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D E C I S I O N
of 23 February 2006

Case Number: T 0511/04 - 3.2.02

Application Number: 98115299.4

Publication Number: 0913127

IPC: A61B 18/20

Language of the proceedings: EN

Title of invention:

Device for elimination of hairs and/or atrophying hair
follicles

Patentees:

Etoile S.n.c., et al

Opponent:

BIOS S.r.l.

Headword:

-

Relevant legal provisions:

EPC Art. 54, 56

Keyword:

"Novelty and inventive step (main request) - confirmed"

Decisions cited:

-

Catchword:

-



Case Number: T 0511/04 - 3.2.02

D E C I S I O N
of the Technical Board of Appeal 3.2.02
of 23 February 2006

Appellant: BIOS S.r.l.
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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
3 March 2004 concerning maintenance of European
patent No. 0913127 in amended form.

Composition of the Board:

Chairman: T. Kriner
Members: M. Noel
U. Tronser

Summary of Facts and Submissions

I. Following two oppositions filed against the grant of European patent No. 0 913 127, the opposition division decided by interlocutory decision dated 3 March 2004 to maintain the patent in a version amended during oral proceedings (main request in the present appeal).

II. The opponent 02 (appellant) lodged an appeal against this decision on 15 April 2004 and paid the appeal fee on the same day. A statement setting out the grounds of appeal was received on 12 July 2004.

The opponent 01 withdrew its opposition by letter dated 17 March 2004.

III. Oral proceedings were held on 23 February 2006, during which the patentability of the claimed subject-matter was discussed vis-à-vis the closest prior art documents:

D1: US-A-5 653 706, and

D13: EP-A1-0 438 353.

IV. At the end of the oral proceedings, the requests of the parties were as follows:

The appellant requested that the decision under appeal be set aside and that the European patent No. 0 913 127 be revoked.

The respondents (patentees) requested that the appeal be dismissed or the patent be maintained on the basis of claims 1 to 8 according to the auxiliary request submitted during oral proceedings.

V. Claim 1 of the main request reads as follows:

"Device for elimination of hairs and/or for atrophying hair follicles, comprising an operative console and a mobile terminal unit connected to the said operative console, designed to be positioned in the vicinity of the epidermis, the said terminal unit (2) comprising a body (10) which has an inner chamber (10b) which communicates with the exterior by means of an aperture (11), wherein inside the said chamber (10b) there is disposed a light-focusing pointer (14) which is designed to project on command a destructive/atrophying ray (16) having a small cross-section, said command being set off by a command means (4) for commanding emission of the destructive/atrophying light ray (16), said light ray being directed towards the exterior via the aperture (11) and towards the epidermis (12) when the epidermis (12) is brought against the said aperture (11);

characterized in that said light-focusing pointer (14) is also designed to project a first guide ray (15), which has a small cross-section and which is co-axial to the said second destructive/atrophying light ray (16) and directed towards the exterior via the aperture (11);

in that the said light-focusing pointer (14) faces the aperture (11) and projects said first guide ray (15) and said second destructive/atrophying light ray (16) directly towards the said aperture (11) and directly against the epidermis (12), if the latter is laid against the aperture itself (11);

in that inside the said chamber (10b) there are disposed optical retrieval means (18) which face the

aperture (11) and are designed to retrieve directly through the said aperture (11) the images which appear in front of the aperture (11) itself and the image of the epidermis (12) reached by the said guide ray (15) and by the said destructive/atrophying light ray (16), if the said epidermis (12) is laid against the aperture (11),
in that the said optical retrieval means (18) are connected to a monitor (5) which can be seen by the operator, and which reproduces in enlarged form the images retrieved by the said optical retrieval means (18),
and in that means (6b) are provided for pre-determining the duration of the destructive/atrophying light ray (16; 216) projected from said light-focusing pointer (14; 150; 151; 214) on command after said first guide ray (15; 215)."

VI. The parties presented the following arguments:

(i) The appellant (opponent)

The present patent and claim 1 according to the main request did not specifically define the expressions "light-focusing pointer" and "optical retrieval means". Consequently, all components of the laser instrument disclosed by document D1 (figure 3) which were placed on the optical pathway of the incident light between the laser coupler 66 and the window 18 through which the light beam projected, could be regarded as part of a "light-focusing pointer". Similarly, all components placed on the optical pathway of the return light ray between said window and the video

camera 48, could be regarded as part of an "optical retrieval means" within the general meaning of this expression.

Therefore, like the invention, the light-focusing pointer disclosed by D1 successively projected a first guide ray and a second destructive light ray directly towards the aperture and then against the epidermis, and the resulting images appearing in front of the aperture were directly retrieved by the retrieval means. As a result, the subject-matter of claim 1 was not novel over the teaching of D1.

Even if it were considered that in document D1 the incident rays were not directly transmitted, but were deflected by intermediate mirrors, the skilled person who tried to simplify the laser instrument of D1 could easily replace these intermediate elements by means for directly transmitting the laser energy very close to the target, such as optical fibers as used in document D13. Although this latter document was concerned with a laser dental instrument, it could be used for the elimination of hairs as well, having regard to the use of similar and suitable laser means, the more since the present patent allowed for any type of destructive laser beams. Therefore, the subject-matter of claim 1 was also suggested by the combination of documents D1 and D13.

(ii) The respondents (patentees)

In document D1 the incident beam was produced by the coupler 66 and subsequently focused by a focusing lens 68. At the output of the focusing mechanism 69 the beam was then deflected twice by mirror elements and finally projected through a window of the housing towards the target. However the window was used as a contact plate and could not be considered as an aperture. As a result, the destructive light rays were not projected directly through the window of the housing and against the epidermis. Moreover, the images were not directly retrieved by the retrieval means since a polarization mirror 54 was still interposed in the pathway of the return light between the window and the camera. Therefore, the subject-matter of claim 1 was novel vis-à-vis the teaching of D1.

The person skilled in the art would not try to simplify the laser instrument of document D1, the design and functioning of which were completely different from those of the claimed device. Neither would the skilled person combine the teaching of D1 with the teaching of D13 which referred to a dental instrument and used a different approach. The solution disclosed in D13 of using an angularly adjustable optical fiber brought closely to or preferably in contact with a tooth to be treated was inapplicable to the elimination of hair. Therefore, the subject-matter of claim 1 involved an inventive step over the combination of documents D1 and D13.

Reasons for the Decision

1. The appeal is admissible.

2. *Novelty*

2.1 Document D1 is considered as the state of the art closest to the invention in view of most structural and functional similarities. It discloses a device for elimination of hairs comprising (figure 1) an operative console and a mobile terminal unit 10 designed to be positioned in the vicinity of the epidermis 16. The body of the terminal unit comprises an inner chamber (figures 3 and 4) communicating with the exterior by means of an aperture designated as a window. Contrary to the statement of the respondents, this window must be open to allow for the light beam going through this aperture and towards the target 14. The quoted passage in D1 (column 6, lines 53-54) "It may be desirable to use the window 18 as a contact plate" describes only an optional embodiment and does not mean that the window has to be closed by a contact plate. It could also mean that the rim of the window is in contact with the epidermis.

Further, D1 discloses a light-focusing pointer which is designed to project, on command (trigger 34), a destructive/atrophying emission ray, which is then directed towards the exterior and the epidermis via said aperture 18. According to the present patent, a light-focusing pointer is a device which is capable of emitting and focusing a laser ray onto the target. In D1 this functional means is carried out by a coupler 66

and a focus mechanism 69, comprising a focusing lens 68. A rotating shutter 72 is used to control the laser energy which is delivered through the window by changing the destructive light ray into a guide beam or spotter in order to locate the site to be treated, e.g. a hair follicle. Therefore, in conformity with the claimed feature, the light-focusing pointer is also designed to project a first guide ray which is coaxial to the second destructive/atrophying light ray.

Furthermore, optical retrieval means in the form of a video camera 48, are disposed inside the chamber so as to face the aperture in order to retrieve directly the images of the epidermis which are formed in front of the aperture. A monitor 26 (figure 1) is connected to the optical retrieval means so as to be seen by the operator and to reproduce in enlarged form the images retrieved. Means are also provided (keypad, figure 2) to pre-determine the duration of the destructive light ray after the application of the first guide ray (see column 5, lines 10-15 and 33-35).

The images are retrieved directly in the visualization plane 47 since the deflecting mirror 54 is a polarization beam splitter permitting the return light to pass through said mirror and to the visualization plane (see column 6, lines 8-13), in the same way as in the present patent (figure 3) a dichroic optical plate 151 disposed between the micro-televicamera 118 and the aperture 111 is permeable to the wave lengths which are useful for the micro-televicamera in order to allow the televicamera to retrieve the image of the epidermis (see patent, paragraphs 41 and 42).

2.2 Claim 1 differs from the teaching of D1 by the features according to which the light-focusing pointer 14 faces the aperture 11 and projects said first guide ray 15 and second destructive light ray 16 directly towards said aperture and against the epidermis, in accordance with the embodiment of figure 2. In document D1, instead, the laser rays at the output of the focusing lens 68 still are successively deflected by a fold mirror 70 and a deflecting mirror 54 before being directed towards the housing aperture and the treatment area (see column 6, lines 34-45). Since the mirrors 70, 54, do not serve as focusing means they are not part of the light-focusing pointer within the meaning of the present patent. Therefore, the guide rays and the destructive light rays emitted after the focusing lens 68, are not projected directly towards the aperture.

As a result, the subject-matter of claim 1 is novel over D1.

3. *Inventive step*

3.1 With respect to the disclosure of D1 the objective problem underlying the above distinguishing feature is to simplify the known device. The person skilled in the art starting from the embodiment shown in figures 3 and 4 of D1 could not, however, simply remove the reflecting mirrors and rearrange the locations of the light-focusing pointer and the optical retrieval means inside the housing, because the resulting device would not work anymore.

In fact, the laser system of D1 is based on a different concept, using a steering device 28 for automatically positioning and focusing the laser beam on the desired location (see column 4, lines 27-38 and column 6, lines 29-30). The steering means comprise two scan mirrors 54, 56 rotated by stepper motors 64, 62, respectively, for deflecting the laser beam along the X and Y coordinates (see column 6, lines 14-28). The removal of the deflecting mirrors 70, 54 would not allow to arrive at the subject-matter of claim 1 because the mirror 54 serves at the same time as deflecting and steering means (scan mirror) (see column 6, lines 5-11 and 41-42). The simplification of the arrangement of D1, therefore, is not obvious to the skilled person.

- 3.2 Document D13 (figure 1) discloses a dental instrument including a laser device and a video dental camera for allowing the dental practitioner to direct laser energy to a desired location of a patient's tooth and to provide a view of the operative area. Laser energy is transmitted by an optic fiber 105 extending first externally or within a neck 102 of the dental instrument and then in direction of the point of interest. The device is preferably used as a contact device (figure 1) or placed at a distance of the tooth if the end of the optic fiber 105 is provided with a focusing lens 201 (figure 2).

Although the optical fiber can be used to successively conduct a guide beam and an operative laser beam towards the same focal point (see column 6 lines 44-55), the device disclosed in D13 is specifically adapted to dental applications, and for insertion into a patient's mouth, in that it has no body for enclosing

the light emitting and focusing means and the retrieval means, and uses an angularly adjustable optic fiber protruding outside of the neck and the camera head, so as to come closest to or in contact with the tooth.

The skilled person who is looking for simplifying the laser device known from D1 would not think of using an optic fiber in lieu of deflecting mirrors since this replacement would only result in the provision of different means but without simplification. Moreover, the light-focusing pointer still would not project the laser beam directly towards the aperture, as required by the invention. Additional modifications would be necessary. Having regards to the above differences of design and applications, the skilled person would not even consider to combine these documents.

- 3.3 It results therefrom that the subject-matter of claim 1 is not obvious vis-à-vis the precited prior art documents. Its subject-matter, therefore, involves an inventive step within the meaning of Article 56 EPC.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

V. Commare

T. Kriner