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**Datasheet for the decision
of 18 July 2013**

Case Number: T 1944/09 - 3.2.02

Application Number: 02726336.7

Publication Number: 1418837

IPC: A61B 3/00

Language of the proceedings: EN

Title of invention:

A new light source for diagnostic instruments

Applicant:

WJW Ltd.

Headword:

-

Relevant legal provisions:

EPC Art. 52(1), 56, 84, 123(2)

RPBA Art. 13(1)

Keyword:

"Inventive step (no, main and first auxiliary requests)"

"Added subject-matter (yes, second auxiliary request)"

"Clarity (no, second auxiliary request)"

"Admissibility (no, fourth and fifth auxiliary requests)"

Decisions cited:

T 0711/90

Catchword:

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Case Number: T 1944/09 - 3.2.02

D E C I S I O N
of the Technical Board of Appeal 3.2.02
of 18 July 2013

Appellant: WJW Ltd.
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 20 April 2009
refusing European patent application
No. 02726336.7 pursuant to Article 97(2) EPC.

Composition of the Board:

Chairman: E. Dufrasne
Members: D. Ceccarelli
M. Stern

Summary of Facts and Submissions

- I. The appellant lodged an appeal against the decision of the Examining Division dispatched on 20 April 2009 on the refusal of application No. 02 726 336.7.
- II. The Examining Division held that the subject-matter of claim 1 lacked an inventive step over the disclosure of document WO-A-00/71020 (D1).
- III. The notice of appeal was received on 22 June 2009 and the appeal fee was paid on the same day.
The statement of grounds of appeal was received on 29 August 2009.
- IV. By communication of 24 April 2013, the Board summoned the appellant to oral proceedings and provided its provisional opinion, in which the subject-matter of claim 1 was regarded as not inventive in view of document D1 combined with document US-B-6,183,086 (D2).
- V. Oral proceedings took place on 18 July 2013.

The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the main request or, in the alternative, of one of the first and second auxiliary requests, all filed with letter dated 18 June 2013, or of one of the fourth and fifth auxiliary requests filed during the oral proceedings.

The third auxiliary request was withdrawn during the oral proceedings.

VI. Beside documents D1 and D2, the following document is referred to in the present decision:

Annex 3: "Clarification of 'manual' instrument elements in original text", filed by the appellant with the statement of grounds of appeal.

VII. Claim 1 of all the requests reads as follows.
Deletions from the main request are struck through, additions are underlined.

Main request

A clinical diagnostic instrument which is an ophthalmoscope or retinoscope which comprises:
a means for supplying electrical power (a);
a means for controlling the electrical power (b);
a means for generating light (c);
a means for transforming the light prior to illumination of a structure under scrutiny (d) including at least one condenser lens;
a means for transforming the light returning from the structure under scrutiny (e) onto an image detection means;
wherein (c) is based on electroluminescent and/or phospholuminescent technology and emits white light, preferably at a colour temperature of from 3500 to 15,000 Kelvin, more preferably from 4500 to 9000 Kelvin, most preferably from 6000 to 7000 Kelvin, and wherein, in use, the image detection means is a human eye.

First auxiliary request

A handheld clinical diagnostic instrument which is an ophthalmoscope or retinoscope which comprises:
a means for supplying electrical power (a);
a means for controlling the electrical power (b);
a means for generating light (c);
a means for transforming the light prior to illumination of a structure under scrutiny (d) including at least one condenser lens;
a means for transforming the light returning from the structure under scrutiny (e) onto an image detection means;
wherein (c) is based on electroluminescent and/or phospholuminescent technology and emits white light, preferably at a colour temperature of from 3500 to 15,000 Kelvin, more preferably from 4500 to 9000 Kelvin, most preferably from 6000 to 7000 Kelvin, and wherein, in use, the image detection means is a human eye.

Second auxiliary request

A handheld clinical diagnostic instrument which is an ophthalmoscope or retinoscope which ~~comprises~~ consists of:
a means for supplying electrical power (a);
a means for controlling the electrical power (b);
a means for generating light (c);
a means for transforming the light prior to illumination of a structure under scrutiny (d) including at least one condenser lens;
a means for transforming the light returning from the structure under scrutiny (e) onto an image detection

means;

wherein (c) is based on electroluminescent and/or phospholuminescent technology and emits white light, preferably at a colour temperature of from 3500 to 15,000 Kelvin, more preferably from 4500 to 9000 Kelvin, most preferably from 6000 to 7000 Kelvin, and wherein, in use, the image detection means is a human eye.

Fourth auxiliary request

A clinical diagnostic instrument which is a direct ophthalmoscope or retinoscope which comprises:

a means for supplying electrical power (a);

a means for controlling the electrical power (b);

a means for generating light (c);

a means for transforming the light prior to illumination of a structure under scrutiny (d)

including at least one condenser lens;

a means for transforming the light returning from the structure under scrutiny (e) onto an image detection means;

wherein (c) is based on electroluminescent and/or phospholuminescent technology and emits white light, preferably at a colour temperature of from 3500 to 15,000 Kelvin, more preferably from 4500 to 9000 Kelvin, most preferably from 6000 to 7000 Kelvin, and wherein, in use, the image detection means is a human eye.

Fifth auxiliary request

A clinical diagnostic instrument which is an ophthalmoscope or retinoscope which comprises:

a means for supplying electrical power (a);
a means for controlling the electrical power (b);
a means for generating light (c);
a means for optically transforming the light prior to illumination of a structure under scrutiny(d) including at least one condenser lens;
a means for transforming the light returning from the structure under scrutiny (e) onto an image detection means;
wherein (c) is based on electroluminescent and/or phospholuminescent technology and emits white light, preferably at a colour temperature of from 3500 to 15,000 Kelvin, more preferably from 4500 to 9000 Kelvin, most preferably from 6000 to 7000 Kelvin, and wherein, in use, the image detection means is a human eye.

VIII. The appellant's arguments are summarised as follows.

Main request

In view of the complete disclosure of the application as filed and of the amendments carried out, the skilled person would have recognised that claim 1 defined a direct ophthalmoscope.

Document D1, on the other hand, disclosed a fundus camera, which, according to definitions in EN-ISO standards 10942:2006, 10943:2006, and 10940:2009 provided by the appellant in submissions dated 18 June 2013, could not be considered an ophthalmoscope.

Document D1 also did not disclose an ophthalmoscope where an image of a structure under scrutiny is detected by the human eye, nor the use of a condenser

lens in the illumination pathway of the ophthalmoscope. The skilled person would have no motivation to modify the instrument of document D1 by introducing a condenser lens as claimed, so that more light was projected forwards to the structure under scrutiny. As a matter of fact, light did not have to be intense in order for a CCD-based sensor as disclosed in document D1 to detect it.

Furthermore, document D1 did not hint at a combination with any prior art document, but rather taught away from any such combination. The instrument of document D1 already provided a complete solution to the technical problem of replacing incandescent filament bulbs with an LED light source and was already complex, so that no incentive to further complicate it with the addition of a condenser lens arose. Doing so would be optically and physically counterproductive.

Document D2 did disclose the use of condensing lenses with LED light sources in the field of ophthalmic surgery, but was concerned with selectively focussing RGB light onto a colour mixing light guide to provide different coloured light.

First auxiliary request

The addition of the term "handheld" further distinguished the subject-matter of claim 1 from the disclosure of document D1.

Document D1, in particular its figure 1, disclosed a handheld camera being part of a system, which, in its entirety, was not handheld.

Furthermore, said addition directed the claimed subject-matter more clearly towards a "direct ophthalmoscope". As also clear from Annex 3,

document D1 disclosed an instrument which is different from the invention.

Second auxiliary request

According to well-established case law (e.g. decision T 711/90) the term "consists of" made clear that the subject-matter of claim 1 had all and only those features present in the claim. This moved the subject-matter of claim 1 further away from the fundus camera system of document D1.

Fourth and fifth auxiliary requests

The fourth and the fifth auxiliary requests had been filed during the oral proceedings because it only became clear to the appellant only during the oral proceedings that particular aspects of document D1 were of relevance. These requests were an attempt to properly address the Board's concerns.

There was a basis in the original application as a whole for the addition of the term "direct" in claim 1 of the fourth auxiliary request and the term "optically" in claim 1 of the fifth auxiliary request. In particular, the 5 embodiments of figures 3-12, page 17, last paragraph and Annex 3 made it clear that the invention concerned a direct ophthalmoscope. The introduction of the term "optically" was meant to clarify the meaning of "transforming the light" as defined in the claim.

Reasons for the Decision

1. The appeal is admissible.
2. *Main request*
 - 2.1 The subject-matter of claim 1 is based on claims 1 and 9 and on page 11, lines 15-17 of the application as filed.
The Board is satisfied that the requirements of Article 123(2) EPC are fulfilled.
 - 2.2 Document D1 is the closest prior art, since, similarly to the subject-matter of claim 1, it concerns an ophthalmoscope (page 1, lines 1-6) utilising light to illuminate structure under scrutiny (page 4, lines 5-8).
 - 2.3 Document D1 discloses a clinical diagnostic instrument which is an ophthalmoscope or retinoscope (page 1, lines 1-6) which comprises:
 - a means for supplying electrical power (power source 6, figures 1-2);
 - a means for controlling the electrical power (control card 32, figure 2 and lines 3-6 on page 3);
 - a means for generating light (white LED 16, figure 2);
 - a means for transforming the light prior to illumination of a structure under scrutiny (mirror 25 of optics 11, in figure 4 - see also page 5, lines 1-4);
 - a means for transforming the light returning from the structure under scrutiny (lens 24 of optics 11 and CCD sensor 30 in figure 4, together with cable 10, computer 2, cable 5 and display 3 in figure 1 - see also page 4, lines 31-35 and page 2, lines 20-23) onto an image

detection means, which, in use, is the human eye (the eye of the physician mentioned on page 2, lines 23-25). The means for generating light (white LED 16, figure 2) is an LED, which is based on electroluminescent technology and emits white light.

- 2.4 Consequently, the subject-matter of claim 1 differs from the disclosure of document D1 in that the means for transforming the light prior to illumination of a structure under scrutiny includes at least one condenser lens.
- 2.5 The presence of such a condenser or condensing lens enables the focussing of the light generated by the white LED onto a desired point of the structure under scrutiny.
- 2.6 The objective technical problem to be solved is therefore regarded as being how to maximise the efficiency of the generated light.
- 2.7 However, directing a light beam onto a target in order not to disperse light is exactly what condensing lenses are made for.
- This is already mentioned as generally present in a conventional ophthalmoscope in the application itself (see page 5, first paragraph) and is foreseen for the returning light in document D1 (page 4, lines 33-35). Moreover, document D2 discloses the use of condensing lenses in the light path prior to illumination of a structure under scrutiny for a device used in ophthalmology (lenses 50, 52 and 54 in figure 1 and column 2, lines 62-67) in order to focus the diffuse light emitted by LEDs (column 3, lines 4-6).

The Board therefore comes to the conclusion that the skilled person, in view of the objective technical problem, would combine the teaching of documents D1 and D2 and provide the instrument of document D1 with a condenser lens as claimed without any inventive activity.

2.8 The appellant argued that the skilled person would have recognised that claim 1 defined a direct ophthalmoscope. The Board however notes that according to Article 84 EPC, the matter for which protection is sought is defined by the claims.

The term "ophthalmoscope" in claim 1 includes both direct and indirect ophthalmoscopes, as also corroborated by the EN-ISO standards provided by the appellant.

The Board cannot speculate on possible different intentions by the appellant, if these are not reflected in the wording of the claim.

Document D1 explicitly defines its instrument as a "video camera adapted for ophthalmoscopy" (page 1, lines 3-6) and even the EN-ISO standards filed by the appellant state that an ophthalmoscope is an instrument used to examine, in particular, the fundus of the eye. Consequently, the appellant's argument that the fundus camera of document D1 could not be considered as an ophthalmoscope must fail.

2.9 As regards the claimed means for transforming the returning light onto an image detection means, the latter being, in use, the human eye, the Board notes that the term "transforming the light" as present in claim 1 has a broad scope.

In particular, as also pointed out by the Board during the oral proceedings, said term does not exclude that, in its path from the structure under scrutiny onto the image detection means, the light is transformed into signals of another nature and then re-presented in the form of an image.

This is what happens in the device of document D1, with the returning light being transformed into electrical signals by the CCD sensor, these being treated by the computer and then being reconverted into an image on a screen of the display, such that the image can finally be detected by the physician's eye.

Whether the specific embodiments of the application disclose transformation means of another nature is of little relevance, if this is not reflected by the wording of the claim.

- 2.10 Whether the skilled person would have the motivation to modify the instrument of document D1 by introducing a condenser lens as claimed in claim 1 has to be assessed in the light of the objective technical problem. Considerations about the relative complexity of the instrument of document D1 are of secondary importance, in view of the fact that condenser lenses could take many forms according to the specific application (document D2, column 3, lines 2-4). How intense the light source needs to be in order to be detected by a CCD-based sensor is also of little relevance, since the objective technical problem regards the *efficiency* of the light. Its intensity will depend on and be adapted to the particular application. The appellant's argument that the instrument of document D1 already provided a complete solution to the problem of replacing incandescent filament bulbs with

LEDs must also fail, since the presence of a condensing lens as claimed is not related to said latter problem. Finally, the general purpose of the device of document D2, i.e. providing different coloured light during ophthalmic surgery, is not decisive. It is to the specific objective technical problem of increasing the efficiency of the means for generating light that document D2 proposes the solution of providing condensing lenses after LED light sources.

2.11 For the above reasons, the main request is not allowable under Article 52(1) in combination with Article 56 EPC.

3. *First auxiliary request*

3.1 Document D1 discloses an instrument consisting of a handheld video camera providing a video signal and a digital device for processing the video signal and presenting an image on a display (page 2, lines 2-6). As pointed out by the Board during the oral proceedings, in an embodiment, the digital device is a palm computer or similar handheld device (page 5, lines 11-15). As a result, according to said embodiment, the whole instrument of document D1 is handheld. It follows that the addition of the term "handheld" in claim 1 of the first auxiliary request does not distinguish further the subject-matter of said claim from the disclosure of document D1.

3.2 The appellant's argument that said addition directed the claimed subject-matter more clearly towards a "direct ophthalmoscope" is not convincing. "Indirect ophthalmoscopes" can also be handheld.

As regards the reference to Annex 3, describing features of an ophthalmoscope or retinoscope, the Board observes that documents other than the application can hardly illustrate the scope of protection of the claims. Moreover, some features of an ophthalmoscope as defined according to Annex 3 are not present in the claim.

3.3 It follows that already the first auxiliary request is not allowable under Article 52(1) in combination with Article 56 EPC.

As a consequence, the Board does not find it necessary to consider whether the requirements of in particular Article 123(2) EPC are met.

4. *Second auxiliary request*

4.1 As the appellant correctly submits, the introduction of the term "consisting of" in claim 1 limits the subject-matter of the claim to all and only those features which are present in the claim.

As remarked by the Board during the oral proceedings, this excludes for example the presence of a casing, or circuitry or components other than what is defined in claim 1.

However, the application as originally filed did not disclose an arrangement without a casing or other elements functionally connecting the means of the clinical diagnostic instrument as defined in claim 1. Claims 31 to 33 and page 17, last paragraph, of the application as originally filed clearly disclose the presence of a casing surrounding the claimed means. It follows that the requirements of Article 123(2) EPC are not fulfilled.

4.2 As also remarked by the Board during the oral proceedings, the fact that the wording of claim 1 excludes the presence of features other than those defined therein is in contradiction with the subject-matter of, for example, dependent claims 11, 12 and 31-33, which define the clinical diagnostic instrument as also comprising a casing. A lack of clarity contrary to the requirements of Article 84 EPC thus results.

4.3 For these reasons, the second auxiliary request cannot be allowed due to non-compliance with Articles 84 and 123(2) EPC.

5. *Fourth and fifth auxiliary requests*

5.1 Article 13(1) RPBA gives the boards of appeal the discretion to admit amendments made after the filing of the grounds of appeal. In particular, said discretion "shall be exercised in view of inter alia the complexity of the new subject matter submitted, the current state of the proceedings and the need for procedural economy".

5.2 The fourth and the fifth auxiliary request were only filed during the oral proceedings and therefore at a very late stage of the proceedings. The Board therefore decided to consider the admissibility of said requests.

5.3 According to the established case law of the boards of appeal, the factors to be examined in deciding whether a late-filed request is admissible include whether the subject-matter of the new claim is so clear and

straightforward that it can be understood and allowed without further discussion ("Case Law of the Boards of Appeal of the European Patent Office", 6th edition 2010, VII.E.16.4.1).

This applies also when the requests are an attempt to address the Board's concerns, as submitted by the appellant.

5.4 As regards claim 1 of the fourth auxiliary request, the addition of the term "direct" raises strong doubts as to the compliance with Article 123(2) EPC.

The appellant's general reference to the original application as a whole, to all 5 embodiments of figures 3-12, to page 17, last paragraph and to Annex 3 is not considered to remove said doubts in a clear and straightforward way.

A "direct ophthalmoscope" is not explicitly mentioned in the application as originally filed.

Furthermore, all the figures are of a schematic nature and do not illustrate how the returning light is transformed onto the image detection means.

Even Annex 3, which does not belong to the application as filed and would generally have to be disregarded in assessing the requirements of Article 123(2) EPC, does not specify that a clinical diagnostic instrument as the one in the application as filed should be considered as a "direct ophthalmoscope".

Therefore, *prima facie*, the Board sees no clear and precise support in the application as filed for a "direct ophthalmoscope".

5.5 As regards claim 1 of the fifth auxiliary request, the Board cannot immediately see how the addition of the term "optically" may distinguish further the subject-

matter of said claim from the disclosure of document D1. As a matter of fact, the means for transforming the light prior to the illumination of the structure under scrutiny of document D1 include mirror 25 of optics 11 (figure 4 - see also page 5, lines 1-4).

The appellant's argument that the term "optically" served to clarify the meaning of "transforming the light" is of little relevance, since even with this alleged clarification the claimed subject-matter would not be further distinguished from the disclosure of document D1.

5.6 For these reasons, the Board decided not to admit the fourth and the fifth auxiliary request into the proceedings, in accordance with Article 13(1) RPBA.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

D. Hampe

E. Dufrasne