

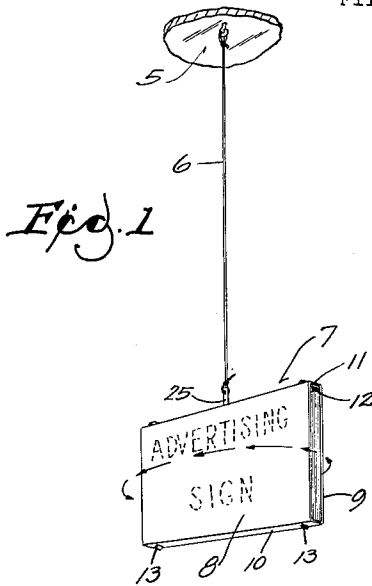
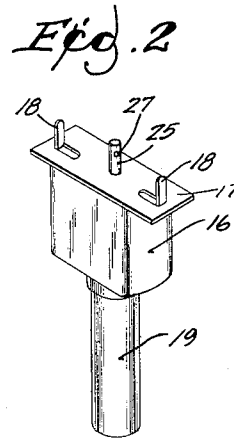
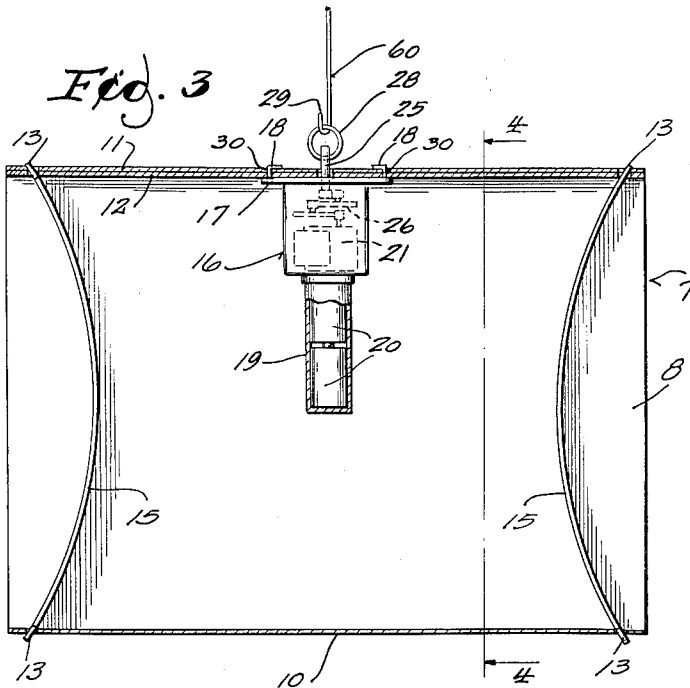
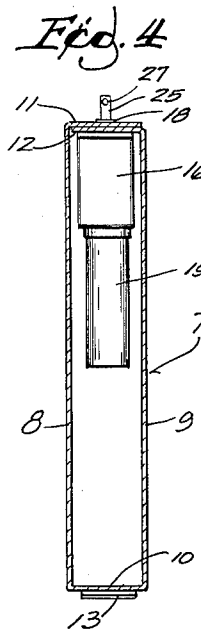
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ROTATABLE ADVERTISING DISPLAY

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1

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ROTATABLE ADVERTISING DISPLAY
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This invention relates to a rotatable advertising display. The advertising value is enhanced by a preferred arrangement in which the reaction torque of the motor which drives the display is absorbed in a suspending string or wire or the like, the motor and its source of power being preferably housed entirely within the display whereby there is no visible means of causing the display to rotate. The motor used is desirably designed for D.C. operation using flashlight battery cells as a source of power and having a self-contained reduction gear unit. In the preferred organization, the suspending strand is connected with the armature shaft, and the display is mounted on the motor casing to rotate therewith.

In the drawings:

FIG. 1 is a view in perspective showing a suspended display embodying the invention.

FIG. 2 is an enlarged detail view in perspective showing the special motor-reduction-gear and battery case unit.

FIG. 3 is a view on an enlarged scale showing the display in longitudinal section.

FIG. 4 is a view showing the display in transverse section on the line 4-4 of FIG. 3.

From the ceiling 5 or other elevated support, the strand 6 of string or wire or the like supports a rotatable display generically designated by reference character 7. In the embodiment illustrated, this display comprises a flat cardboard or paper shell having broad display face panels 8 and 9, a relatively narrow bottom panel 10 and lapping flanges 11 and 12 which constitute the top wall of the shell.

Registering apertures in panels 11 and 12 and corresponding apertures in the bottom wall 10 receive the shouldered ends 13 of bowed cardboard tensioning struts 15 whereby the display panels 8 and 9 are tensioned notwithstanding that the stock used is very light.

The unitary source of power comprises a motor and reduction gear case 16 having a flange 17 provided with upstanding tongues at 18 and from which depends the battery case 19 in which dry cells 20 are disposed in series. As best shown in FIG. 3, the motor 21 is in the lower portion of the housing 16. It drives the shaft 25 through a gear train 26 in the upper part of the casing. The shaft 25 projects through the flange 17. The shaft 25 has a transverse aperture at 27 to which the supporting strand 6 may be connected either directly or by means of a connecting ring 28. In FIG. 1, the strand 6 comprises a string knotted directly to the shaft 25. In FIG. 3, the strand 60 comprises a wire which has a hook at 29 attached to the ring 28 as a means of connection with the shaft 25. Either method can be used.

Because the motor case 16 is oblong as clearly appears in FIG. 2, it is only slightly narrower than the cross sectional width of the display 7. No connection of the motor to the tubular display shell is required. However, in the preferred practice of the invention, the tongues 18 are extended through slots provided at 30 in the registering flanges 11 and 12 and are there upset downwardly into clamping engagement with said flanges as shown in FIG. 3.

The rate of rotation of the display is quite slow due to the high degree of reduction provided in the gear train 26. It is desirably slow to minimize the resistance of the air displaced by the rotation of the flat panels of

2

the display. Because of the slow rotation, the power required is so slight that the batteries will cause the rotation of the display over long periods amounting to at least a couple of weeks or more, without requiring battery changes.

While the weight of the display and the motor assembly which motivates it is relatively small, it is sufficient to hold even an ordinary piece of string stiff enough to resist without knotting the small amount of torque required for display rotation. Accordingly the twine or string, if twine or string is used, does not become distorted in use. Considerable attention is attracted to such a display because there is nothing about it to indicate to the observer whence its power is derived.

While the tongues 18 of flange 17 are not an essential feature, the provision of such tongues has proved to be a very desirable way of connecting the motivating unit to the display while at the same time holding together the lapping flanges 11 and 12 of the cardboard or paper shell.

I claim:

1. A suspended rotating display comprising the combination with a suspending strand, of rotatable unit comprising a motor and source of power and reduction gearing and having an output shaft to which the strand is connected, and an advertising display completely enclosing such unit and supported thereon to be suspended therewith from said strand, the strand absorbing the torque reaction whereby the said unit and display rotate about said shaft.

2. The device of claim 1 in which said strand comprises a string held by the weight of the display and unit under sufficient tension to resist knotting of the string under the torque reaction developed in said unit.

3. The device of claim 1 in which the strand comprises a wire having a terminal hook.

4. A suspended rotating display comprising the combination with a suspending strand, of a motor and source of power and reduction gearing unit having an output shaft to which the strand is connected, and an advertising display completely enclosing such unit and supported thereon to be suspended therewith from said strand, the strand absorbing the torque reaction whereby the said unit and display rotate about said shaft, the display comprising a flat shell having face panels, an edge wall, and lapping flanges constituting another edge wall, said shell being internally provided with bowed tensioning struts having shouldered ends engaged with respective edge walls and concealing said unit from view through the ends of the shell.

5. A suspended rotating display comprising the combination with a suspending strand, of a motor and source of power and reduction gearing unit having an output shaft to which the strand is connected, and an advertising display completely enclosing such unit and supported thereon to be suspended therewith from said strand, the strand absorbing the torque reaction whereby the said unit and display rotate about said shaft, the display comprising a flat shell having face panels, an edge wall, and lapping flanges constituting another edge wall, said shell being internally provided with bowed tensioning struts having shouldered ends engaged with respective edge walls and concealing said unit from view through the ends of the shell, said unit including means in supporting engagement with the lowermost of said flanges and said unit having tongue means extending through the lapping flanges and upset into clamping engagement with the uppermost of said flanges.

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