

"Improvements relating to Ceiling Roses"

This invention is concerned with improvements relating to ceiling roses.

A conventional ceiling rose (hereinafter referred to as being of the kind specified) comprises a housing, a base of which is adapted to be secured to a ceiling, and a cover adapted to be secured to the housing, the cover being provided with a central aperture down through which electric cables extend from the ceiling rose.

Associated with the housing (normally clipped or otherwise secured thereto) is a terminal box, and two support posts are provided at diametrically opposite, radially outer portions of the base. Thus, electric cables extend through the central aperture and immediately diverge, being looped around each of the support posts, from which the cables converge towards the junction box wherein conductive elements of the two cables are secured. Thus, vertical forces on the cable are taken primarily by the support posts, and not by the connection of the conductive elements with the junction box.

However, in such a ceiling rose, the cables bear against the cover on interior portions thereof adjacent to the aperture, exerting a downward force on the cover. Additionally, because the angle through which the cables turn, as they extend from the aperture towards the support posts, is relatively large, a relatively low vertical load on the cable produces a significant tension in the cable.

According to this invention there is provided a ceiling rose of the kind specified comprising:-

- (a) terminal means on the housing at a radially outer part thereof to which the cores of a twin-strand lighting cable may be connected;
- (b) two outer formations at respective positions on the housing which are radially inwardly of the terminal means, around which formations a respective strand of the cable may be looped;
- (c) two inner formations at the central region of the housing around which inner formations a respective strand of the cable may be looped; and
- (d) a cover adapted to be snap-fitted onto the housing;

said inner and outer formations being so arranged that the paths adopted by the strands of a cable connected to the ceiling rose cause vertical load applied to the cable to be taken up primarily by friction forces acting on the strands.

Thus, cables need not bear against portions of the cover surrounding the aperture. In this manner, substantially all the loading on the cables may be taken by the inner formations.

Additionally, since the cables do not turn through any significant angle between passage through the central aperture of the cover and being looped around the inner formations, no additional tension will be imparted to the cables.

The removal of the vertical loading on the cover permits the use of a cover adapted to be snap-fitted to the housing, conveniently a construction in which the cover may be removed from the housing by rotation of the cover relative to the housing.

Conveniently the outer formations are afforded by two wall portions which ensure a sufficient bending of the cables, as will ensure that the vertical loading on

the cable is taken up primarily by frictional forces acting between the cable and the inner formations. Thus, preferably, the wall portions extend to a height sufficient to ensure that the cables each turn through an angle of at least 135° , prior to their extension towards the terminal means.

There will now be given a detailed description, to be read with reference to the accompanying drawings, of a ceiling rose which is a preferred embodiment of this invention, and which has been selected to illustrate the invention by way of example.

In the accompanying drawings:-

FIGURE 1 is a sectional view illustrating the housing of the ceiling rose and the cover thereof;

FIGURE 2 is a plan view taken on Figure 1, the cover having been removed; and

FIGURE 3 is a sectional view, taken on the line 3-3 of Figure 2.

The ceiling rose which is the preferred embodiment of this invention comprises a housing 2, adapted to be secured to a ceiling by the use of screws (not shown) inserted through apertures 3 in the base of the housing.

Extending from the base of the housing is a support structure 6, comprising a rear wall 7, and side wall portions 8,8 which provide respective outer formations of the housing. Extending from the rear wall 7 at the central region of the housing, being spaced a short distance apart one on either side of the centre of the housing 2, are two support posts 10,10 which provide respective inner formations of the housing, said posts being spaced a short distance from the base of the housing. Provided in each of the side wall portions 8 is a recess 9.

Secured to the base of the housing at a position outwardly of the support structure is a terminal box 14.

The ceiling rose also comprises a cover 16, provided with a central, lipped, aperture 18.

5 The housing is provided with three, generally circumferentially-extending ribs 20 which are separated by gaps 22, spaced at 120° around the periphery of the housing, the cover is provided with three ribs 24, similarly spaced at 120° around the circumference of the the cover.

10 Both the ribs 20 and the ribs 24 are provided with chamfered faces 20a, 20b; 24a, 24b, respectively, which enables the cover to be snap-fitted onto the housing, the side walls of the cover being deformed as the ribs 24 pass behind the ribs 20. Conversely, the cover may be removed from the housing by deformation of the ribs, on movement of the cover in a reverse direction.

15 Alternatively, or in addition, gaps 22 between the ribs 20 may be of a sufficient width to allow passage therethrough of the ribs 24, whereby the cover may be removed from the housing merely by effecting relative rotary movement, until the ribs 24 are in alignment with
20 the gaps 22. Preferably however the ribs 22 are provided with chamfered surfaces 22a, arranged in a manner such that by rotation of the cover under a slight separative force, the ribs 24 will be caused to ride over the surfaces 22a, to free the cover from the base.

25 In the use of the ceiling rose which is the preferred embodiment of this invention, a length 34 of twin-cable flex is passed through the aperture 18 in the cover, and the insulated cables 35 thereof are each looped around one of the support posts 10, are passed
30 through one of the recesses 9 and are taken to a terminal of the junction box 14.

The bearing of the cables 35 on the side wall portions 8 ensure that the cables are looped around the

support posts 10 by at least 135° , and this, together with the bearing of the cables 35 on the side wall portions 8, provides sufficient friction between the cables and the supporting assembly 6, to ensure that the vertical load placed on the flex 34 is not transmitted to the junction box 14.

The cover 16 may then be clipped onto the housing 2, by passage of the ribs 24 behind the ribs 20, and since no vertical loading is applied to the cover, these ribs may be of relatively light-weight construction.



CLAIMS:

1. A ceiling rose of the kind specified comprising:-

- (a) terminal means on the housing at a radially outer part thereof to which the cores of a twin-strand lighting cable may be connected;
- (b) two outer formations at respective positions on the housing which are radially inwardly of the terminal means, around which formations a respective strand of the cable may be looped;
- (c) two inner formations at the central region of the housing around which inner formations a respective strand of the cable may be looped; and
- (d) a cover adapted to be snap-fitted onto the housing;

said inner and outer formations being so arranged that the paths adopted by the strands of a cable connected to the ceiling rose cause vertical load applied to the cable to be taken up primarily by friction forces acting on the strands.

2. A ceiling rose according to Claim 1 wherein the inner formations are afforded by support posts spaced a short distance from the base of the housing, one either side of the centre of the housing.

3. A ceiling rose according to one of Claims 1 and 2 wherein the outer formations are provided by wall portions extending away from the base.

4. A ceiling rose according to any one of the preceding claims when the cover is adapted to be removed from the housing by a rotation thereof relative to the housing.



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5. A ceiling rose according to any one of the preceding claims wherein the housing is provided with a plurality of arcuate ribs at radially outer parts thereof, said ribs being spaced circumferentially, and the cover is provided with a plurality of ribs at radially outer parts thereof, wherein by engagement of the ribs of the cover behind the ribs of the housing, the cover may be secured in position, and by rotation of the cover relative to the housing, the ribs of the cover may be passed through the spaces between the ribs of the housing and the cover separated from the housings.

6. A ceiling rose constructed and arranged substantially as hereinbefore described with reference to the accompanying drawings.

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