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**Datasheet for the decision
of 28 June 2018**

Case Number: T 2058/12 - 3.4.01

Application Number: 04754312.9

Publication Number: 1633277

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Language of the proceedings: EN

Title of invention:

HAND-HELD LIGHT THERAPY APPARATUS AND METHOD

Applicant:

Leto Holdings, LLC

Headword:

LIGHT THERAPY / Leto Holdings

Relevant legal provisions:

EPC Art. 56

Keyword:

Inventive step - (no)



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Case Number: T 2058/12 - 3.4.01

D E C I S I O N
of Technical Board of Appeal 3.4.01
of 28 June 2018

Appellant: Leto Holdings, LLC
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Orem, UT 84058 (US)

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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on 7 May 2012
refusing European patent application No.
04754312.9 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairman P. Scriven
Members: F. Neumann
R. Winkelhofer

Summary of Facts and Submissions

- I. The appeal is directed against the decision of the Examining Division to refuse European patent application 04 754 312.9.
- II. The application was refused because neither claim 1 of the main request nor claim 1 of the auxiliary request on file at that time involved an inventive step in consideration of the teachings of D2 (WO-A-01/68172) and D8 (WO-A-89/08475).
- III. With the statement setting out the grounds of appeal, the Appellant (Applicant) filed a new set of claims 1-11 and requested that the decision under appeal be set aside and that a patent be granted on the basis of this new set of claims. This is the sole pending request.
- IV. Claim 1 reads as follows:

"A light therapy apparatus for delivering ocular light to a subject to treat disorders that are responsive to ocular light therapy, comprising a power supply and a hand-held light output device, wherein the light output device is made up of a plurality of light emitting diode (LED) devices powered by the power supply and emitting a selected spectrum of visible light, the hand-held light output device having dimensions in each direction of less than 25.40 cm (10 inches), characterized in that a light emission from the plurality of light emitting diode devices falls in an effective range of 1,000 lux to 2,000 lux at 15.25 cm (6 inches) to 30.50 cm (12 inches)."

- V. The arguments of the Appellant, insofar as they are pertinent to the present decision, are set out below in the reasons for the decision.

- VI. The appellant has not requested oral proceedings.

Reasons for the Decision

Preliminary remark

- 1. In accordance with Article 12(1) (a) RPBA, the appeal proceedings are based on the notice of appeal and the grounds of appeal.

In accordance with Article 12(3) RPBA, the Board may decide the case in proceedings with only one party at any time after the statement of grounds has been filed, subject to Articles 113 and 116 EPC.

With regard to Article 113 EPC, the present decision does not go beyond the grounds and evidence in the impugned decision and the appellant's statement of grounds. It is settled case law that a board of appeal is not required to provide a party with all foreseeable arguments against a request in advance (see R 1/08, reasons 3.1).

Since no request for oral proceedings under Article 116 EPC has been made by the Appellant, the present decision may be taken without recourse to any preceding

communication to the Appellant.

Inventive step

2. It is not contested that D2 represents the closest prior art and discloses all features of the preamble of claim 1.
3. In the light therapy device of D2, the assembly of LEDs emits light having an illuminance of between 2500 and 7500 lux at 12 inches (30.5 cm) from the assembly (page 4, lines 15-24). The subject-matter of claim 1 is distinguished from this in that the illuminance falls in an effective range of 1000 lux to 2000 lux at a distance of 15.25 cm to 30.50 cm.
4. The technical effect of this distinguishing feature was discussed at the oral proceedings before the Examining Division. There, it was submitted that the claimed range of illuminance enabled the therapeutic effect to be achieved whilst avoiding eye strain.
5. Based on this technical effect, the objective technical problem may therefore be formulated as modifying the device of D2 to avoid eye strain.
6. In the contested decision, the Examining Division held that the skilled person would be aware of the problem of eye strain when using the device of D2. Indeed, as indicated in the application, LED ocular devices tend to be harsh on the eyes and create retinal after-imaging (page 2, lines 7-9). The discomfort associated with such devices would therefore be apparent when using the device of D2.

7. D2 itself addresses this issue with respect to the individual points of light emitted by the LED array, explaining that a diffuser screen may be used to create a more uniform, less harsh light emission (page 5, lines 10-15). However, D2 makes clear that the reduction of the luminous intensity of the light source must not be so large as to reduce the illuminance at the eyes to a level such that the therapeutic effect is no longer achieved.

Nevertheless, if the level of illuminance still caused discomfort even when using a diffuser screen, it would have been obvious to try reducing the illuminance whilst, of course, ensuring that the therapeutic effect was still maintained.

8. D2 defines the "light of illumination adequate for treatment of light deficient disorders" as being between 2500 and 7500 lux at 12 inches from the assembly (page 4, lines 15-24). However, D8 teaches that a therapeutic effect can be achieved with an illuminance as low as 200 lux at the eyes of the patient (D8: claim 1; page 5, lines 27-34; abstract). Specifically, D8 refers not only to studies of phototherapy with S.A.D. patients using 2500 lux (page 5, line 35 to page 6, line 2), but also makes reference to the treatment of manic-depression using 1500 lux (page 6, lines 19-27). D8 therefore shows that different medical conditions may be treated with different illuminances. In addition thereto, D8 explicitly states that a range of 2000 lux to 2500 lux "has been recognized as acceptable" (page 5, lines 29-35).

With knowledge of D8, the skilled person would therefore at least try reducing the illuminance of the

D2 device to this "acceptable" range to see if it is possible to reduce the discomfort caused by the perceived brightness of the D2 arrangement and to see whether the therapeutic effect is really maintained at this lower level of illuminance. In doing so, the skilled person would arrive at the subject matter of claim 1 since the lower limit of the "acceptable" range (2000 lux) falls within the claimed range (1000 lux to 2000 lux).

In this context, it is noted that claim 1 makes no reference to the specific disorders that the light therapy apparatus is intended to treat. It simply refers to "disorders that are responsive to ocular light therapy" without indicating whether the claimed range is particularly effective for a particular condition. In the absence of any indication of a specific disorder to be treated, there is no clinical impediment to reducing the illuminance of D2 in this manner. On the contrary, in accordance with the teaching of D8, a lower illuminance has been demonstrated to show almost complete suppression of melatonin secretion and is thus potentially suitable for altering the circadian rhythm.

9. With reference to the diffuser screen of D2, the Appellant argues that reducing the light intensity of the light source was not the only way to solve the problem of eye strain. The Appellant concludes that the observation in the contested decision that the skilled person would seek to reduce the intensity of the light emitted by the device of D2 was based on hindsight.
10. However, if the perceived brightness causes discomfort to the user, then it would be natural to attempt to reduce the illuminance at the eyes of the user. In

effect, this is what the diffuser screen of D2 achieves: the light emitted from the individual LEDs is scattered, thus reducing the illuminance at the eyes. If the diffused light is still too bright, it would be obvious at least to try reducing the illuminance still further. Whether this is done by reducing the luminous intensity of the light source or by other means is not relevant for the present decision since claim 1 only defines the light emission from the plurality of LEDs in terms of the illuminance at 15.25 cm to 30.50 cm.

Moreover, taking into account the fact that claim 1 does not define a specific condition to be treated by the reduced illuminance, the choice of a range of illuminances lying below the ranges disclosed in D2 is arbitrary and cannot contribute to an inventive step.

11. The Appellant also argues that the skilled person, looking to improve the device of D2 by avoiding eye strain, would not turn to D8. Specifically, head-mounted arrangements such as those of D8 were known to cause eye strain so the teaching of D8 would not have been considered by the skilled person looking to avoid this very problem. Moreover, in view of the fact that the device of D8 was placed very close to the user's eyes and the device of D2 was located further from the user, the skilled person would not expect that the light intensity at the user's eyes generated by a device of the type disclosed in D8 would have a similar therapeutic effect to a similar light intensity at the user's eyes generated by a device of the type disclosed in D2.
12. These arguments can only be followed to a certain extent. In particular, the problem of eye strain arises with the device of D8 as a result of the head-mounted

arrangement. Locating the light source a few centimeters from the eyes of the patient tends to flood the field of view with bright light making it difficult to look beyond the light to more dimly lit surfaces. It is therefore unlikely that the skilled person would consider adopting the structural arrangement of D8 in order to solve the problem of eye-strain in D2.

13. However, as noted above, D8 also contains teaching regarding the illuminance required to achieve therapeutic effects. Specifically, the light source of D8 produces an illuminance on the eyes of the patient of, most preferably, 2000 lux to 2500 lux (claims 1 and 6; page 5, lines 27-34; abstract). The range of 2000 lux to 2500 lux is disclosed as being "recognized as acceptable" (page 5, lines 34-35). Because the therapeutic effect is derived from the illuminance at the eyes of the user, there is no reason why the lower illuminance values of D8 should not have the same effect when used in the device of D2.

14. Furthermore, the Appellant does not agree that D8 discloses that the light source produces an illuminance of between 2000 and 2500 lux on the eyes of the user. In particular, claim 1 of D8 defined "A phototherapeutic device for treating a patient comprising: (a) a light source for producing **an** illuminance of at least 200 lux **on the eyes of said patient...**". Claims 3 to 6 of D8 related to "The device of claim 1 wherein said light source comprises means for producing **an** illuminance of ..." (emphasis added). The fact that claims 3 to 6 only referred to "**an** illuminance", as opposed to "said/the illuminance", meant that the illuminance in claims 3 to 6 was not a specific embodiment of the "illuminance ... on the eyes of said patient" of claim 1. Therefore the illuminance

values defined in claim 3 to 6 could not be interpreted as relating to the illuminance on the eyes of the patient.

15. Taking the entirety of the teaching of D8 into consideration, this argument cannot be followed. In particular, the abstract of D8 states that the phototherapeutic device emits an illuminance of at least 200 lux on the eyes of a wearer. Page 5, lines 27-35 provides a more detailed teaching setting out that the intensity of the illuminance should be at least 200 lux, preferably between 1000 lux and 3000 lux, and most preferably between 2000 lux and 2500 lux. In combination with the abstract, this passage can only be taken to mean that the disclosed ranges of illuminance are those at the eyes of a wearer. In a similar manner, in view of the description and abstract, claim 6 has to be interpreted as referring to the illuminance at the eyes of the patient. The light emission from the light source in the embodiment of claim 6 of D8 therefore falls in the range set out in claim 1 of the present application.
16. Moreover, the Appellant notes that D2 emphasises that "if a diffuser screen is used it is necessary to ensure that **adequate** levels of light, as set out above, are passed therethrough to permit treatment". D2 had previously explained that "adequate" illumination was between 2500 and 7500 lux at 12 inches from the assembly. Therefore the skilled person would in fact be discouraged from reducing the illumination to below 2500 lux since, according to D2, this would not be "adequate" for treatment.
17. In view of the teaching of D8, this argument can also not be followed. In particular, the most preferable

range of illuminance used in D8 is from 2000 lux to 2500 lux. It is explicitly indicated in D8 that this range is recognised as acceptable (page 5, lines 27-35). In the light of this teaching, there is no reason for the skilled person to be limited by the minimum illuminance value of 2500 lux given in D2. On the contrary, D8 teaches that lower values can in fact achieve a therapeutic effect.

18. Therefore, the arguments presented by the Appellant are not persuasive.

As a result, the subject-matter of claim 1 does not comprise an inventive step (Art. 56 EPC).

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



R. Schumacher

P. Scriven

Decision electronically authenticated