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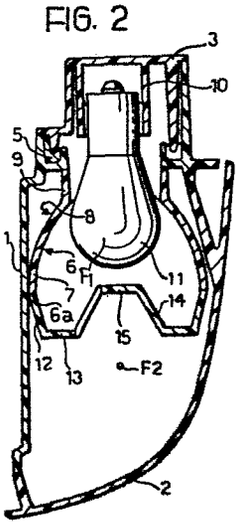
(54) Front direction indicator lamp for motor vehicles.

(57) A coloured direction indicator lamp (1) is provided frontally with a colourless transparent element (2) and comprises an elliptical reflector (6), a light source (11) located at the rear focal point (F1) of the reflector, a coloured filter (7, 16) for imparting the desired colour to the rays of light emitted by the light source (11) and reflected by the reflector (6), and screening means (12, 13, 15, 18) between the two focal points (F1, F2) of the elliptical reflector (6) to prevent the direct rays of light emitted by the light source (11) from reaching the transparent element (2) and to substantially prevent the coloured filter (7, 16) from being seen from the exterior.

FIG. 2



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Front direction indicator lamp for motor vehicles

The present invention relates to a direction indicator lamp for motor vehicles adapted to emit a beam of coloured light.

In particular, the invention is concerned with a lamp of the aforesaid type for mounting at the front of a motor vehicle adjacent a headlamp.

In these lamps, the light is normally coloured by using a coloured transparent element as the front closure element of the lamp casing.

When mounted on a motor vehicle, this coloured transparent element contrasts with the colourless transparent element of the adjacent headlamp and thus fails to meet those styling requirements which call for the headlamp and the adjacent direction indicator lamp to be harmonised into virtually a single unit.

The present invention seeks to avoid such a drawback by providing a front direction indicator lamp for motor vehicles adapted to emit a beam of coloured light, characterised in that it comprises a casing which is closed at the front by a colourless transparent element, the casing housing:

- a cup-shaped elliptical reflector having its edge facing the transparent element;
- a light source located at the rear focal point of the elliptical reflector;
- a coloured filter for imparting the desired coloration to the rays of light emitted by the light source and reflected by the reflector, and
- screening means between the two focal points of the elliptical reflector to prevent the direct rays of light emitted by the light source from reaching the transparent element and to substantially prevent the coloured filter from being seen from the exterior.

Further characteristics and advantages of the present invention will be apparent from the description which follows with reference to the attached drawings, in which:

Figure 1 is a front elevational view of a front direction indicator lamp for motor vehicles;

Figure 2 is a cross-section taken along the line II-II of Figure 1;

Figure 3 is a cross-section taken along the line III-III of Figure 2;

Figure 4 is a plan view of the screen used in the indicator lamp of Figures 1 to 3;

Figure 5 is a cross-section taken along the line V-V of Figure 4, and

Figure 6 is a cross-section similar to Figure 2 of an indicator lamp according to variant.

In the example shown in Figures 1 to 5, the casing 1 of a front direction indicator lamp for motor vehicles is closed at the front by a colourless transparent element 2.

The casing 1 is closed at the rear by a closure element 3 secured by screws 4 with the interpositioning of a sealing gasket 5.

The casing 1 contains an elliptical reflector, generally indicated 6, having focal points F1, F2 respectively.

The elliptical reflector 6 is formed by a main part 7 which is moulded from transparent plastics material coloured according to the colour of the light, for example yellow, which must be emitted by the indicator lamp in accordance with current regulations.

The external surface of the part 7 has a reflective layer 8 which is applied by metallization or lacquering.

The elliptical reflector 6 is provided with a tubular projection 9 at the rear, enabling it to be fixed to the casing 1.

The closure element 3 is provided with a tubular projection 10 which serves as a support for a bulb 11 the filament of which is in correspondence with the rear focal point F1 of the elliptical reflector 6.

A screen is fixed to the front edge 6a of the elliptical reflector 6 and comprises a frusto-conical element 12 which converges towards the transparent element 2, a flat annular wall 13 which lies in a plane perpendicular to the line passing through the two focal points F, F1, F2, and a central disc 15 carried by three inclined rods 14 on the internal edge of the annular wall 13. The disc 15 has a diameter less than the internal diameter of the annular wall 13 and lies in a plane substantially coincident with that of the edge 6a of the reflector 6.

The parts 12,13,14,15 are conveniently made in a single piece by moulding from a white opaque plastics material, and form a screen which allows only those rays emitted by the bulb 11 which are reflected by the reflector 6 and coloured by passing through the part 7 acting as a filter, to pass towards the transparent element.

The rays emitted by the bulb 11 directly towards the transparent element 2, however, are intercepted by the screen, which also serves to substantially prevent the coloured internal surface of the reflector 6 from being seen from the exterior (particularly by anyone observing the lamp along the line joining the focal points F1, F2).

In the variant illustrated in Figure 6, the main part 77 of the elliptical reflector 6 is provided on its internal surface with a reflective layer 88 obtained,for example, by metallizing or painting,so that the light rays emitted by the bulb 11 and reflected by the reflector 6 are no longer coloured as in the preceding example.

In this case, in order to impart the desired colour to the rays of light, there is used a coloured (for example, yellow) filter 16 which has a frusto-conical, tubular shape and is interposed between the internal edge of the annular wall 13 and the disc 15. In this instance, the disc 15 is formed in a separate piece from the parts 12, 13 and is carried by the filter 16.

The surface of the disc 15 which faces the transparent element 2 is preferably painted silver.

In order that the coloured filter 16 should be substantially unseen from outside, the annular wall 13 has a frusto-conical tubular projection 18 in correspondence with its internal edge, which opposes the coloured filter 16 and converges towards the front focal point of the reflector.

Claims:

1. Direction indicator lamp for motor vehicles adapted to emit a beam of coloured light, characterised in that it comprises a casing (1) which is closed at the front by a colourless transparent element (2), the casing housing:

- a cup-shaped elliptical reflector (6) having its edge (6a) facing the transparent element (2);
- a light source (11) located at the rear focal point (F1) of the elliptical reflector (6);
- a coloured filter (7,16) for imparting the desired colour to the rays of light emitted by the light source (11) and reflected by the reflector (6), and
- screening means (12,13,15,18) between the two focal points (F1,F2) of the elliptical reflector (6) to prevent the direct rays of light emitted by the light source (11) from reaching the transparent element (2) and to substantially prevent the coloured filter (7,16) from being seen from the exterior.

2. An indicator lamp according to Claim 1, characterised in that the coloured filter (7) is incorporated in the reflector (6).

3. An indicator lamp according to Claim 2, characterised in that the coloured filter (7) is formed by a coloured filtering layer (7) superimposed on the reflective surface (8) of the reflector (6).

4. An indicator lamp according to Claims 2 and 3, characterised in that the screening means comprise an annular element (12,13) which extends as an extension of the edge (6a) of the reflector (6), and a central disc (15) which is carried on the internal edge of the annular element (12,13) by support rods (14) and has a diameter less than that of the central opening of the annular element (12,13), said disc (15) lying substantially in the plane of the edge (6a) of the reflector (6).

5. An indicator lamp according to Claim 4, characterised in that the annular element (12,13) comprises a frusto-conical side wall (12) which converges towards the transparent element (2), and a flat annular wall (13) which is parallel to the disc (15) and extends along the inside of the smaller diameter end of the frusto-conical side wall (12).

6. An indicator lamp according to Claim 1, characterised in that the coloured filter (16) is separate from the reflector (6).

7. An indicator lamp according to Claim 6 , characterised in that the coloured filter (16) is carried by the screening means (12,13), and in that the screening means (12,13) are carried by the edge (6a) of the reflector (6).

8. An indicator lamp according to Claim 7, characterised in that the screening means comprise an opaque annular element (12,13) extending as an extension of the reflector (6), and an opaque central disc (15) carried peripherally on the internal edge of the annular element (12,13) by means of a frusto-conical tubular coloured filter (16) which converges towards the light source (11).

9. An indicator lamp according to Claim 8, characterised in that the opaque annular element (12,13) has a frusto-conical tubular projection (18) opposite the frusto-conical tubular coloured filter (16) and converging towards the front focal point (F2) of the reflector (6), to screen the coloured filter (16) from view.

10. An indicator lamp according to Claim 8, characterised in that the surface (17) of the central screening disc (15) facing the transparent element (2) is painted silver.

FIG. 1

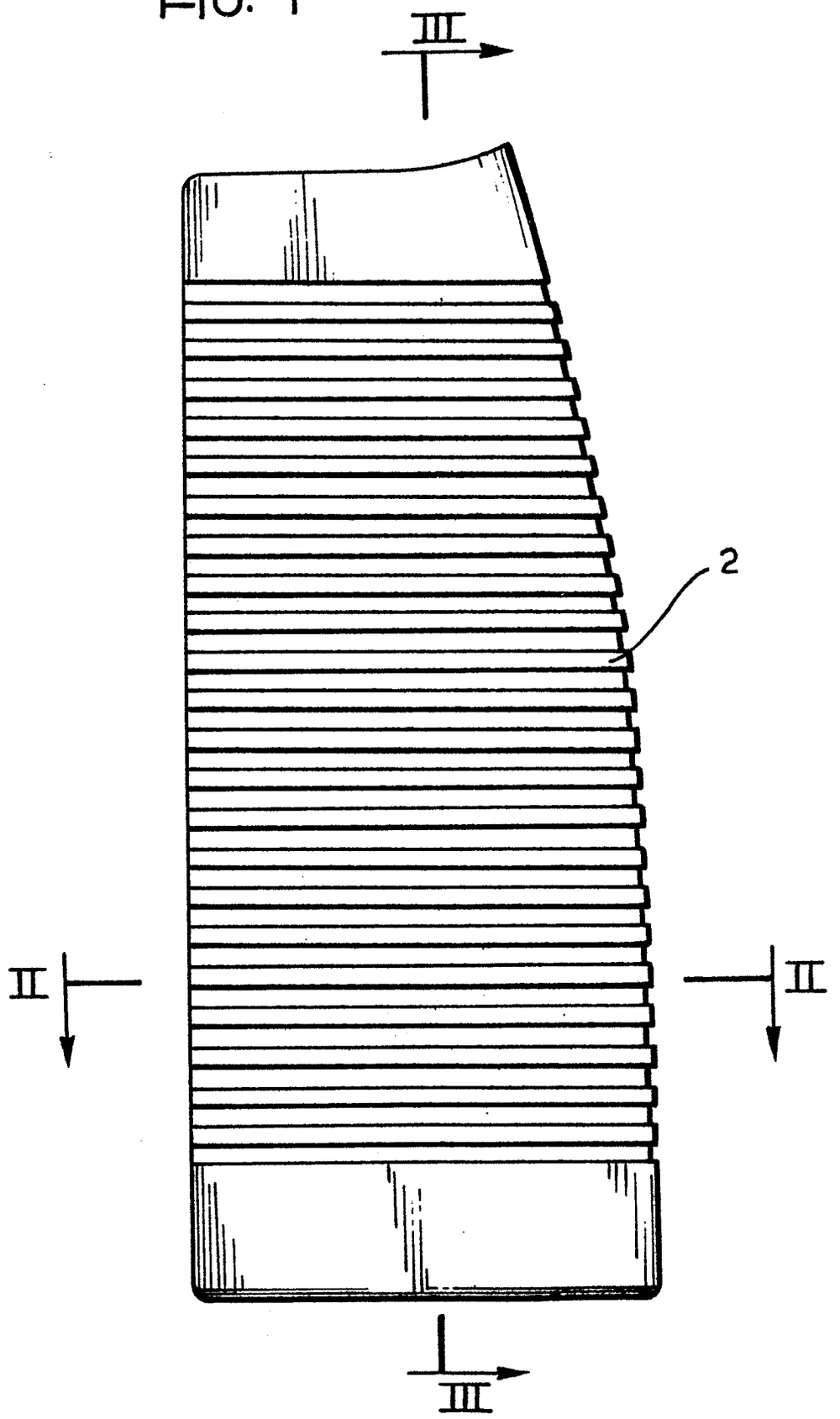


FIG. 2

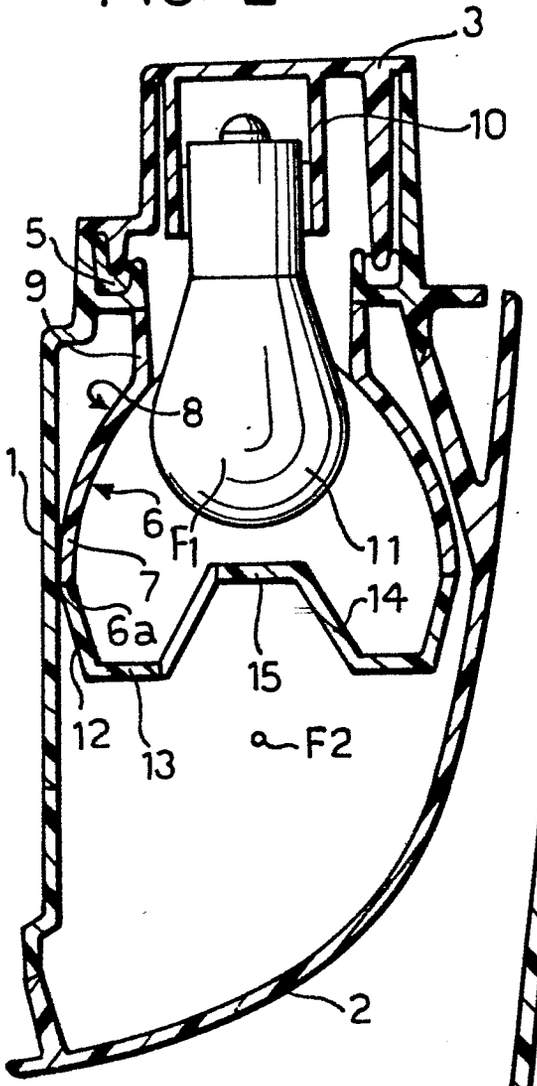


FIG. 3

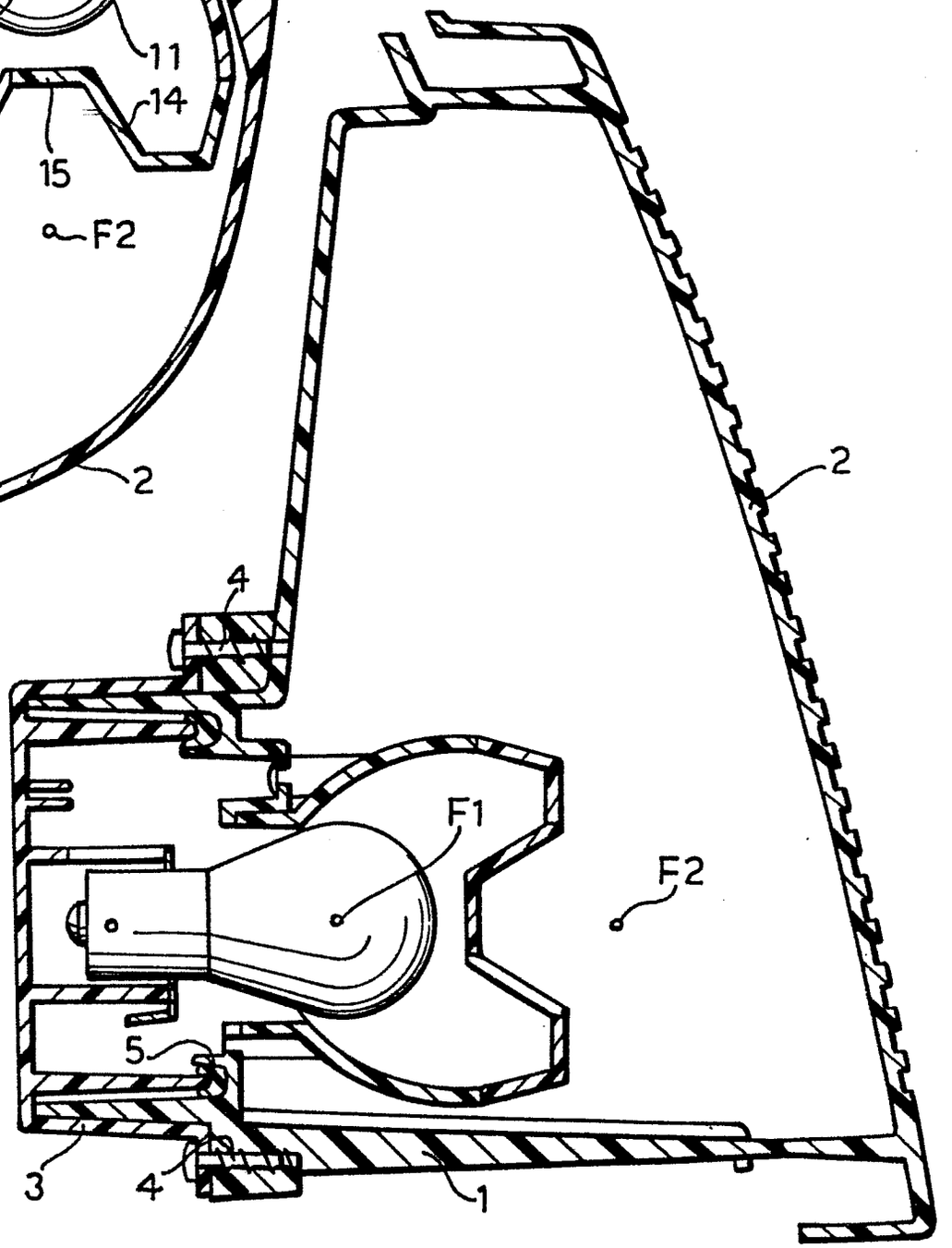


FIG. 4

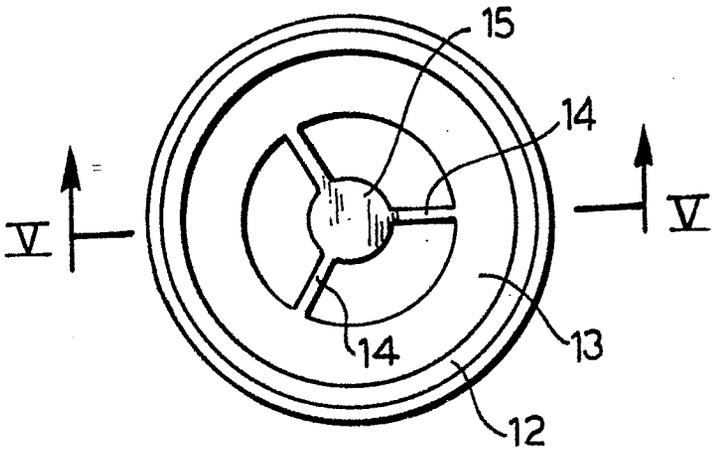


FIG. 5

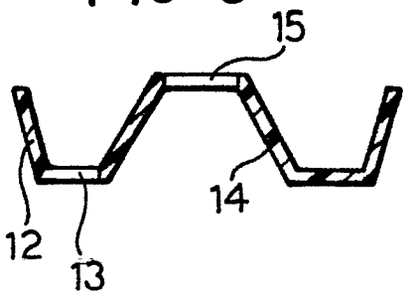
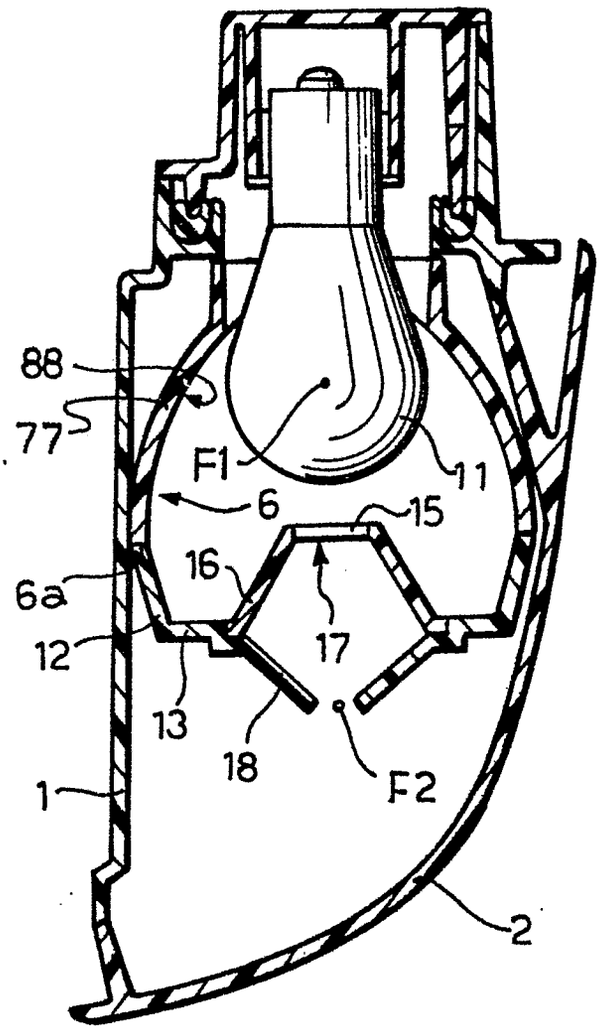


FIG. 6



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EUROPEAN SEARCH REPORT

0071583
Application number

EP 82 83 0208

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
Y	DE-B-1 259 747 (ELASTIC STOP NUT) *The whole document*	1,2,3, 6,7,10	F 21 Q 1/00
Y	US-A-2 198 014 (OTT) *Page 6, column 1, lines 5-8*	1	

TECHNICAL FIELDS SEARCHED (Int. Cl. ³)

F 21 Q
F 21 M

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	05-11-1982	FOUCRAY R.B.F.

CATEGORY OF CITED DOCUMENTS

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