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## (54) Tabletop lamp or floor-lamp providing high lighting quality.

(57) The present invention relates to a tabletop lamp or floor-lamp (1), comprising a footing (2) that is adapted to be placed on a surface to be illuminated and supports a diffuser body (4) and at least one light source. The diffuser body (4) has an elongated shape that protrudes from the footing (2) and has a lower face that is directed towards the surface to be illuminated and is provided with a surface adapted to reflect and/or refract a light beam. The light source is arranged below the diffuser body (4) in a region that is spaced from the free end of the diffuser body (4), which lies at the opposite end with respect to the footing (2) ; the source is orientated towards the lower face of the diffuser body (4) so as to diffuse the light beam substantially up to the free end of the diffuser body (4) and so as to indirectly project it onto the surface to be illuminated.

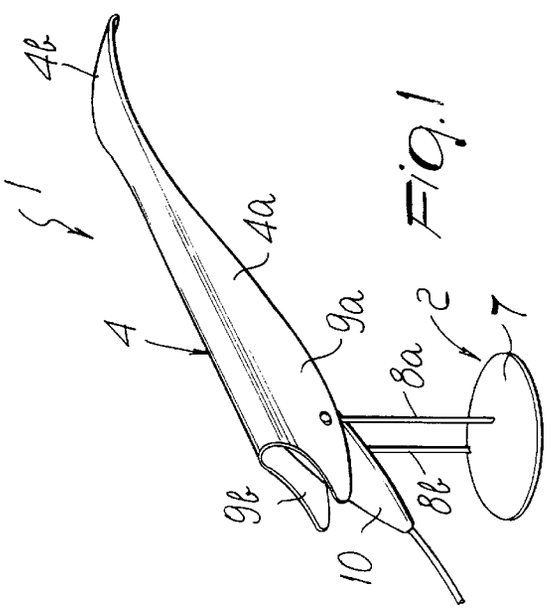


Fig.1

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The present invention relates to a tabletop lamp or floor-lamp providing high lighting quality.

Conventional tabletop lamps or floor-lamps are generally constituted by a footing that is adapted to be placed on the surface to be illuminated and supports a diffuser body inside which there is at least one light source.

The diffuser body is generally mounted at one end of an arm, the other end whereof is pivoted to the footing, about a substantially horizontal axis, so as to allow, by virtue of the oscillation of said arm about said axis, to vary the vertical distance of the diffuser body from the surface to be illuminated. In many kinds of lamp the diffuser body can also be orientated with respect to the arm, so as to vary the angle of incidence of the light beam projected onto the surface to be illuminated.

Generally, in these kinds of lamp, the part of the diffuser body that is directed towards the surface to be illuminated is substantially shaped like a parabola and the light source is located proximate to the focus of said parabola. In practice, the lighting provided by these lamps originates mainly from direct illumination of the light source located in the diffuser body and partly from reflection produced by the face of the diffuser body that is directed towards the surface to be illuminated.

Due to the fact that most of the light emitted by the light source strikes the surface to be illuminated directly, potentially unpleasant reflections can occur on the illuminated surface. The discomfort produced by these reflections is even more significant when these kinds of lamp are used to illuminate a surface made of glossy or mat coated paper of a book or of a document while reading it.

Furthermore, particularly in the case of tabletop lamps using light sources that produce considerable heat, the diffuser body heats considerably, and this can be unpleasant and even dangerous in some cases, since the diffuser body of these lamps is close to the user.

On the other hand, the use of light sources with low heat emission is not accepted positively by the consumer since these light sources produce low-quality lighting that is poorly tolerated by the user.

A principal aim of the present invention is to solve the problems described above by providing a tabletop lamp or floor-lamp that ensures high lighting quality, avoiding the onset of unpleasant reflections on the surface to be illuminated or on the objects placed on said surface.

Within the scope of this aim, an object of the invention is to provide a tabletop lamp or floor-lamp in which the part of the diffuser body to be placed close to the user, particularly when used as tabletop lamp, can have a low temperature during use, that is to say, a temperature that causes no discomfort and is not dangerous for the user.

Another object of the invention is to provide a lamp having a simple structure that can be produced with low manufacturing costs.

Another object of the invention is to provide a lamp that can have an aesthetically pleasing styling.

This aim, these objects, and others which will become apparent hereinafter are achieved by a tabletop lamp or floor-lamp, which comprises a footing adapted to be placed on a surface to be illuminated and supporting a diffuser body and at least one light source, characterized in that said diffuser body has an elongated shape that protrudes from said footing and has a lower face that is directed towards said surface to be illuminated and is provided with a surface adapted to reflect and/or refract a light beam, said light source being arranged below said diffuser body in a region that is spaced from its free end, which lies at the opposite end with respect to said footing, and being orientated towards the lower face of said diffuser body so as to diffuse the light beam, emitted by said light source, substantially up to said free end of the diffuser body and so as to indirectly project it onto said surface to be illuminated.

Further characteristics and advantages of the invention will become apparent from the description of a preferred but not exclusive embodiment of the lamp according to the invention, illustrated only by way of non-limitative example in the accompanying drawings, wherein:

figure 1 is a perspective view of the lamp according to the invention; and

figure 2 is a sectional view of the lamp according to the invention, taken along a vertical plane.

With reference to the above figures, the lamp according to the invention, generally designated by the reference numeral 1, comprises a footing 2 that is adapted to be placed on a surface 3 to be illuminated and supports a diffuser body 4 and at least one light source 5.

According to the invention, the diffuser body 4 has an elongated shape that protrudes from the footing 2, and the lower face 6 of the diffuser body 4, which is directed 5 towards the surface 3 to be illuminated, is provided with a surface that is adapted to reflect and/or refract the light beam emitted by the light source 5. The light source 5 is arranged below the diffuser body 4 in a region that is spaced from the free end of the diffuser body 4 and is opposite to the end of said body that is connected to the footing 2; said light source is directed towards the lower face 6 of the diffuser body 4 so as to project a light beam onto this surface, which diffuses the beam substantially up to the free end of the diffuser body 4 and therefore, indirectly, onto the surface 3 to be illuminated.

More particularly, the footing 2 can be constituted, as shown in the figures, by a base 7 from which two posts 8a and 8b rise, said posts being connected to a longitudinal end of the diffuser body 4.

The diffuser body 4 has, starting from the posts 8a and 8b of the footing 2, a first portion 4a that is substantially vault-shaped, with the concavity directed towards the surface 3 to be illuminated, and an end portion 4b that is flattened and blended with the first portion 4a.

Preferably, the end portion 4b has a slightly concave lower face.

The light source 5 is supported by the footing 2 preferably proximate to the end of the diffuser body 4 that is connected to said footing 2, and the first portion 4a of the diffuser body 4 has, proximate to the light source 5, two lateral wings 9a and 9b that protrude downwards and laterally shield the light source 5.

The surface of the lower face 6 of the diffuser body 4 is preferably metallized or covered with a refracting plastic film.

The light source 5 is preferably constituted by a dichroic bulb mounted in a supporting body 10, which is supported by the posts 8a and 8b so as to be oscillatable about an axis 11, which is substantially horizontal and lies transversely to the extension of the diffuser body 4.

The diffuser body 4 is also pivoted, by means of the wings 9a and 9b, to the top of the posts 8a and 8b about an axis 12 that lies horizontally and transversely with respect to the extension of the diffuser body 4.

In this manner it is possible to vary the inclination of the diffuser body 4 with respect to the surface 3 to be illuminated, taking advantage of its possibility to oscillate about the axis 12, and it is also possible to vary, by taking advantage of the fact that the bulb is oscillatable about the axis 11, the inclination of the light beam emitted by the light source 5 with respect to the surface of the lower face 6 of the diffuser body 4.

Preferably, the light beam emitted by the light source 5 has an axis that is incident with respect to a plane that is tangent to the top of the lower face 6 along an angle a of substantially 20° to 50°.

The operation of the lamp according to the invention is as follows.

The light beam emitted by the light source 5 strikes the surface of the lower face 6 of the diffuser body 4; since it is metallized or covered with a refracting plastic film, said body transmits the received light substantially along the entire extension of the lower face 6 of the diffuser body and diffuses it onto the surface 3 to be illuminated.

This allows excellent light diffusion and high-quality illumination, avoiding unpleasant reflections on the illuminated surface, since all the light that reaches the surface 3 to be illuminated originates from the light source indirectly. Furthermore, the particular shape of the diffuser body 4 in any case allows, by appropriately orientating the diffuser body 4 and the light source 5, to concentrate the diffused light onto the surface 3 to be illuminated in the desired region.

By virtue of the fact that the light source 5 is located proximate to the base 2, that is to say, proximate to the end of the diffuser body 4 that is farthest from the user, the end portion 4b of the diffuser body, which is meant to be located proximate to the user, does not heat and is therefore not unpleasant or dangerous for the user.

In practice it has been observed that the lamp according to the invention fully achieves the intended aim, since it allows to obtain high-quality lighting while avoiding the unpleasant reflections that can be observed with conventional tabletop lamps or floor-lamps.

The lamp thus conceived is susceptible of numerous modifications and variations, all of which are within the scope of the inventive concept; all the details may furthermore be replaced with other technically equivalent elements.

In practice, the materials employed, as long as they are compatible with the specific use, as well as the dimensions, may be any according to the requirements and the state of the art.

Where technical features mentioned in any claim are followed by reference signs, those reference signs have been included for the sole purpose of increasing the intelligibility of the claims and accordingly such reference signs do not have any limiting effect on the interpretation of each element identified by way of example by such reference signs.

## Claims

1. Tabletop lamp or floor-lamp, comprising a footing that is adapted to be placed on a surface to be illuminated and supports a diffuser body and at least one light source, characterized in that said diffuser body has an elongated shape that protrudes from said footing and has a lower face being directed towards said surface to be illuminated which is provided with a surface that is adapted to reflect and/or refract a light beam, said light source being arranged below said diffuser body in a region that is spaced from its free end, which lies at the opposite end with respect to said footing, and being orientated towards the lower face of said diffuser body so as to diffuse the light beam, emitted by said light source, substantially up to said free end of the diffuser body and so as to indirectly project it onto said surface to be illuminated.

2. Lamp according to claim 1, characterized in that the surface of the lower face of said diffuser body is metallized.

3. Lamp according to claim 1, characterized in that the surface of the lower face of said diffuser body is coated with a refracting plastic film.

4. Lamp according to one or more of the preceding claims, characterized in that said diffuser body has, starting from said footing, a first vault-shaped portion, in which the concavity is directed towards said surface to be illuminated, and a flattened end portion, which is blended with said first portion.

5. Lamp according to one or more of the preceding claims, characterized in that said first portion of the diffuser body has two lateral wings that protrude downwards and laterally shield said light source.

6. Lamp according to one or more of the preceding claims, characterized in that said end portion of the diffuser body is concave on its side directed towards said surface to be illuminated.

7. Lamp according to one or more of the preceding claims, characterized in that the axis of the light beam emitted by said light source strikes the lower face of the diffuser body at an angle of substantially 20° to 50°.

8. Lamp according to one or more of the preceding claims, characterized in that said diffuser body is supported by said footing so as to be oscillatable about a horizontal axis that lies transversely to the extension of said diffuser body, in order to vary the angle between said diffuser body and said surface to be illuminated.

9. Lamp according to one or more of the preceding claims, characterized in that said light source is mounted in a supporting body associated with said footing so that said source is oscillatable about a horizontal axis that lies transversely to the extension of said diffuser body, in order to vary the inclination of the light beam with respect to said diffuser body.

10. Lamp according to one or more of the preceding claims, characterized in that said light source is constituted by a dichroic lamp.

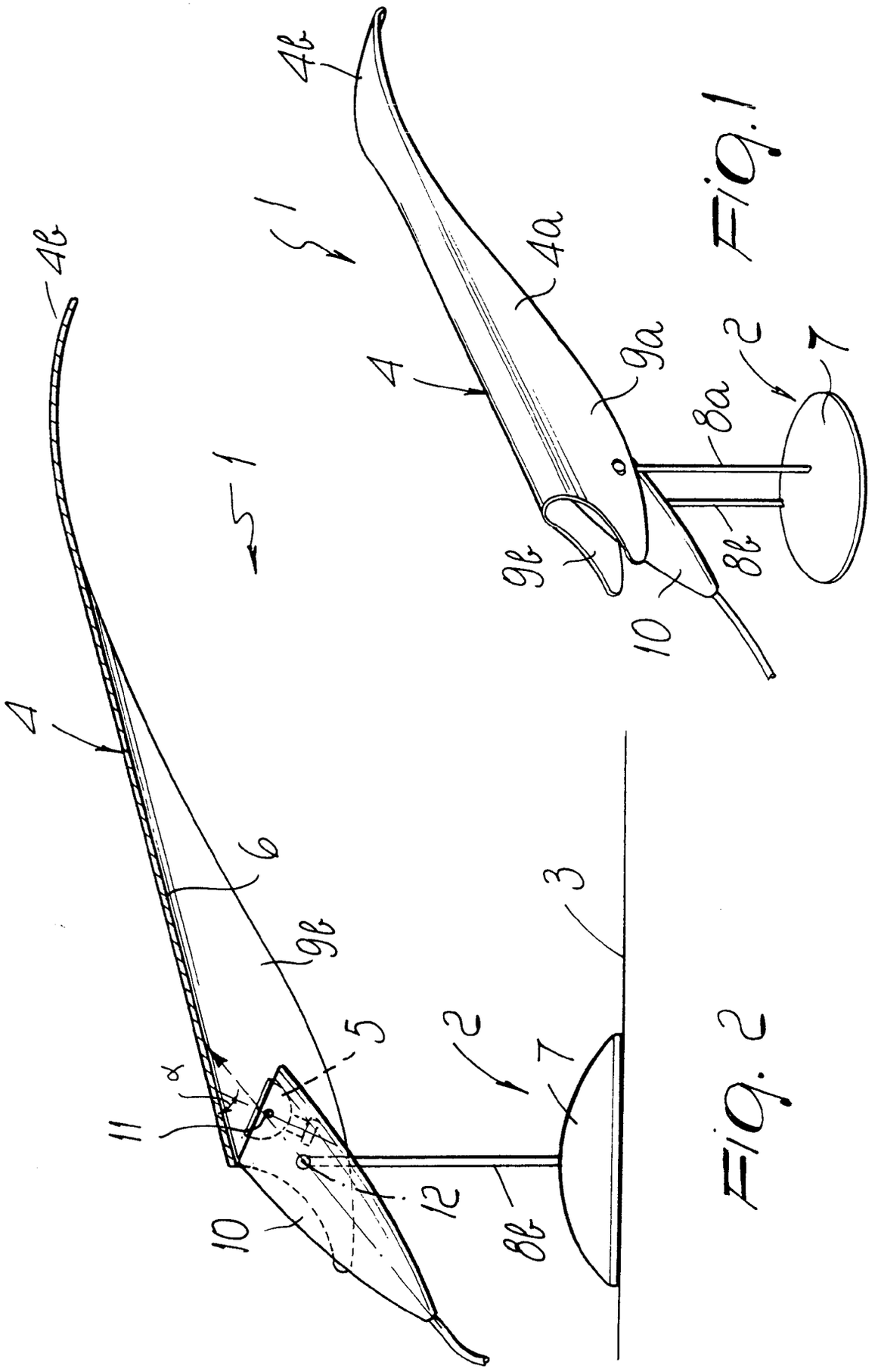


Fig. 1




Fig. 2

European Patent Office

# EUROPEAN SEARCH REPORT

Application Number
EP 95 10 4371

## 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.6) |
|---|---|---|---|
| X | DE-A-28 09 557 (EUROLICHT LICHTARCHITECTUUR B.V.)<br>* page 7, line 19 - page 9, line 4; figures 1,2 * | 1,2,5-7 | F21V7/00 |
| X | EP-A-0 347 867 (ENGEL)<br>* column 4, line 1 - line 16 *<br>* column 4, line 26 - line 37 *<br>* column 4, line 51 - line 56; figure 1 * | 1,8 | |
| X | GB-A-536 563 (DOWNER)<br>* page 1, line 42 - line 55 *<br>* page 1, line 64 - line 73 *<br>* page 1, line 87 - line 106; figures 1,2 * | 1 | |
| A | US-A-2 744 192 (ROSENTHAL)<br>* figures 1,2 * | 1,8 | |

TECHNICAL FIELDS SEARCHED (Int.Cl.6)

F21V
F21S

The present search report has been drawn up for all claims

| Place of search | Date of completion of the search | Examiner |
|---|---|---|
| THE HAGUE | 23 June 1995 | Martin, C |

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
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T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

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