32** and the intermediate portion of each section having its flange **16** folded at right angles to one of the panels **14** and flatly against the other panel **12** to provide a corresponding fin **34**.

To hold the display thus assembled firmly in distended position, the top (or bottom) **24** is inset inwardly of the folded sides by flange **26** and the other flanges **28** correspondingly offset the top inwardly so that these parts may be connected together through a plurality of registering holes **36** previously formed in the blanks of the display by fastening means such as bolts, rivets or cotter pins **38**. At the corners, the fins may be secured together by registering holes **36** but preferably by staples **40** or other suitable fastening means.

When a display member is thus set up and assembled, it is strong and substantially rigid even though made of light flexible sheet material such as fiber or cardboard. The parts may be folded together upon the score lines in compact relation but easily extended for the assembling operation and they may be easily taken apart for storage, shipment and setting up the display in some other location.

For assembling the display unit upon a central shaft **42**, a bearing screw **44** is inserted through a central opening **46** in the top **24**, the head of the screw backing upon the outside of the top and the other end of the screw having a central bore **48** for receiving a preferably pointed end **50** of the shaft **42**. Inserted upon the screw is a strengthening disc **52** of cardboard or the like having a central perforation **54**. A pressure plate **56** is next inserted on the screw through a central opening and it has an outer offset flange **58** bearing upon the disc **52** at a distance from the center thereof. A flat washer **60** is next inserted upon the screw and a nut **62** is threaded upon the screw against the washer binding the bearing screw tightly in place upon the top **24** and strengthening and stiffening the top through the engagement of the disc **52** and the pressure plate **56**.

At the lower end of the display unit is a bottom **64** similar to the top **24** preferably having a central grommet **66** through which the shaft extends. Above the grommet and surrounding the shaft is a washer **68** of metal or similar material and inserted through a hole **70** in the shaft above the washer is a cotter pin **72**. To assemble the mounting shaft after the upper bearing screw **44** is mounted on the top **24**, the upper end of the shaft is inserted through the bottom **64** before it is tightened in place at the bottom of the unit, the washer and cotter pin **72** are placed in position before the bottom is inserted in place, the pointed end **50** of the shaft is inserted in the bearing recess **48** of the screw and the bottom **64** is fastened in place at the lower end of the display unit.

To mount the lower end of the shaft, it has a threaded portion **74** inserted through base straps **76** and **78** which are adjustable at right angles to each other and held in

place by a nut 80 at the inner end of the threaded portion 74 and a washer 82 and fastening nut 84 at the outer end of the threaded portion outside of the base straps. The ends of each strap are formed with offsets 86 having bendable feet 88 which may be adjusted to conform to a flat surface or may be bent slightly to conform to a rounded or spherical surface 90. The feet 88 are each secured to the supporting surface in any desired manner but preferably by means of an adhesive tape 92 which extends over the top of the foot overlapping it at the sides and having a portion adhering to the surface 90 or any other surface to which it is attached.

With this type of attachment, the base straps are secured firmly in place upon any type of surface without damaging the surface and without requiring any attachment tools, and the base may be disengaged from the support by simply ripping the tape from its engagement therewith.

When this display is attached to a spherical pump top 94, there may be an opening in the top which should be covered to prevent rain, dirt and other materials from entering, and a cover plate 96 is provided having an outwardly flaring flange 98 of a size adapted to be inserted within the base straps and to engage below the offset portions 86 so that the outer rim of the flange 98 is pressed downwardly against the top 94 making a neat and attractive finish for the base of the display and providing a satisfactory cover for protecting the pump top.

This display is thus assembled and mounted for free rotation upon the shaft 42, the pointed end 50 of the shaft providing a minimum of friction so that no matter what may be the direction of the wind, the fins 32 and 34 will be engaged rotating the display at different speeds in accordance therewith. The washer 68 and cotter pin 72 prevent the shaft 42 from pulling out at the bottom of the display and the engagement of the grommet 66 with the washer and the cotter pin prevent the display unit from being raised from the end of the shaft.

To change the display, it may be easily removed from the shaft 42 by disconnecting the top or bottom through the attachment of the flanges 28 thereof and the entire display and its mounting may be quickly and easily removed from any surface from which it is attached by simply removing the holding tape portions 92, leaving no defacing holes or disfiguring scratches on the surface to which it is applied. Thus the display is adapted to be transferred from one place to another and to have the display changed or replaced by a similar one having the same or different display material on the outer surface thereof.

While a preferred construction has been described in some detail, it should be regarded as an illustration or example rather than as a limitation or restriction of the invention, since various changes in the construction, combination, and arrangement of the parts may be made without departing from the spirit and scope of the invention.

I claim:

In a collapsible spinner display, two display portions formed of flexible sheet material adapted to be secured together to provide a hollow four-sided figure, each portion comprising a pair of panel members hinged to opposite edges of a common flange between them and having flanges hinged at the outer sides of the panel, one outer flange of each portion being folded over the corresponding flange of the other section and the common flange of each portion being folded against one panel and at right angles to the other panel, each panel thus having a multi-ply fin at the same corresponding edge and together forming a four-sided figure less than the full width of the panels by the width of the fin in the dimension of each panel, means securing the plies of each fin together, the two display portions together forming an open rectangle and having a rectangular end piece with hinged flanges of uniform width on all sides, one of which is hinged to the end of one of the panels and is insertable within the assembled panels an amount equal to the width of the end piece flanges, means securing these flanges to all of the panel ends and providing a fixed top and bottom, a mounting shaft insertable through the bottom end piece, the other end of the shaft being of a length to extend below the bottom of the display, a bearing member inserted through the top end piece having an outer head and an inner bearing recess for the shaft with outer screw threads, strengthening means for the top end piece engaging the threads and pressed against the inside of the top end piece, a central hole in the bottom end piece of the display, the shaft being insertable through the hole in the bottom end piece and having a pointed top for making an anti-friction engagement with the recess of the top end piece so the display member will turn freely thereon, stop means in connection with the shaft at the inside of the bottom of the display to engage the bottom end piece and to prevent the display unit from becoming disengaged from the top of the shaft and to prevent the shaft from slipping out at the bottom of the display.

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