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Datasheet for the decision of 22 May 2025

Case Number: T 1888/22 - 3.2.01

Application Number: 15181794.7

Publication Number: 2974687

IPC: A61B18/24

Language of the proceedings: EN

Title of invention:
ENDOLUMINAL LASER ABLATION DEVICE FOR TREATING VEINS

Patent Proprietor:
biolitec Unternehmensbeteiligungs II AG

Opponent:
Light Guide Optics Germany GmbH

Headword:

Relevant legal provisions:
EPC Art. 54, 56, 76(1), 83, 84, 123(2), 123(3)
RPBA 2020 Art. 12(4)

Keyword:
Main request - auxiliary requests 1 and 2 - Novelty - (no)
auxiliary request 3 - Amendment to case - amendment overcomes objection (yes)
auxiliary request 3 - clarity - (yes)
auxiliary request 3 - Sufficiency of disclosure - (yes)
auxiliary request 3 - Divisional application - added subject-matter (no)
auxiliary request 3 - Amendments - added subject-matter (no) - broadening of scope of protection (no)
auxiliary request 3 - Novelty (yes) - Inventive step (yes)

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

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Case Number: T 1888/22 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 22 May 2025

Appellant: (Patent Proprietor)	biolitec Unternehmensbeteiligungs II AG Untere Viaduktgasse 6/9 1030 Vienna (AT)
Representative:	Herrmann, Franz Dendorfer & Herrmann Patentanwälte Partnerschaft mbB Nymphenburger Straße 20a 80335 München (DE)
Respondent: (Opponent)	Light Guide Optics Germany GmbH Werner-von-Siemens-Straße 39 53340 Meckenheim (DE)
Representative:	Von Rohr Patentanwälte Partnerschaft mbB Rüttenscheider Straße 62 45130 Essen (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 27 May 2022 revoking European patent No. 2974687 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman	G. Pricolo
Members:	S. Mangin
	P. Guntz

Summary of Facts and Submissions

I. The appeal was filed by the appellant (patent proprietor) against the decision of the opposition division to revoke the patent in suit (hereinafter "the patent").

II. The opposition division held that:
(1) claim 1 of the main request and the first auxiliary request extended beyond the content of the parent application (Articles 100(c) and 76(1) EPC),
(2) the subject-matter of claim 1 of auxiliary request 2 was not novel over D5 (US 5,537,499) (Article 54 EPC), and
(3) claim 1 of auxiliary request 3 extended beyond the content of the application as filed (Article 123(2) EPC)

III. Oral proceedings were held before the Board via videoconference on 22 May 2025.

IV. The appellant (patent proprietor) requested that the decision under appeal be set aside and that the patent be maintained as granted (main request) or, in the alternative, that the patent be maintained in amended form based on the sets of claims according to one of auxiliary requests 1 to 3, 3b, and 4 to 6 as filed on 22 March 2022 (auxiliary request 1), on 6 October 2022 (auxiliary requests 2 to 6) and 24 April 2025 (auxiliary request 3b).

The respondent (opponent) requested that the appeal be dismissed.

V. Claim 1 of the main request (patent as granted) with the feature numbering used in the appealed decision reads as follows:

(F1) A device for endoluminal treatment of a blood vessel, comprising:
(F2) a flexible waveguide (700)
(F2.1) defining an elongated axis,
(F3) a proximal end optically connectable to a source of radiation (424), and
(F4) a distal end
(F4.1) receivable within the blood vessel and
(F4.2) including a radiation emitting surface
(F4.2.1) adapted to emit radiation from the radiation source laterally with respect to the elongated axis of the waveguide and
(F4.2.2) radially over 360° onto an angularly extending portion of the surrounding vessel wall,
(F5) wherein the radiation emitting surface is angled inwardly from the distal tip toward the elongated axis of the waveguide (700) and
(F6) wherein the distal tip of the waveguide (700) defines an expanded width in comparison to a portion of the waveguide extending proximally therefrom.

VI. Claim 1 of auxiliary request 1 corresponds to claim 1 of the main request with the following additional feature:
"wherein the radiation emitting surface defines a substantially concave, substantially conical shape".

VII. Claim 1 of auxiliary request 2 corresponds to claim 1 of auxiliary request 1 with the following additional feature:

"wherein the radiation emitting surface is achieved by means of a reflective cone (742) placed at the distal tip of the optical fiber",
and the "waveguide" being changed systematically to an "optical fiber".

VIII. Claim 1 of auxiliary request 3 corresponds to claim 1 of auxiliary request 2 with the following additional feature:
"wherein the radiation emitting surface is angled inwardly from an outer surface of the distal tip of the optical fiber (700) toward the elongated axis of the optical fiber (700)".

IX. The following additional documents are cited in the present decision:
D6: DE 195 38 990 A1
D7: WO 91/02562

Reasons for the Decision

1. Novelty of claim 1 of auxiliary request 2 over D5

The subject-matter of claim 1 is not novel over D5.

1.1 The appellant (patent proprietor) began by interpreting the expressions "flexible optical fiber" present in feature F2 and "Distal tip" present in feature F5. According to the appellant, the "flexible optical fiber" must be very flexible for endoluminal treatment of blood vessels. Referring to figure 4 of D20 and figures 18 and 19 of D19, the appellant emphasised that the insertion of the optical fiber in varicose blood vessels required a high flexibility.

With reference to figure 7b and paragraph [0054] of the patent as well as annexes A4 and A5, the appellant defined the "distal tip" as a tapering distal end.

The appellant then argued that the embodiment of figure 32 of D5 was not novelty destroying for the following reasons:
- Firstly, the devices of D5 were not adapted for endoluminal treatment of blood vessels. Referring to figure 1's schematic diagram of a laser catheter in D5, the appellant asserted that the optical fiber and the probe were not flexible enough to be received in blood vessels for their treatment. Furthermore, while D5 related to medical devices for treating a human body (column 1, lines 6-8 and column 6, line 1-3), there was no reference to the treatment of blood vessels. Although not stated in D5, the devices were apparently intended for prostate treatment.
- Secondly, the "distal tip" of claim 1 had to be narrowing down in the distal direction. The device known from D5 did not comprise such a distal tip.
- Thirdly, D5 clearly stated that the optical fiber 417 terminated in the recessed inclined cone-shaped surface 418. Considering the tubular member 422 to be part of the optical fiber contrasted with the disclosure of D5. In D5 the tubular member 422 was not said to form part of the optical fiber 417.
- Fourthly, the claimed subject-matter was also novel if the tubular member 422 were to be considered as part of the optical fiber. In this case the distal tip of the "optical fiber" would be the rounded distal end 423 of tubular member 422. D5 would consequently fail to disclose feature M5, which required that the radiation emitting surface was angled inwardly from the distal tip toward the elongated axis of the optical fiber.

- Fifthly, as stated in D5, column 9, lines 8 to 10, the optical fiber 417 had a silica fiber core surrounded by a doped fused silica cladding 419. Thus, the optical fiber 417 mentioned in D5 was formed at least by the core and the cladding 419. It was however, not evident from D5 alone whether the plastic sleeve 420 and the plastic jacket 421 formed part of the optical fiber. D5 disclosed in column 9, lines 26 to 27 that the cladding 419 was covered with a plastic sleeve 420 surrounded by a plastic jacket 421, but failed to explicitly state that the sleeve 420 and the jacket 421 were part of the optical fiber. However, the skilled person would recognise, based on their general knowledge, that the sleeve 420 and jacket 421 were typical parts of an optical fiber. As proof for such general knowledge, the appellant referred to a drawing contained in the Wikipedia article on "Optical Fiber". If the sleeve 420 and the jacket 421 were considered as part of the optical fiber 417, feature M6 was not disclosed in D5 even if it was further assumed that the tubular member 422 formed part of the optical fiber, because the distal tip of the optical fiber did not define an expanded width in comparison to a portion of the optical fiber extending proximally therefrom as the tubular member 422 had the same outer diameter as the adjacent jacket 421.
If, on the contrary, the sleeve 420 and the jacket 421 were considered not to be part of the optical fiber 417, the feature M2 was missing since only the optical fiber 417 consisting of core and cladding was explicitly disclosed to be flexible but there was no explicit corresponding disclosure for the sleeve 420 and jacket 421.

1.2 The respondent (opponent) requested that auxiliary request 2 as well as annexes A1-A6 submitted with the

statement of grounds, not be admitted in the appeal proceedings.

The respondent further argued that D5 did not disclose that the devices were specifically for the treatment of prostate, but rather for the treatment of the body in general. They referred to figure 1, and column 3, lines 63-67 as well as figures 26-32 and column 9, lines 7-34, which disclosed an elongated flexible optical fiber core made of silica 417 surrounded by a doped fused silica cladding 419 and a tubular member at its distal end made of silica material the same as or similar to the material of the fiber 417. Therefore, the optical fiber was flexible in its entirety. While the distal end with the tubular member was less flexible as it was thicker, it still remained flexible as it was made from the same material as the optical fiber core. The respondent noted that in claim 1, the term "flexible" was not further defined and should not be interpreted narrowly.

The respondent further argued that figure 32 of D5 disclosed the conical recess of the optical fiber. In their view, figure 32 also showed that the end area at the distal tip of the optical fiber 417 thickened as a result of being melted to the tubular member 422. The effect of the CO_2 laser beam (see figure 28 of D5) caused the optical fiber to melt, which expanded in this area and connected to the tubular member. The tubular member and the optical fiber thus formed a distal tip that was thicker than the optical fiber itself.

The respondent noted that the "distal tip" did not indicate the foremost end, but rather an area. Figure 32 of D5 clearly showed that the V-shaped recess of the

optical fiber was situated in the distal area of the tip of the optical fiber. The radiation or light waves were guided outwards through the welded tubular member, which also formed the expanded width. Thus, the tubular member 422 could also be regarded as part of the optical fiber. Accordingly, the thickened area and the emission surface were arranged in the distal area of the tip of the optical fiber.

The respondent interpreted the feature "angled inwardly from the distal tip" as an indication of the cone direction. The distal tip did not actually mark the starting point. In this context, it would then be irrelevant whether the first millimetres or even centimetres could be interpreted as the "distal tip" of the probe, because what was decisive was the direction from this distal tip inwards, without necessarily having to be at/in the distal tip or starting there specifically.

1.3 The Board concurs with the respondent (opponent) that in figure 32 of D5, the optical fiber is formed of the optical fiber core 417, the cladding 419 and the tubular member 422. Indeed, in figure 32, the two elements form one propagating wave media. The second sentence of paragraph [0043] of the patent discloses *"the optical fiber 100 comprises a cladding 146, a core 140 and a quartz cap 106"*. By analogy, the tubular member 422 in D5 can be considered part of the optical fiber. The cladding 419 surrounding the optical fiber core is also part of the optical fiber as it causes the waves to be confined to the core of the fiber. However, the Board does not consider the plastic sleeve 420 and the plastic jacket 421 as part of the optical fiber since they do not have a direct impact on the wave propagation. Therefore, feature F6 "wherein the distal

tip of the optical fiber (700) defines an expanded width in comparison to a portion of the optical fiber extending proximally therefrom" is disclosed in D5.

The Board does not share the view of the appellant (patent proprietor) that with such considerations, feature F2 would not be disclosed. The optical fiber 417 made of an optical fiber core surrounded by the cladding is said to be flexible in column 9, lines 7-10. As mentioned by the respondent (opponent) as the tubular member 422 is of the same material as the flexible core, it will also be flexible, although to a lesser extent due to its thickness. The Board notes that the devices of D5 are suitable for the endoluminal treatment of blood vessels. Indeed, in D5, the optical fiber is flexible and suitable for endoscopic surgery. D5 does not disclose any counter indication for the treatment of blood vessels.

Finally, the expression "from the distal tip toward the elongation axis of the waveguide" is to be interpreted as a direction, whereby the radiation emitting surface does not need to start at the outer surface of the distal tip but in the tip area as mentioned by the respondent (opponent). Indeed, the interpretation of "from the distal tip" by the appellant (patent proprietor) as the outermost surface of the distal tip is a narrow interpretation not reflected by the wording of feature F5.

In view of the above, the question of the admissibility of auxiliary request 2 and annexes 1-6 can be left open.

2. The subject-matter of claim 1 of the main request and the first auxiliary request is broader than the

subject-matter of claim 1 of auxiliary request 2. Therefore, for the same reasons as stated above for auxiliary request 2, the subject-matter of claim 1 of the main request and auxiliary request 1 is not novel over D5.

3. Auxiliary request 3

Claim 1 of auxiliary request 3 corresponds to claim 1 of auxiliary request 2 with the following additional feature:
"wherein the radiation emitting surface is angled inwardly from an outer surface of the distal tip of the optical fiber (700) toward the elongated axis of the optical fiber (700)".

3.1 Admissibility - Article 12(4) RPBA

Auxiliary request 3 was admitted in the appeal proceedings.

3.1.1 The respondent (opponent) requested auxiliary request 3 not to be admitted in the appeal proceedings as it was submitted for the first time with the statement of grounds of appeal.
Compared to the auxiliary request 3 submitted in oral proceedings in opposition,
- the term "waveguide" had been changed to "optical fiber", and
- *"from the outer surface of the distal tip"* had been changed to *"from an outer surface of the distal tip"*.
In the respondent's view, the appellant (patent proprietor) would have had sufficient opportunity to make these changes in the first instance, but failed to do so.

Furthermore, the contested patent did not teach that the terms "waveguide" and "optical fiber" could be used synonymously. Rather, the "optical fiber" was a possible embodiment of the invention, whereby the "waveguide" could be an "optical fibre" – but did not have to be.
Finally, the change from the definite pronoun "the" to the definite pronoun "an" resulted in the outer surface not being clearly defined anymore as the outer surface of the distal tip.
Therefore auxiliary request 3 was not prima facie allowable.

3.1.2 The Board admitted auxiliary request 3 in the appeal proceedings, noting that the amendments made to auxiliary request 3 submitted with the statement of grounds of appeal compared to the auxiliary request 3 submitted during the oral proceedings in opposition, were made to clarify the request without changing its subject-matter. Indeed the term "waveguide" was systematically changed to an "optical fiber". This change did not add any subject-matter as the auxiliary request 3 filed during the oral proceedings in opposition contained the feature *"wherein the waveguide is an optical fiber (700)"*. Furthermore, the change of the definite article "the" to the indefinite article "an" in front of "outer surface" clarified that the "outer surface" was not defined in the claim before. The change of the article does not alter the fact that the "outer surface" refers to the outer surface of the distal tip.

3.2 Added subject-matter - Articles 123(2) EPC and 76(1) EPC

Claim 1 of auxiliary request 1 does not extend beyond the content of the parent application and the application as filed.

3.2.1 The respondent (opponent) held that in addition to the change from the term "waveguide" to the expression "optical fiber" and the change from the definite article "the" to the indefinite article "a" before "outer surface", the following changes extend beyond the content of the application as filed and the parent application:
- the change of the expression "that emits" to "adapted to emit". The passive form used no longer required radiation to be emitted. However, the original claim 1 required that the "emitting surface" actually emitted radiation. In addition to the design in accordance with the method, this also required that the "emitting surface" be arranged on the waveguide in such a way – in relation to the radiation in the waveguide – that radiation was inevitably emitted via the "emitting surface".
- the introduction of "a substantially concave, substantially conical shape". Paragraph [0068] of the parent application and paragraph [0053] of the application as published disclosed "the reflective cone 742 is defined by a concave, substantially conical shaped surface". "Substantially concave" did not equate to "concave" and therefore led to added subject-matter.
- Paragraph [0068] of the parent application and paragraph [0053] of the application as published which disclosed the invention claimed comprised additional features which had not been introduced in claim 1, leading to an unallowable intermediate generalisation. In particular a cone angle of 30° to 50° was inextricably linked to the 360° radiation, in addition to other features.

- The insertion of "an outer surface of the" led to an inadmissible intermediate generalisation. Figures 7a and 7b of the application as filed and of the parent application disclosed a number of additional features, such as, among others, the ratio of the width of the optical fibre to the thickness of the outer sheath, the symmetrical spherical widening in the front distal tip area, the ratio between the diameter of the spherical expansion compared to the indentation caused by the "reflective cone", the cone angle of the reflective cone and the filling of the reflective cone that have not been inserted in claim 1. These features all influenced the radiation pattern, the radiation guidance in the probe and the emitted radiation pattern and were therefore essential features in the embodiment shown in figures 7a and 7b. Furthermore, these features also influenced one another, as they were primarily provided on the waveguide itself which determined the radiation pattern achieved. These features were structurally and functionally inextricably linked. Furthermore, figures 7a and 7b did not provide any basis for the specific wording "outer surface of the", since the outer surface as such was not specified. Nor could any indication be taken from the figures and the description that the disputed feature could achieve a specific effect, such that it would have been impossible for the skilled person, taking into account figures 7a and 7b, to recognise that the isolated extraction of the feature "outer surface of the" was associated with advantageous properties.

3.2.2 The Board is not convinced by the arguments provided by the respondent (opponent).

- The change from "emits" to "adapted to emit" does not change the fact that the radiation emitting surface will emit radiation in use. However, as the claim is

directed to a product, the use of the expression "adapted to emit" is correct.
- In the parent application and in the application as filed, the skilled person would understand the term "concave" and the expression "substantially concave" to have the same meaning, especially as dependent claim 31 in the parent application and dependent claim 2 in the application as filed use the term "substantially concave", while the respective description use the term "concave".
- Paragraph [0068] of the parent application and paragraph [0054] of the application as filed disclose other features related to the device depicted in figures 7a and 7b, however, the question is whether these features are inextricably linked to the added features in claim 1 in particular "*the radiation emitting surface is angled inwardly from an outer surface of the distal tip of the optical fiber (700) toward the elongated axis of the optical fiber (700)*". As mentioned by the appellant (patent proprietor), the added feature is not linked to the cone angle between 30 and 50°, which is described in paragraph [0068] of the parent application and paragraph [0054] of the application as filed as a preferable range.
- On figures 7a and 7b, the radiation emitting surface starts at the outer surface of the distal tip. Indeed the depicted grey cone starts at the outer surface of the distal tip. The skilled person would inevitably take this information from figures 7a and 7b. It is true that the drawings are schematic, as also pointed out by the opposition division under point 24.1 of the contested decision. However it cannot be said that the skilled person is left in doubt as to the true extension of the radiation emitting surface, in the sense that the feature that the radiation emitting surface starts at the outer surface of the distal tip

as shown in the figures might possibly be the mere expression of the draughtsperson's artistic freedom. In fact it is clear for the skilled person that the feature makes technical sense in that the radiation emitting surface reflects all rays transmitted along the optical fiber up to the outer end surface of the optical fiber. In other words, the introduction of this feature does not present the skilled person with new information which extends beyond the parent application and the application as filed. The shape of the distal tip, the ratio between the fiber core and the cladding, the angle of the cone, the width of the distal tip are not structurally and functionally linked to the inwardly angled reflective cone extending from an outer surface of the distal tip. This simplified construction of the cone compared to a construction wherein the inwardly angled reflective cone extending would not extend to the outer surface is directly and unambiguously derivable from figures 7a and 7b.

3.3 Extent of protection - Article 123(3) EPC

The European patent has not been amended in such a way as to extend the protection it confers.

3.3.1 The respondent (opponent) argued that the term "waveguide" and the expression "optical fibre" had not been disclosed as being synonymous. Claim 1 of the auxiliary request 3 left open whether or not the optical fibre was a waveguide. In principle, the scope of protection of claim 1 would also allow an embodiment in which the optical fibre was not designed as a waveguide. Accordingly, the scope of protection of claim 1 of auxiliary request 3 differed from that of granted claim 1. Consequently, claim 1 of auxiliary request 3 infringed Article 123(3) EPC.

3.3.2 The Board does not agree with the respondent (opponent).

The optical fiber is clearly a waveguide in the application as filed. The essence of the invention is for the laser radiation to be guided to the distal end of the optical fiber. Throughout the description, the optical fiber is clearly described as a waveguide, such that the skilled person would not consider it otherwise. Therefore, changing the term "waveguide" to "an optical fiber" in claim 1 specifies the type of waveguide and does not in any case extend the scope of protection conferred by claim 1.

3.4 Clarity - Article 84 EPC

Claim 1 is clear.

3.4.1 The respondent (opponent) argued that it was unclear what was meant by "an outer surface of the distal end" of the optical fibre. The indefinite article "an" suggested that there could be several outer surfaces of the distal end. It was unclear whether the outer surface referred, for example, only to the exposed area of the optical fibre shown in Figures 7a and 7b, or whether it referred to the entire outer surface of the optical fiber in the distal area. The extent of the outer surface was also unclear, whether for example 30% or 20% of the distal tip of the laser probe was meant was left open. Furthermore, it was unclear to what extent an angle could be formed, as the design of the reflective cone was left open. Consequently, it also remained unclear whether the outer surface of the optical fibre was formed by the reflective cone and

whether the reflective cone was to be attributed to the optical surface or not.

3.4.2 The Board does not consider that the features added to claim 1 compared to claim 1 as granted introduce any clarity issue. In particular the expression "an outer surface of the distal tip" is clear: it corresponds to the external surface of the tip. The distal tip has only one outer surface, covering its entire surface. The Board cannot follow the considerations of the respondent (opponent) questioning the location and the extent of the outer surface.

3.5 Sufficiency of disclosure - Article 83 EPC

The invention is disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.

3.5.1 The respondent (opponent) argued that the patent did not give any indication how the reflective cone was to be designed or manufactured.
Claim 1 required the emitting surface adapted to emit radiation from the radiation source by means of a reflective cone. However, a reflective cone reflected radiation but did not emit radiation.
Furthermore, the patent did not provide any information about the reflective cone, in particular, the material used for the cone that had to meet certain requirements.
Finally, claim 7 also introduced an "axially extending, annular pattern". However, the skilled person did not know what was meant by an "annular pattern". The skilled person had no knowledge of the specific design of this pattern.

3.5.2 The Board is not convinced by the arguments brought forward by the respondent (opponent). In claim 1 the cone is to be reflective which means that the laser light is reflected by the cone. There is no doubt for the skilled person, reading claim 1 with a mind willing to understand, that the reflective cone will bounce the laser light back. Ways to provide such a cone is common general knowledge in the field of endoluminal treatment of blood vessels using a source radiation guided through an optical fiber.
Depending on the angle of the cone, the optical fiber can emit radiation laterally with respect to the elongated axis of the optical fiber forming an annular pattern.

3.6 Novelty over D5 and D6

The subject-matter of claim 1 is novel over D5 and D6.

3.6.1 The respondent (opponent) argued that the wording of the added feature *("wherein the radiation emitting surface is angled inwardly from an outer surface of the distal tip of the optical fiber toward the elongated axis of the optical fiber")* was ambiguous.
Specifically, it was unclear whether the radiation emitting surface started at the outer surface of the distal tip or whether the radiation emitting surface was directed from the outer surface of the tip towards the elongated axis, without necessarily starting at the outer surface of the distal tip.

In figure 32 of D5, the cone, although not starting at the outer surface of the distal tip, was directed inwards relative to the outer surface of the distal tip and therefore anticipated the added feature.

Moreover, D6 (figure 1 and column 2, lines 30-50) disclosed feature M6 (*"wherein the distal tip of the optical fiber defines an expanded width in comparison to a portion of the optical fiber extending proximally therefrom"*).
The optical fiber in document D6, consisting of the laser light guide 7 and the centering olive 10, formed an expanded width at its distal tip. According to column 2, line 45 ff. of document D6, the centering olive 10 served to treat or irradiate the tissue evenly, in particular by centering the device/catheter 4 in the vessel by means of the centering olive 10. Consequently, feature M5 also was directly and unambiguously derivable from D6.

3.6.2 The Board is not convinced by the arguments of the respondent (opponent). Amended claim 1 requires that "*the radiation emitting surface is angled inwardly from an outer surface of the distal tip of the optical fiber toward the elongated axis of the optical fiber".* Claim 1 requires that the emitting surface starts from the outer surface of the distal tip. Indeed, by claiming the precise position of the inwardly angled radiation emitting surface, the claim specifies its starting point, namely the outer surface of the distal tip.
In the embodiment of figure 32 of D5, the radiation emitting surface does not start from the outer surface of the distal tip, but starts within the distal tip. Therefore, the embodiment of figure 32 does not anticipate the added feature in claim 1 of auxiliary request 3.

As for the embodiment of figure 1 of D6, as mentioned by the appellant (patent proprietor), the centering olive 10 cannot be considered as part of the optical fiber. Indeed the centering olive does not propagate

the laser beam. Its function is to direct the catheter in the middle of the blood vessel. Therefore, feature M6 is not anticipated by D6.

3.7 Inventive step in view of D6 in combination with D7

The subject-matter of claim 1 involves an inventive step starting from D6 in combination with D7.

3.7.1 The respondent (opponent) argued that, starting from D6, if the light guide 7 and the centering olive 10 could not be considered as the optical fiber of claim 1, then the subject-matter of claim 1 differed from D6 by feature M6.

The objective problem to be solved was considered to be the provision of an alternative to the centering olive of D6.

D7, which pertained to the same technical field as D6, disclosed a widening of the waveguide in the area of the distal tip for the purposes of centering and simplifying the handling of the device in the blood vessels, (see in particular figures 7e, 7f, 15, 16, 14, 13).
According to D7, the spherical shaped widening distal end area of the optical fiber simplified the use of the device in blood vessels. This could also be inferred from the schematic representation in figure 15.

Furthermore, the passages on page 65, lines 25-35, page 67, lines 6-11 and page 77, lines 16-31 in D5 emphasised that the spherical shaped distal end facilitated the treatment of blood vessels.

3.7.2 While the Board agrees with the difference and the problem to be solved defined by the respondent (opponent), the Board does not agree that the skilled person would combine D6 and D7 to arrive at the subject-matter of claim 1.

The function of the spherical shaped distal end in the embodiments of D7 is not to centre the fiber core within the blood vessels, but is to avoid that laser energy is focused into a narrow beam for the purpose of incising the tissue, and allowing application of laser energy to a large area of the tissue contacted by the laser tip. This tip is suited to vaporize large volumes of tissue (see page 22, second paragraph).

As mentioned by the appellant (patent proprietor), D7 fails to teach the skilled person that the spherical end of the optical fiber facilitates the movement of the waveguide into a blood vessel. D7 consequently contains nothing to motivate the skilled person to combine D7 with D6.

Furthermore it appears unclear how the skilled person would implement the teaching of D7 in the light guide of D6 comprising an inwardly directed reflective cone surrounded by a light permeable sheath surface. The skilled person would at most exchange the distal tip of D6 with the distal tip of D7 but would not arrive at the subject-matter of claim 1.

4. To conclude, none of the objections raised by the respondent (opponent) prejudices the maintenance of the patent with the claims according to auxiliary request 3. As regards the adaptation of the description, the board took the view that it should be done in the

framework of the remittal to the opposition division, and the parties agreed.

Order

For these reasons it is decided that:

1. The impugned decision is set aside.

2. The case is remitted to the opposition division with the order to maintain the patent in amended form on the basis of the set of claims of auxiliary request 3, filed with the statement of grounds of appeal, and a description to be adapted.

The Registrar: The Chairman:

L. Stridde G. Pricolo

Decision electronically authenticated