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

(11) **EP 1 978 294 A2**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
08.10.2008 Bulletin 2008/41

(21) Application number: **08152733.5**

(22) Date of filing: **14.03.2008**

(51) Int Cl.:
F21S 8/00 *(2006.01)* ***F21V 7/00*** *(2006.01)*
F21Y 101/02 *(2006.01)* *F21W 131/202* *(2006.01)*

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MT NL NO PL PT RO SE SI SK TR
Designated Extension States:
AL BA MK RS

(30) Priority: **19.03.2007 IT MI20070542**

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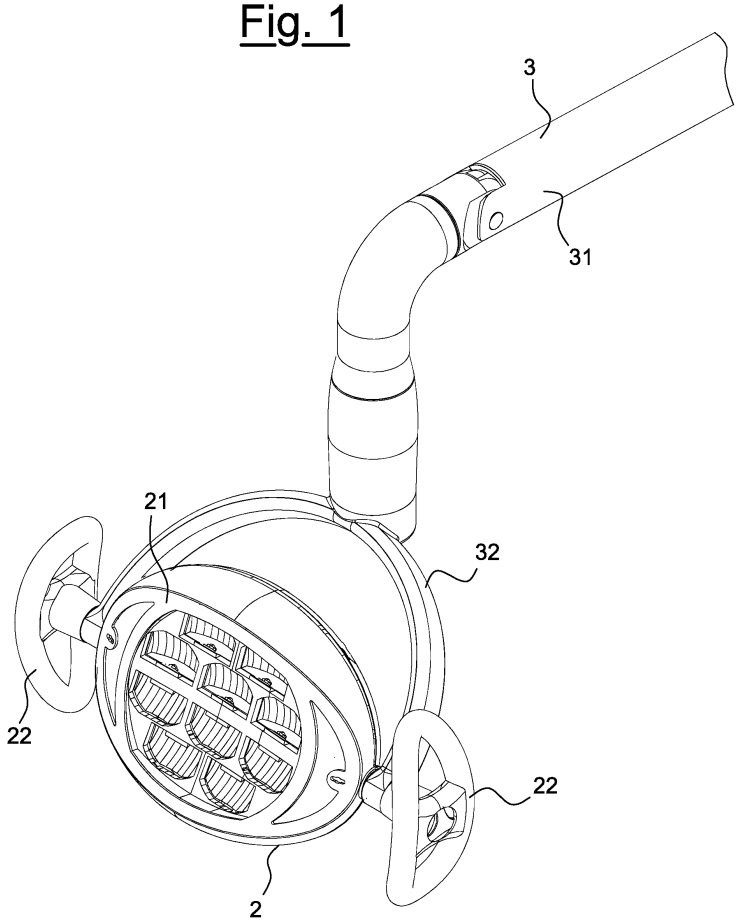
(54) **LED dental lamp**

(57) A LED dental lamp comprising a lamp body (2) including a concave seat (21) provided with a pair of handles (22) arranged at opposite sides of such half shell. The lamp body is associated to a support arm (3), and a plurality of support structures (4) is arranged inside said seat (21), each comprising at least one LED light source (41) whereto a reflecting element (42) is associated.

Fig. 1



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Description

[0001] The present invention relates to a LED dental lamp.

[0002] In particular, the present invention relates to a LED dental lamp usable in dental ambulatories wherein it is necessary to integrate the diffused ambient light with a light beam localised on the patient's part to be visited (for example the mouth).

[0003] Such type of lamp is a usually adjustable lamp generally mounted on a moving arm (so as to direct the light beam exactly on the selected spot) with predetermined intensity, frequency and colour temperature of the emitted beam.

[0004] Presently, such type of lamps is obtained by a halogen light and a reflecting mirror that focuses the optical beam on the desired target.

[0005] Lamps of this type are also known wherein the light source is a LED and the optical beam is sent towards the target through collimators or conveyors comprised of as many lenses. European patent application EP1612471 describes such type of lamp.

[0006] The Applicant has noted that in this type of lamp the optical beam is not sufficiently optimised and sometimes is not correctly directed towards the zone that requires being lighted most.

[0007] The Applicant has perceived that if the light generated by the LED light sources is collimated and distributed through reflection rather than diffraction, the optical beam is optimised and directed with accuracy.

[0008] An aspect of the present invention relates to a LED dental lamp comprising a lamp body including a concave seat provided with a pair of handles arranged at opposite sides of said half shells, said lamp body being associated to a support arm, characterised in that a plurality of support structures is arranged inside said seat, each comprising at least one LED light source whereto a reflecting element is associated.

[0009] The features and the advantages of the lamp according to the present invention will appear more clearly from the following description of an embodiment, made by way of an indicative and non-limiting example with reference to the annexed figures, wherein:

- figure 1 shows a perspective view of the lamp body according to the present invention associated to a support arm;
- figure 2 shows a perspective view of the lamp body;
- figure 3 shows a perspective view of the support frame for a LED and the corresponding mirror thereof.

[0010] With reference to the above figures, the lamp according to the present invention comprises a lamp body 2 preferably made in the shape of an oval half shell including a concave seat 21 and provided with a pair of handles 22 arranged at opposite sides of such half shell. Such handles are preferably engaged into the lamp body. The lamp body is associated to a support arm 3 comprising a rod 31 provided with multiple articulations and a fork 32 at the end whereof the lamp body 2 is constrained in an articulated fashion at such opposite sides whereto handles 22 are constrained. By suitably gripping one or both handles, the lamp body can take different positions and orientate the light beam thereof in different positions.

[0011] A plurality of support structures 4 is arranged inside said seat 21 of the shell and each comprises at least one LED light source 41 and a reflecting element 42 for each of said sources.

[0012] Such reflecting element is a parabolic mirror.

[0013] In a preferred embodiment, the LED light sources are ten.

[0014] According to a feature of the present invention, the LED light sources are of different colour and such lamp is provided with electronic piloting circuits for each LED capable of regulating the supply current to each of them. In this way it is possible, for example by a suitable potentiometer that acts on such piloting circuits, to adjust the lamp colour temperature. In an embodiment wherein the lamp exhibits ten LED sources, eight are white light LEDs and two are LEDs respectively with yellow and red light.

[0015] In this way it is possible to adjust the lamp colour temperature. For example, if the lamp must be used during a surgery it is possible to adjust the lamp so as to emit a light tending to yellow (with a lower colour temperature), whereas in applications wherein the natural colour of a tooth must be recognised it is possible to adjust the lamp so as to emit a basically white light (with a higher colour temperature).

[0016] According to an alternative of the present invention further LEDs of different colour may be put next to the main LEDs 41 in each support structure 4.

Claims

1. LED dental lamp comprising

   a lamp body (2) including a concave seat (21) provided with a pair of handles (22) arranged at opposite sides of such half shell, said lamp body being associated to a support arm (3), **characterised in that**
   a plurality of support structures (4) is arranged inside said seat (21), each comprising at least one LED light source (41) whereto a reflecting element (42) is associated.

2. Dental lamp according to claim 1, wherein such reflecting element is a parabolic mirror.

3. Dental lamp according to claim 1, wherein the LED light sources are ten.

4. Dental lamp according to claim 1, comprising elec-

tronic piloting circuits for each LED capable of regulating the supply current to each of them.

5. Dental lamp according to claim 1, wherein the LED light sources are of a different colour.

6. Dental lamp according to claim 4, comprising at least one potentiometer that acts on such piloting circuits for adjusting the colour temperature of the LED light sources.

7. Dental lamp according to claims 3 and 5, comprising eight LED light sources with white light, one LED light source with yellow light and one with red light.

Fig. 1

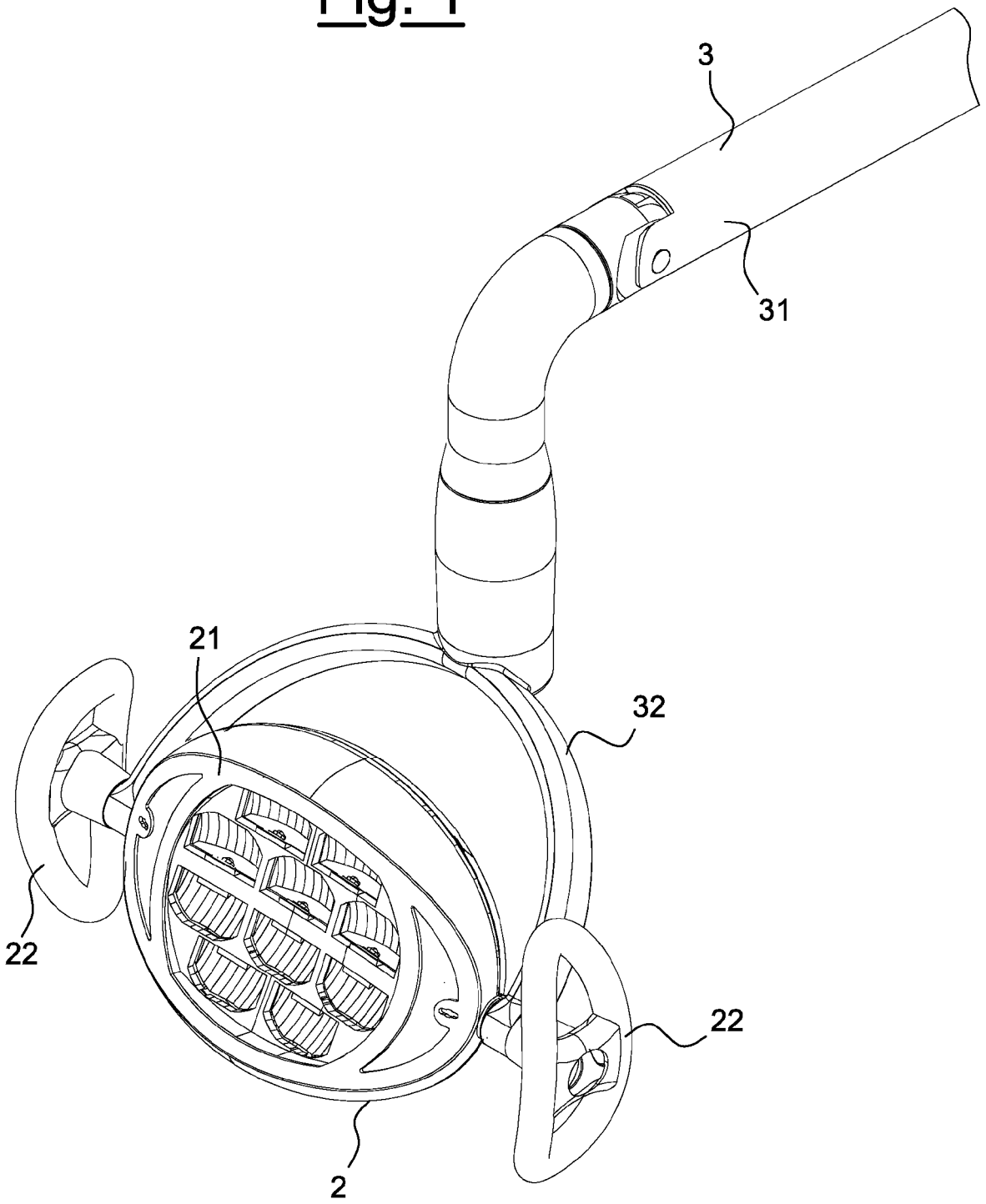


Fig. 2

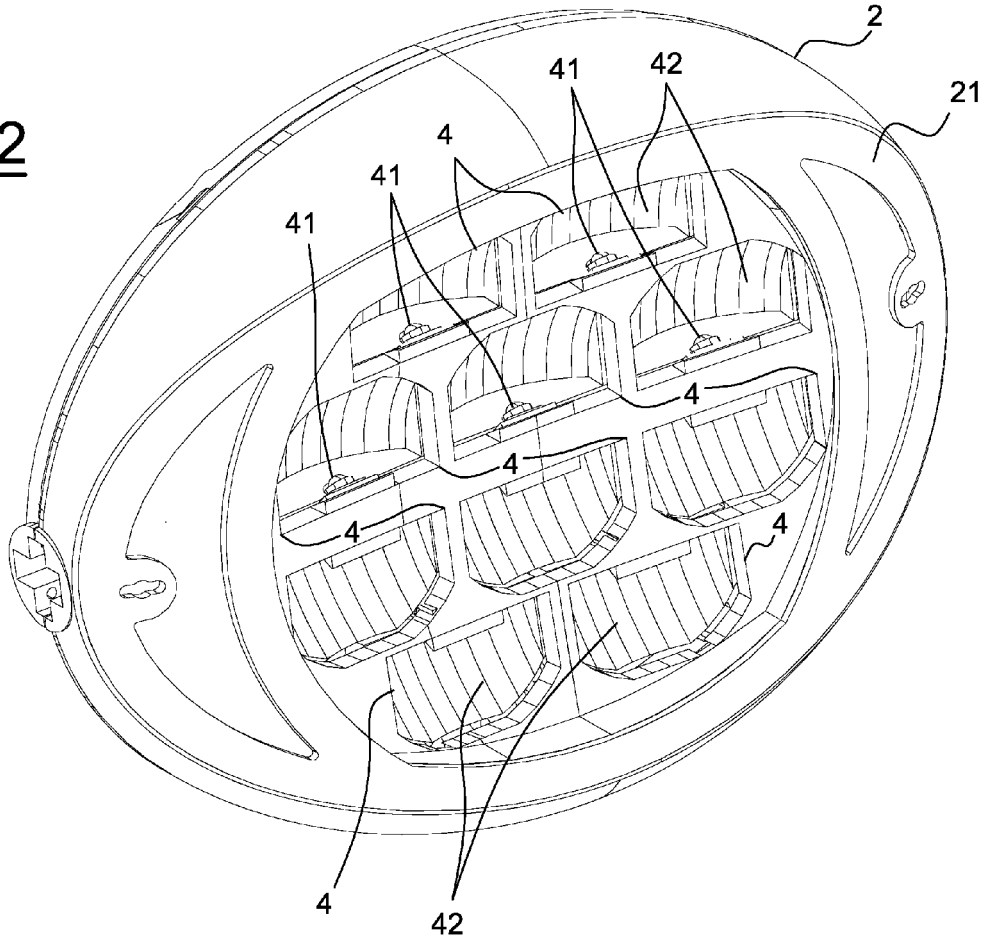
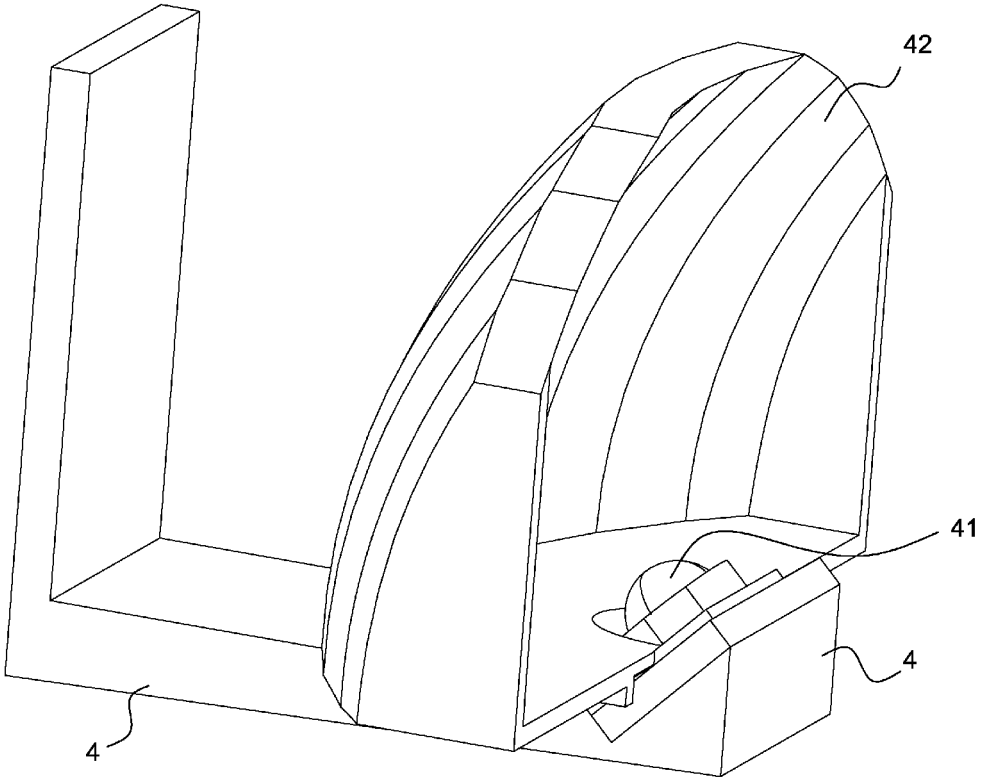


Fig. 3



REFERENCES CITED IN THE DESCRIPTION

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Patent documents cited in the description

- EP 1612471 A **[0005]**