(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 382 902 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
21.01.2004 Bulletin 2004/04

(51) Int Cl.[7]: **F21V 33/00**

(21) Application number: **03425416.9**

(22) Date of filing: **25.06.2003**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR
Designated Extension States:
AL LT LV MK

(30) Priority: **19.07.2002 IT fi20020135**

(71) Applicant: **TARGETTI SANKEY S.p.A.**
I-50145 Firenze (IT)

(72) Inventor: **Iarussi, Massimo**
50134 Firenze (IT)

(74) Representative: **Bardini, Marco Luigi et al**
c/o Società Italiana Brevetti S.p.A.
Corso dei Tintori, 25
50122 Firenze (IT)

(54) Door or window with lighting device and lighting section associated therewith

(57) A door or window comprising a frame (1) for supporting at least one glass panel (2) and, applied to one face of said panel, a layer (3) for filtering the light radiations. Along said frame, in a position corresponding to the periphery of said panel, there extends a seating (5) in which there is accommodated a tubular light source (6) or a light source distributed along the seating.

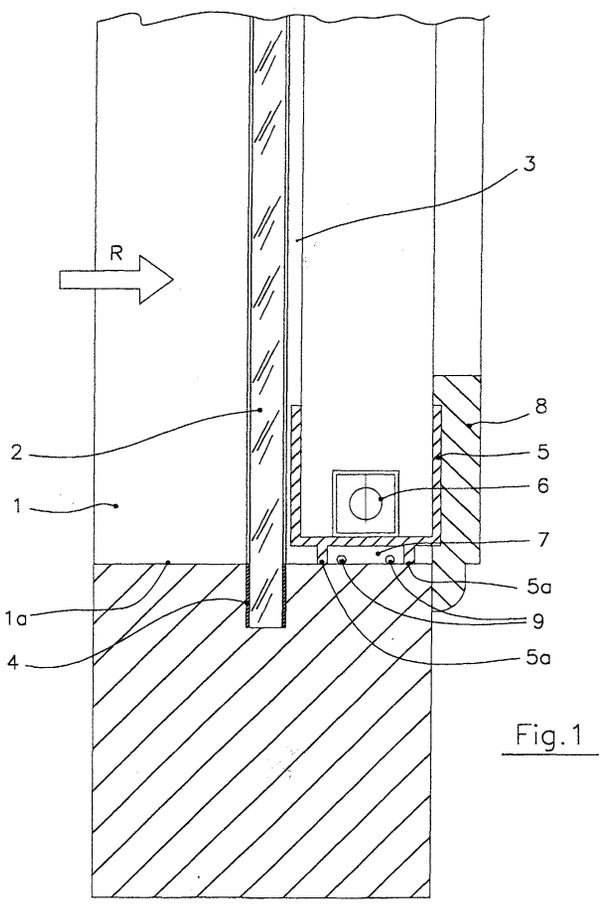

Fig.1

EP 1 382 902 A2

Description

[0001] The present invention relates to a door or window with a lighting device. The invention also relates to a lighting section capable of being used with or inserted in said door or window.

[0002] The lighting of particular environments can become problematical on account of the fact that, either for aesthetic reasons or lack of an appropriate space, it is not possible to make use of the traditional light sources. This is the case, for example, of rooms of particular artistic or architectural interest and of halls and rooms in museums. On the other hand, there may also be needs deriving from pure design considerations or from the arrangement of the interiors that make it unfeasible the installation of light sources in a conventional manner.

[0003] In many cases, moreover, even the natural lighting provided by an adequate number of windows can be utilized only to a very limited extent, because the windows may be screened to a more or less substantial extent by, for example, the employment of special glasses or reflection curtains, due to a wide variety of reasons, including-for example - reasons of security or privacy or to prevent damage to precious materials or objects that may prove sensitive to direct exposure to sunlight.

[0004] The object of the present invention is to provide a door or window, capable of satisfying the need discussed above.

[0005] Another purpose of the present invention is to provide a lighting section capable of being used with or incorporated in a door or window in order to render it suitable for illuminating environments in which it is not possible to install conventional light sources.

[0006] These aims are attained by means of the door or window and the associated lighting section in accordance with the present invention, the feature of which are set out, respectively, in claim 1 and claim 6. Further important characteristics of the invention are set out in the dependent claims.

[0007] The characteristics and the advantages of the door or window and the associated lighting section in accordance with the present invention will be apparent from the following description of embodiments thereof, which is given purely by way of example and is not to be considered limitative in any way, said description making reference to the attached drawings, of which:

- Figure 1 shows a partial cross section of a first embodiment of the invention;
- Figure 2 shows a partial cross section of a second embodiment of the invention.

[0008] Referring to Figure 1, the reference number 1 has been used to schematically indicate a portion of a window frame, while 2 indicates a glass panel supported in a conventional manner within said frame. On one face of the glass panel there extends a layer 3 of material capable of reflecting at least a part of the light radiation arriving from outside, schematically indicated by the arrow R, for example, a sunscreen tissue. The edges of the glass panel 2 are engaged in a continuous groove 4 provided in an intermediate position along the inner side 1a of the frame 1. The latter, of course, may be either of the type that can move, slide or swivel with respect to a window opening within which it is mounted or may be installed in a fixed position in that same opening.

[0009] The continuous groove 4 divides the inner side 1a of the frame 1 into two parts and on the part that is situated on the same side as the layer 3 there is provided a continuous and substantially C-shaped section 5 of which the open side is turned towards the centre of the window. The section may be made of metal, plastic material, wood or any other substantially rigid material. Inside the section 5 there is accommodated one or more light sources 6, advantageously of the tubular or fluorescent type, aligned within the seating formed by the section 5, or made up of a plurality of punctiform light sources placed at such a distance from each other as to give rise to a substantially continuous illumination. The section 5 may extend for the entire length of the inside faces of the frame 1 or merely along some parts thereof, for example, only along the longitudinal sides and any longitudinal crosspieces.

[0010] Advantageously, the section 5 may be provided with feet or small ribs 5a that extend from its base and delimit - between the base and the inner side 1a of the frame 1 - a space 7 within which there may pass the cables 9 providing the electricity supply.

[0011] A finishing frame 8 is provided on the outside of the section 5 on the side opposite the glass panel 2 in order to hide the section from view. The frame 8 may be fixed in any known manner to the corresponding side face of the frame 1.

[0012] A substantial part of the light emitted by the light source 6 will be reflected into the interior of the environment by the reflecting layer provided on the glass panel 2, while only a small fraction, not greater than 30%, will be transmitted to the outside.

[0013] The solution described above makes it possible to apply the invention to existing windows. The embodiment of the invention shown in Figure 2, on the other hand, makes it possible to produce windows that are already predisposed for containing a light source. In fact, Figure 2 shows a section through a metal section, made of aluminium for example, that permits the production by means of known techniques of a metal frame 10 for a window to be fixed - typically by means of hinges - to a counterframe 11 integral to the wall structure 20. On the inside face 10a of the frame 10 there are provided two continuous grooved seatings 12 and 13. The first seating 12 is intended to engage in a conventional manner with the perimetral edges of a glass panel 14, while the second seating 13 accommodates a light source 15 of the previously specified type. Advantageously, the

light source may be anchored by means of elastic counteracting members to the walls of the seating 13, which may be configured in such a way as to enable it to accommodate also at least one power supply unit 17 for the light source or the light sources contained therein. On the inner face 10a of the frame 10 between the two seatings 12 and 13 there is also provided a continuous groove 18 intended to accommodate the edges of a movable reflecting curtain 19. As an alternative, of course, the reflecting element in this case may once again be applied directly to the glass panel or use may be made of reflecting glasses of equivalent functionality.

[0014] The shape of the section used to obtain the frame 10 may vary with respect to the one here illustrated in accordance with the specific technical and aesthetic requirements.

Claims

1. A door or window comprising a frame (1) for supporting at least one glass panel (2) and, applied to one face of said panel, a layer (3) for filtering the light radiations, **characterized in that** along said frame, in a position corresponding to the periphery of said panel, there extends a seating (5) in which there is accommodated a tubular light source (6) or a light source distributed along said seating.

2. A door or window in accordance with claim 1, wherein said seating consists of a C-shaped section (5) inserted in said frame.

3. A door or window in accordance with claim 2, wherein said C-shaped section (5) is interposed between said glass panel (2) and a finishing frame (8) fixed along said frame and capable of hiding said section (5) from view.

4. A door or window in accordance with claim 1, wherein said frame (1) consists of a metal section (10) provided with a first grooved and continuous seating (12) to engage with the edges of said panel (2) and a second parallel grooved seating (13) to accommodate said light source (6; 15).

5. A door or window in accordance with claim 4, wherein said metal section (10) is provided with an intermediate groove (18) between said first grooved seating (12) and said second grooved seating (13) to slidingly accommodate the edges of a movable, reflecting curtain (19).

6. A metal section for realizing the frame of the door or window according to any of the previous claims, **characterized in that** it has two parallel, grooved and continuous seatings (12, 13) that extend along one of its sides, the first of said seatings (12) being provided to engage with the edge of a glass panel (2), the second of said seatings (13) being provided to accommodate a tubular light source (15) or a light source distributed along said second seating.

7. A section in accordance with claim 6, wherein between said first and said second seating there is provided a intermediate groove (18) to slidingly accommodate the edges of a movable, reflecting curtain (19).

8. A section in accordance with claim 6 or claim 7, wherein said second seating (13) intended to accommodate said light source (15) is of sufficient size to contain also a power supply unit (17) for said light source.

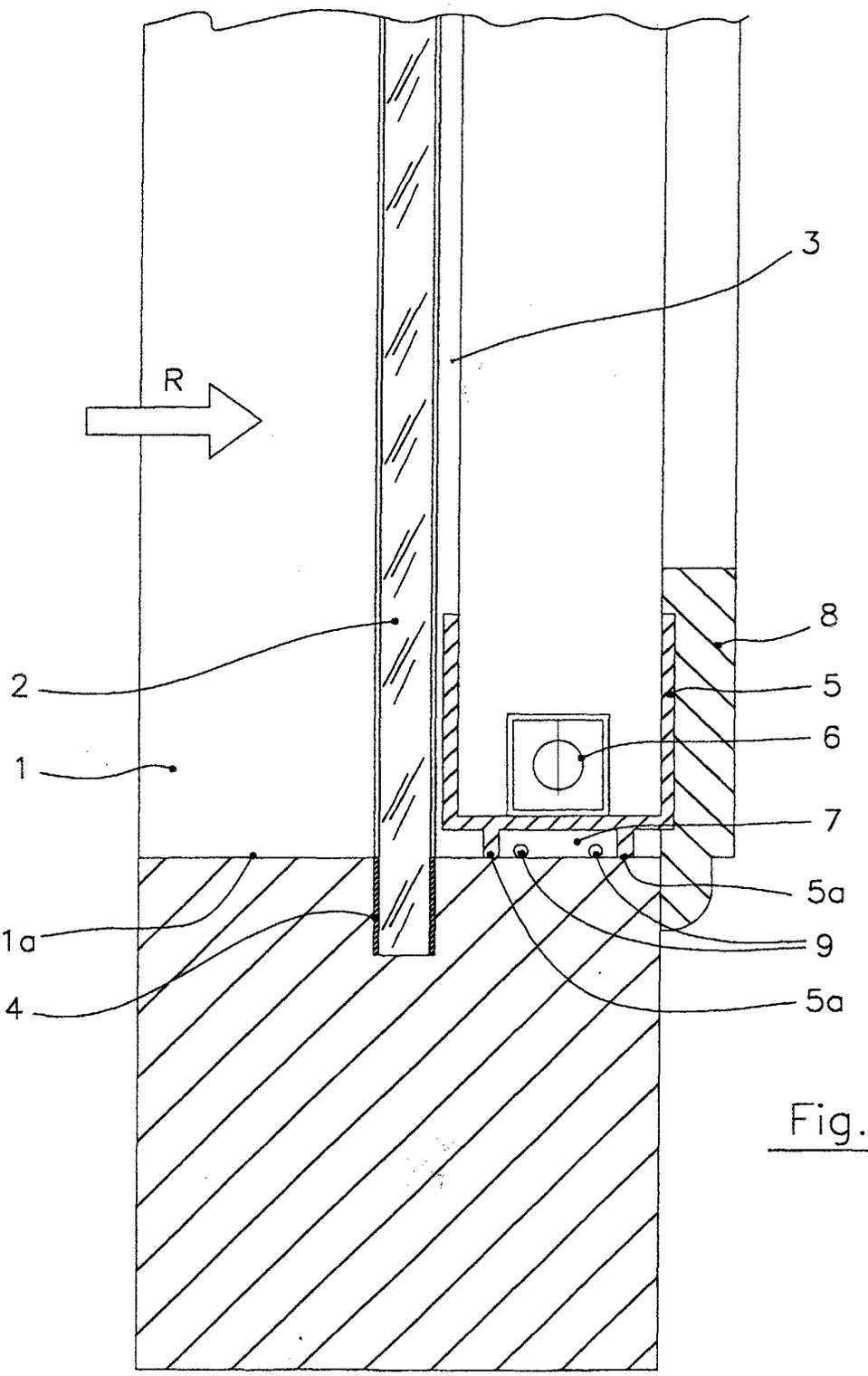

Fig.1

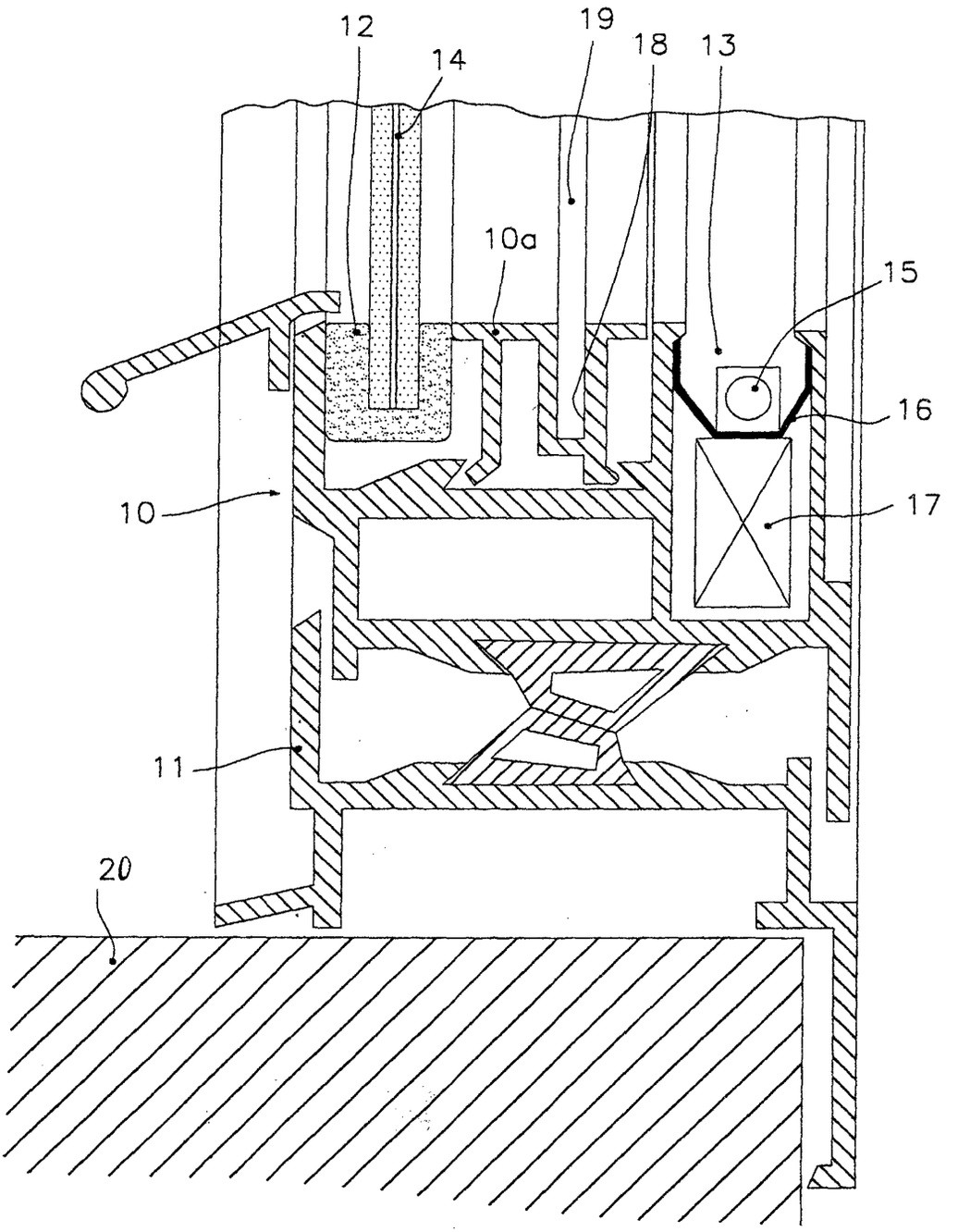

Fig.2