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EUROPEAN PATENT APPLICATION

②① Application number: **84308255.3**

⑤① Int. Cl.⁴: **G 09 F 11/02, G 09 F 19/02,**
G 09 F 13/34

②② Date of filing: **28.11.84**

③① Priority: **29.11.83 AU 2616/83**
01.06.84 AU 5321/83

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④③ Date of publication of application: **05.06.85**
Bulletin 85/23

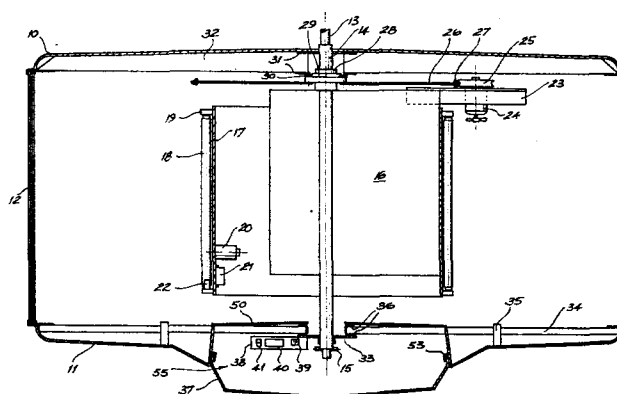
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⑥④ Designated Contracting States: **BE DE FR GB IT NL SE**

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⑤④ **Display device.**

⑤⑦ A rotating advertising display device consists of a housing suspended for rotation on a support, the side walls of the housing being transparent and mounting advertising transparencies. The side walls are illuminated by an array of elongated lamps orientated parallel to the axis of rotation, with several lamps contributing to the illumination of a given wall. Rotation of the device is achieved by a motor mounted within the housing, operating through a friction drive mechanism.



DISPLAY DEVICETECHNICAL FIELD

This invention relates to advertising display devices of the kind in which translucent panels bearing advertising material are illuminated from behind, and has
5 as its major object the provision of a rotating device of his kind which may be suspended from a ceiling or wall fixture or from below, and which provides facilities for the piping of sound advertising, music or public address announcements, and for the surveillance of the surrounding
10 region by means of a television camera.

DISCLOSURE OF THE INVENTION

It is a further object of the present invention to provide a manner of mounting the lighting components within the display device in such a way that the
15 advertising panels are provided with more evenly distributed illumination than has been achieved in the prior art, and to mount the rotating parts of the device in such a way as to reduce the necessary rating of the driving motor, and further to avoid damage to the motor or
20 drive mechanism should the device be interfered with while in operation.

The invention broadly comprises a rotating display device comprising a cover, a base, side walls comprising display panels of translucent material, means for
25 mounting a transparency adjacent each of said panels, lighting means within said device adopted to illuminate said transparencies, support means, drive means within said device adapted to rotate said device relative to said support means.

30 To facilitate the description of the invention reference will now be made to the accompanying drawings, where a presently proposed embodiment of the invention is illustrated by way of example only.

BRIEF DESCRIPTION OF THE DRAWINGS

- Fig. 1 shows in cross-sectional side elevation a display device incorporating the present invention;
- 5 Fig. 2 is a fragmentary sectional plan view of the display device of Fig. 1 with the top cover removed;
- Fig. 3 is a fragmentary sectional plan view of the device with the cover, top spider and drive removed; and
- 10 Fig. 4 is a fragmentary cross section showing the manner of mounting of the display panels.

DETAILED DESCRIPTION OF THE EMBODIMENT

The illustrated device comprises a cover 10 which may be of moulded plastics material and a base 11 of similar material. In the illustrated embodiment the cover 10 and the base 11 are octagonal in plan, and between them the walls of the device comprise panels 12 of translucent material, more particularly described below, carrying the advertising material to be illuminated.

The device is designed to be supported from above and to rotate about the fixture tube 13. Surrounding the fixture tube 13 is a support tube 14, the latter tube being fixed against relative rotation and against relative vertical movement by a support pin 15 which is passed through the lower end of both tubes. Attached to the support tube 14 by means of radial panels 16 is a cylindrical wall 17, which supports an array of circumferentially spaced vertical fluorescent tubes 18, by means of lamp holders 19. The outer surface of the wall 17 is treated for light reflection, such as by chrome plating or any other suitable surface treatment.

Mounted on the cylindrical wall 17 are such electrical components as may be required in the lighting circuit, such as a capacitor 20 and ballasts 21. Starters 22 may also be mounted on the cylindrical wall 17.

Supported on one of the radial panels 16 by means of a bracket 23 is an electric drive motor 24, the output shaft of which carries a drive wheel 25 which is engaged with a drive tyre 27 of rubber or similar material fitted on a driven plate 26. To assist in the frictional engagement of the drive wheel 25 and the plate 26, the motor 24 is mounted on a pivot plate 51 which is tensioned by spring 52 such that the drive wheel 25 is always pressing on the drive tyre 27.

10 The driven plate 26 is mounted on a bearing 28 which is in turn mounted on the support tube 14, so that the driven plate 26 will rotate about the support tube when the motor 24 is actuated.

15 The bearing 28 is provided with a flange 29 upon which rests an annular friction plate 30. Resting on the friction plate 30 is the lower of a pair of annular rings 31, between which are fixed the inner ends of radially displaced arms 32 constituting an upper support spider.

20 The upper spider 32 will thus be rotated about the support tube 14 by frictional drive from the friction plate 30. This enables a motor to be employed which has a torque capacity less than that which would be required were a direct drive to be employed, and also enables the rotating parts of the display device to be stopped while the motor is running, for example for tube replacement, without damage to the motor or the drive mechanism.

25 Located by a bottom bearing 33 which is mounted on the support tube 14, is a lower spider 34. The cover 10 is supported by the upper spider 32, and the base 11 supported from the lower spider 34 by means of moulded brackets 35. As will be observed in Fig. 1, the lower spider encloses a space below the spider inner rings 36 which is mounted on the bearing 33, thus providing a space below the lower end of the support tube, for the accommodation of ancilliary apparatus such as a video camera for security surveillance, loudspeakers for sound advertising, and the like.

This equipment space is closed by a bottom cover 37 which is supported on brackets 53 from the base 11. The cover 37 is readily removable to provide access to the components within the device. A light shroud 50 may be
5 provided on top of the spider 34.

Mounted on a power switch bracket 38 is a power inlet flange 39, a fuse holder 40 and isolating switch 41, by which the motor 24 is attached to the mains wiring which is brought into the unit through the fixture tube 13.

10 As shown in more detail in Fig. 4 each of the display panels 12 comprise an inner translucent panel 42 of suitable plastics material such as acrylic, an outer non reflective transparent panel 43, also suitably of acrylic, between which is sandwiched a graphics transparency 44.
15 The sheets 42 and 43 are held within frames 45 and 46 by means of U shaped channels, the frames 46 being attached to flanges 47 mounted on the outer ends of the arms of the support spiders 32 and 34.

To facilitate removal and replacement of the
20 advertising transparencies, the outer frame 45 is attached to the inner frame 46 by means of a stop 54 at the top and a retention wedge 48 of rubber or similar material at the bottom such that the panel 43 can be pulled outwardly at the bottom, the sheets 42 and 43 separated, and the
25 transparency 44 removed and replaced, thereby avoiding complete removal of the panel 12 from the device. Each of the frame assemblies is readily removable from the device, however, as it is attached to the flanges 47 by means of screws 49.

30 It will be observed that the spacing between the cylindrical wall 17 and the panels 12, and the disposition of the lamps 18 on the cylindrical wall 17 is such that each lamp contributes to the illumination of at least a portion of three panels, and consideration of the
35 illumination configuration in Fig. 2 will show that very even illumination of the panels 12 will be obtained in this device, and this constitutes an important advantage

of the illustrated embodiment over the prior art.

The device of the present invention can of course be manufactured in geometrical configurations differing from those of the illustrated embodiment, and may for example
5 be hexagonal, square or other polygonal shape in plan.

In smaller versions of the device than that illustrated, it may be found that sufficient room can be provided in the interior for ancilliary apparatus by upwardly inclining a portion of the lower support spider
10 to increase the space between the spider inner rings and bottom cover.

Other modifications of the apparatus, including modifications to the manner of mounting of the display panels and alternative driving arrangements, may be made
15 without departing from the spirit and scope of the present invention.

CLAIMS

1. A rotating display device comprising a cover, a base, side walls comprising display panels of translucent material, means for mounting a transparency adjacent each of said panels, lighting means within said device adopted to illuminate said transparencies, support means, drive means within said device adopted to rotate said device relative to said support means.

2. A display device according to claim 1 wherein said lighting means comprises a plurality of elongated lamps orientated parallel to the axis of rotation of said device, said lamps being circumferentially distributed about said axis, each lamp contributing to the illumination of at least a portion of at least two of said panels.

3. A device according to claim 2 wherein each said lamp contributes to the illumination of at least a portion of three of said panels.

4. A device according to claim 2 wherein said lamps are mounted adjacent the outer surface of a cylindrical reflector the axis of which is concentric with said axis.

5. A device according to claim 1 wherein said drive means comprises a motor mounted in fixed relation to said support means, said motor being coupled with driven means attached to said device such that actuation of said motor rotates said panels about said support.

6. A device according to claim 5 wherein said driven means comprises friction clutch means enabling rotation of said device to be interrupted while said motor is activated.

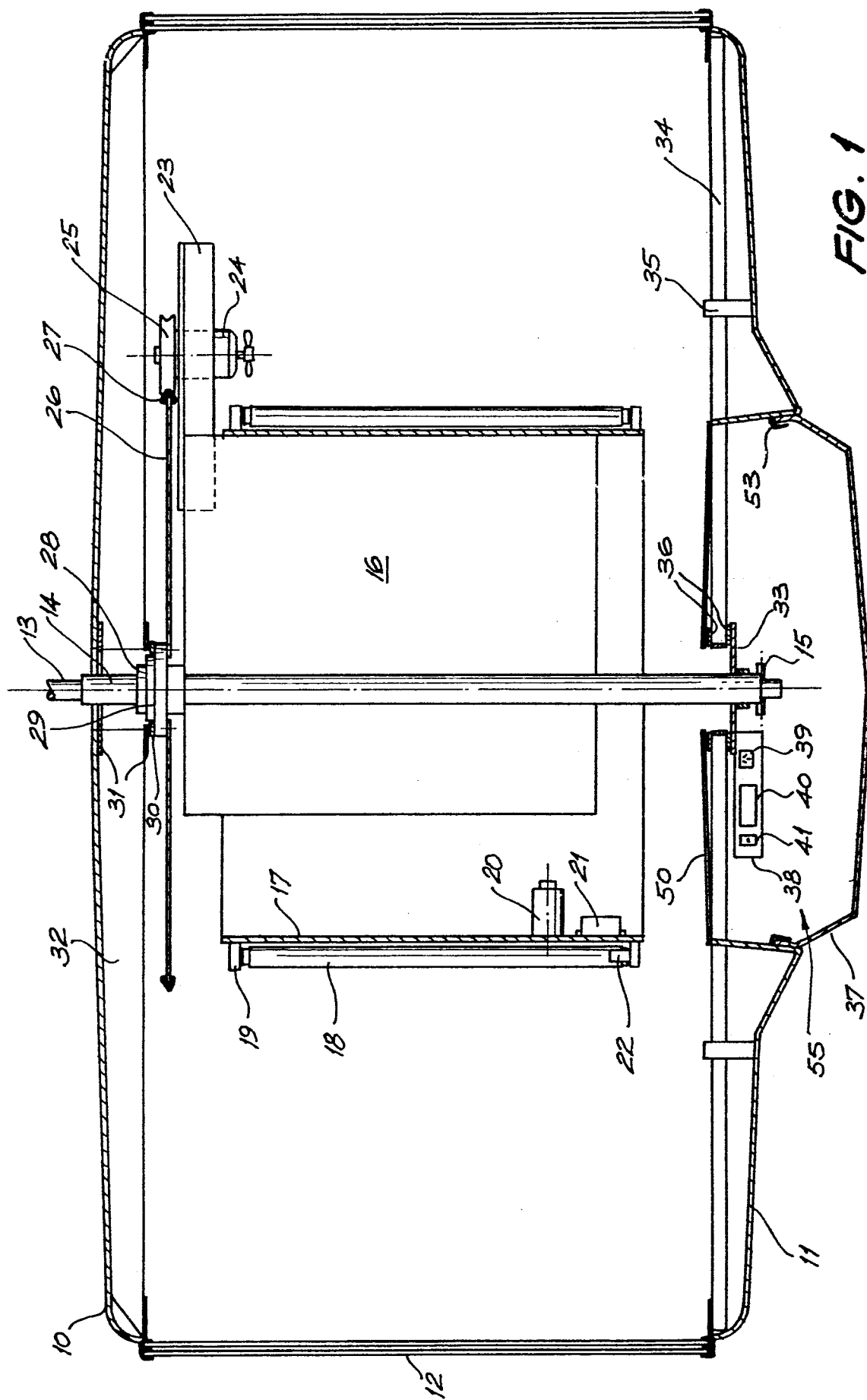
7. Apparatus according to claim 6 wherein said friction clutch means comprises an annular shoulder rotated by said motor, a friction plate resting on said annular shoulder and support means resting on said friction plate.

8. Apparatus according to claim 7 wherein said panels and said cover and base are supported by spider means supported by said support means.

9. Apparatus according to claim 1 wherein each display panel comprises an inner panel of translucent material, and an outer panel of transparent material, said outer panel being mounted for movement away from said inner panel to facilitate the placement or removal of an advertising transparency between said inner and outer panels.

10. Apparatus according to claim 9 wherein said outer panel is mounted within an outer panel frame, said frame being retained at its upper edge by the engagement with stop means of an inner flange of said frame.

11. Apparatus according to claim 10 wherein said outer panel frame comprises a flange located behind resilient sealing means, said resilient sealing means frictionally engaging inner frame means, said inner frame means supporting said inner panel.



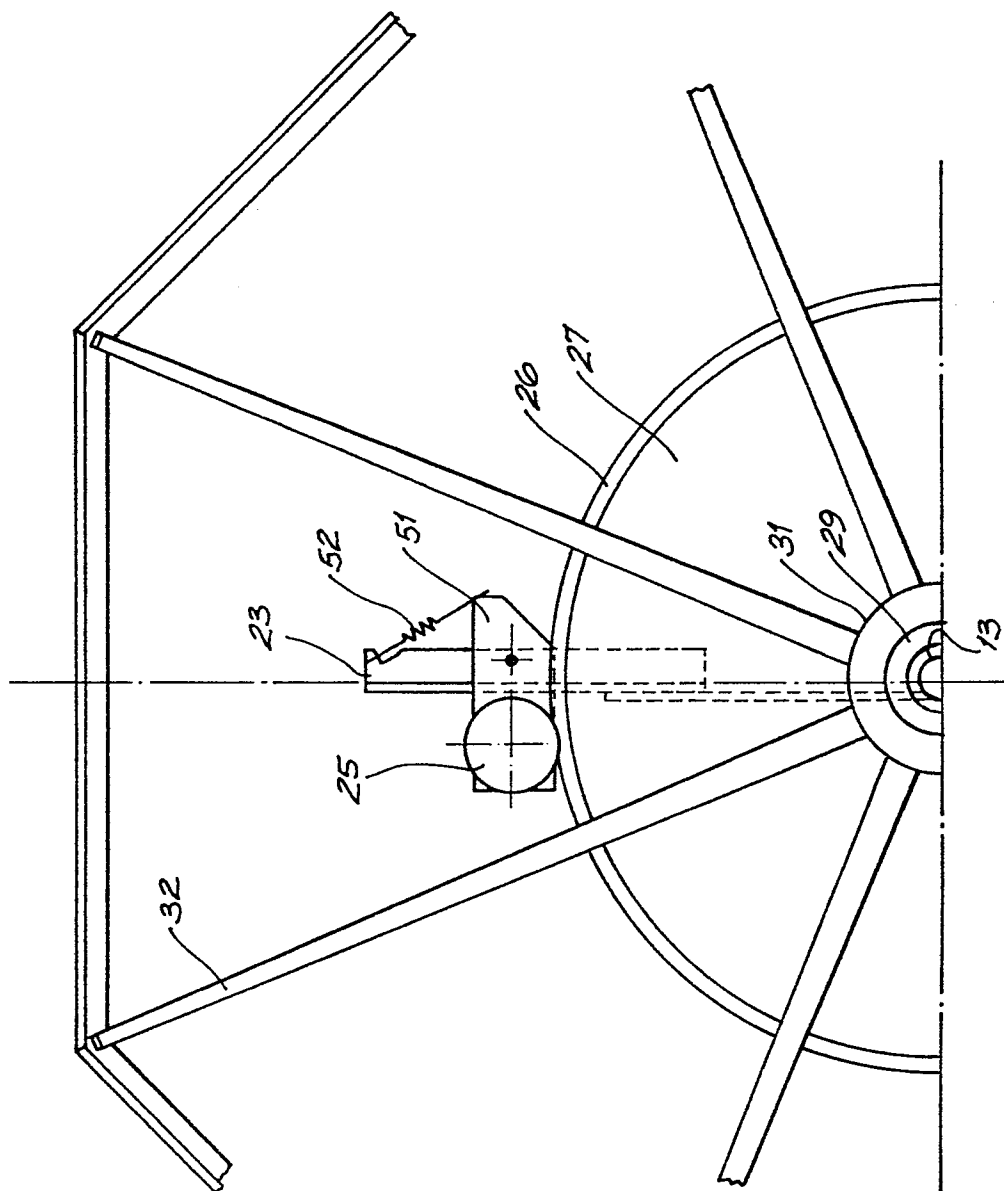


FIG. 2

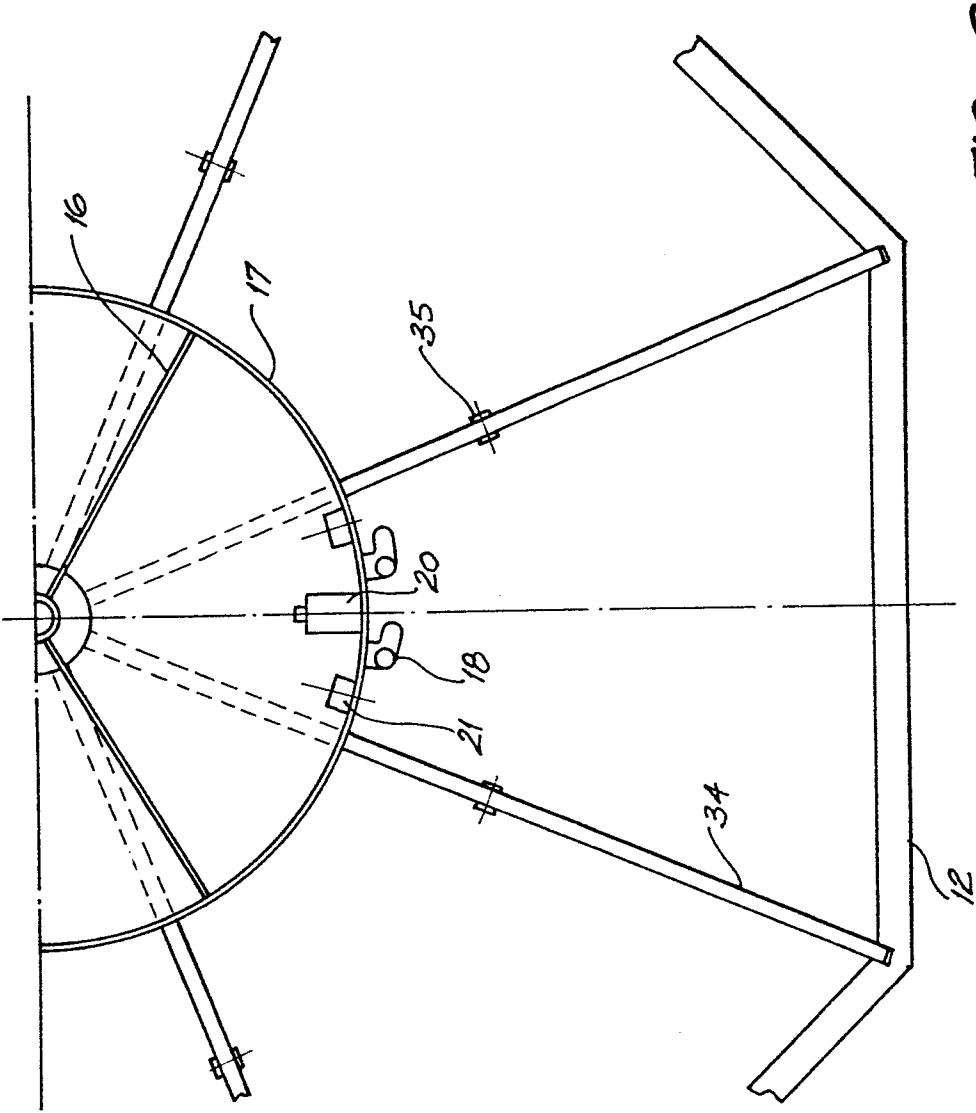


FIG. 3

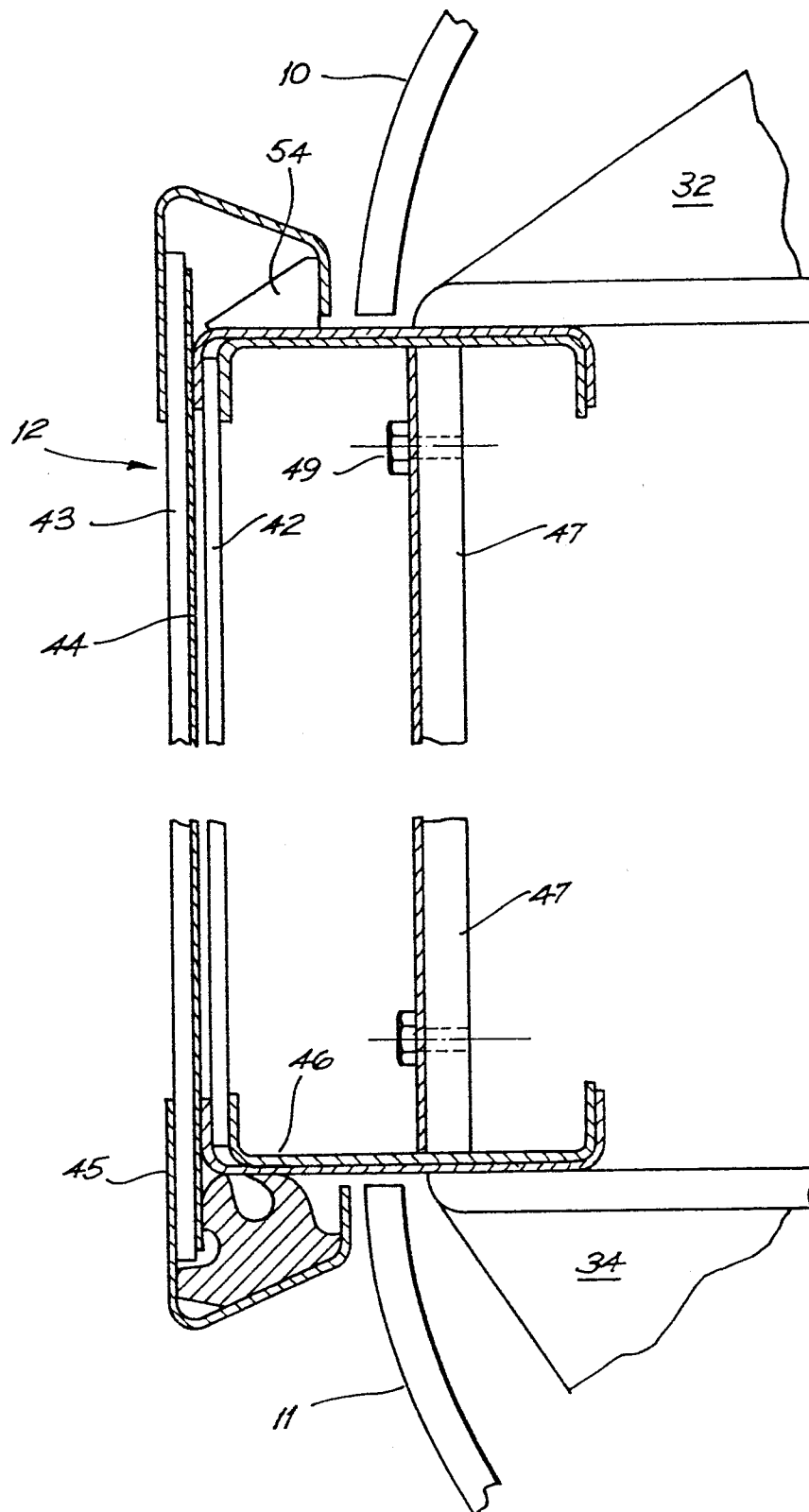


FIG. 4