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**Datasheet for the decision  
of 6 December 2017**

**Case Number:** T 1249/13 - 3.2.02

**Application Number:** 08718453.7

**Publication Number:** 2127594

**IPC:** A61B1/04, A61B1/06, A61B17/56

**Language of the proceedings:** EN

**Title of invention:**  
CABLE-FREE ARTHROENDOSCOPE

**Applicant:**  
Guillén García, Pedro

**Headword:**

**Relevant legal provisions:**  
EPC Art. 14(2), 52(1), 56, 83, 84, 123(2)  
RPBA Art. 13

**Keyword:**  
Inventive step - main request (no) - auxiliary request (yes)  
Late-filed auxiliary request - admitted (yes)  
Added subject-matter - auxiliary request (no)  
Clarity - auxiliary request (yes)  
Sufficiency - auxiliary request (yes)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**  
**Boards of Appeal**  
**Chambres de recours**

Boards of Appeal of the  
European Patent Office  
Richard-Reitzner-Allee 8  
85540 Haar  
GERMANY  
Tel. +49 (0)89 2399-0  
Fax +49 (0)89 2399-4465

Case Number: T 1249/13 - 3.2.02

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.02**  
**of 6 December 2017**

**Appellant:** Guillén García, Pedro  
(Applicant) Clínica CEMTRO  
Av. Ventisquero de la Condesa nº 42  
28035 Madrid (ES)

**Representative:** Elzaburu S.L.P.  
Miguel Ángel, 21, 2º  
28010 Madrid (ES)

**Decision under appeal:** Decision of the Examining Division of the  
European Patent Office posted on 19 December  
2012 refusing European patent application No.  
08718453.7 pursuant to Article 97(2) EPC

**Composition of the Board:**

**Chairman** E. Dufrasne  
**Members:** P. L. P. Weber  
D. Ceccarelli

## **Summary of Facts and Submissions**

I. With its decision posted on 19 December 2012 the Examining Division refused the application in suit.

It considered that claim 1 of the then main request did not comply with Articles 123(2), 84 and 56 EPC and that claim 1 of the then auxiliary request did not comply with Articles 123(2), 84, 83 and 56 EPC. It based its inventive step objections on documents D1 and D6.

II. Notice of appeal was filed on 19 February 2013, and the appeal fee was paid on the same day. The statement setting out the grounds of appeal was filed on 29 April 2013.

III. In the annex to the summons to oral proceedings, the Board raised an objection of lack of inventive step based on D5 in combination with D1.

IV. With a reply to the summons the appellant filed new main and auxiliary requests on 16 November 2017.

V. Oral proceedings were held on 6 December 2017.

The appellant requested that the decision under appeal be set aside and that a patent be granted on the basis of the main request filed with letter dated 16 November 2017 or, in the alternative, of the auxiliary request filed during the oral proceedings.

VI. The following documents are cited in the present decision:

D1: US 2001/015754 A1

D4: JP 2003 250758 A

D5: JP 10 165362 A

D6: US 4607622 A

VII. The appellant's arguments may be summarised as follows:

Inventive step - main request

Not only were cold lights not common at the date of filing, but also introducing a cold light into the device of D5 instead of the heat-producing lamps presented there required a complete redesign of the lens. Moreover, such an arrangement did not provide the feature of the physical and optical direct connection to the lens. The subject-matter of claim 1 was therefore inventive.

VIII. The different relevant versions of claim 1 are as follows:

(a) Claim 1 of the main request in examination as filed on 17 September 2012 reads as follows:

"Arthroscopy apparatus comprising three independent elements:

- arthroscopy lens (12);
  - supply device or capsule (1), having a light source in the interior thereof;
  - miniaturized camera (18), not requiring a cable and intended to produce photographs or videos, comprising batteries (5), emitter (6), antenna (7), on/off switch (9), focus (10) and objective (11),
- wherein light enters directly from said light source of said supply device (1) into said arthroscopy lens (12), producing physical coupling and direct optical coupling of said light source to said arthroscopy lens (12),

characterized in that the apparatus further comprises a sheath covering and protecting the arthroscopy lens (12) having a diameter greater than the lens (12), and in that the coupling of said light source to said arthroscopy lens (12) permits rotation of said arthroscopy lens (12) with respect of the sheath."

(b) Claim 1 according to the main request reads as follows:

"Arthroscopy apparatus comprising three independent elements:

- lens-carrying device (12) including arthroscopy lens;
- light-supply device or capsule (1), having a light source in the interior thereof;
- miniaturized camera (18), not requiring a cable and intended to produce photographs or videos, comprising batteries (5), emitter (6), antenna (7), on/off switch (9), focus (10) and objective (11),

wherein said light-supply device (1) is physically and optically coupled directly to said lens-carrying device (12), so that light enters directly from said light source into said arthroscopy lens, and wherein coupling of the light-supply device (1) to the lens-carrying device (12) permits rotation of the arthroscopy lens, and wherein both the light-supply device (1) and the miniaturized camera (18) do not comprise connecting cables

characterised in that the light source of the light-supply device (1) is a cold light device."

Claim 1 according to the auxiliary request as filed on 16 November 2017 reads as follows:

"Arthroscopy apparatus comprising three independent elements:

- lens-carrying device (12) including arthroscopy lens;
- light-supply device or capsule (1), having a light source in the interior thereof;
- miniaturized camera (18), not requiring a cable and intended to produce photographs or videos, comprising batteries (5), emitter (6), antenna (7), on/off switch (9), focus (10) and objective (11),

wherein said light-supply device (1) is physically and optically coupled directly to said lens-carrying device (12), so that light enters directly from said light source into said arthroscopy lens, and wherein coupling of the light-supply device (1) to the lens-carrying device (12) permits rotation of the arthroscopy lens, characterized in that both the light-supply device (1) and the miniaturized camera (18) do not comprise connecting cables, and

wherein the apparatus further comprises a sheath covering and protecting the lens-carrying device (12) having a diameter greater than the lens-carrying device (12)."

Claim 1 according to the auxiliary request filed during the oral proceedings reads as follows:

"Arthroscopy apparatus comprising three independent elements:

- lens-carrying device (12) including arthroscopy lens;
- light-supply device or capsule (1), having a light source in the interior thereof;
- miniaturized camera (18), not requiring a cable and intended to produce photographs or videos, comprising batteries (5), emitter (6), antenna (7), on/off switch (9), focus (10) and objective (11),

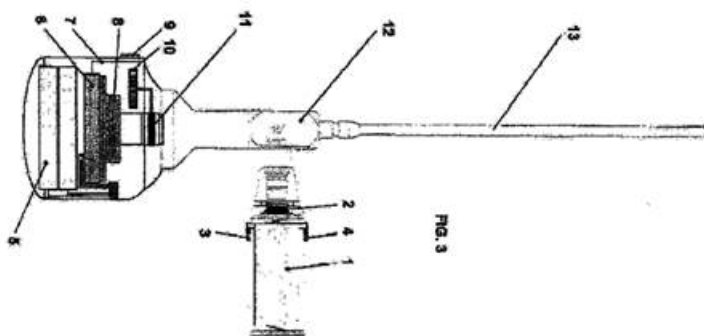
wherein said light-supply device (1) is physically and optically coupled directly to said lens-carrying device

(12), so that light can enter directly from said light source into said arthroscopy lens, and wherein coupling of the light-supply device (1) to the lens-carrying device (12) permits rotation of the arthroscopy lens, wherein both the light-supply device (1) and the miniaturized camera (18) do not comprise connecting cables, and wherein the apparatus further comprises a sheath covering and protecting the lens-carrying device (12) having a diameter greater than the lens-carrying device (12), for forming a cavity in which serum facilitating the viewing upon carrying out arthroscopies can circulate."

### Reasons for the Decision

1. The appeal is admissible.
2. The invention

The invention is a cable-free arthroscopy apparatus comprising three independent elements: a conventional arthroscopy lens, a light-supply device with a battery and a miniaturised camera unit with a battery and an antenna. The apparatus is completed by a sheath allowing introduction of serum into the joint for better viewing.



3. Main request - inventive step



### 3.1 Closest prior art

The Examining Division considered D1 to be the closest prior art. In the Board's opinion the Examining Division was mistaken.

It is established case law that the closest prior art should disclose subject-matter conceived for the same purpose or effect as the invention, preferably exhibiting the same kind of technical problems as those solved by the invention (e.g. decisions as presented in Case Law of the Boards of Appeal, 8th edition 2016, I.D.3).

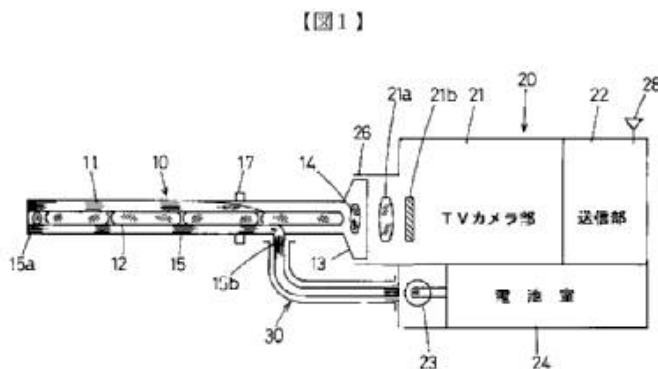
The whole introductory part of the description is about arthroscopy, in particular of the knee, and the problem said to be solved includes avoiding articular infections; so it is clear that the invention was intended to be about arthroscopy and not more generally endoscopy. This is reflected in claim 1, which is directed to an arthroscopy apparatus.

An arthroscope is a sub-category of endoscopes normally used for the inspection and/or surgery of joints, in particular knees. One essential feature of an arthroscope is that it must be rigid enough to be pushed through the tissues, in particular tendons, to gain access to the inside of the joint. In other words, a "standard" flexible endoscope is not suitable for use as an arthroscope.

In D1 the invention is said to relate to an endoscope system, and the part meant to be introduced into the body of the patient is said to be flexible (Figure 1, paragraph [0046], flexible tube 25); so this document

does not relate to an arthroscope and cannot be considered the closest prior art.

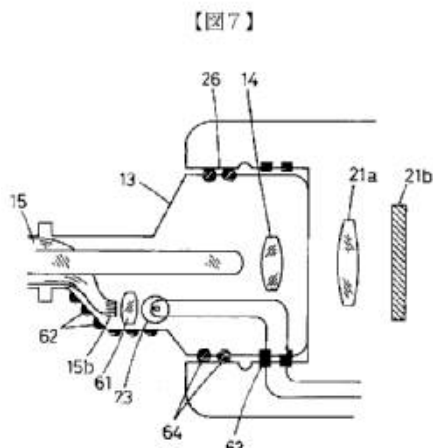
In the Board's opinion, the closest prior-art document is D5 (cited in the supplementary European search report). The Board based its analysis of this document on the machine-translated English version of the description and the figures of the published Japanese document. The appellant did not object to this approach. This document is concerned with an arthroscopy apparatus (paragraphs [0002] and [0017], Figures 1 and 2), and in order to solve the same main problem of dispensing with the cables it proposes a similar solution, namely providing the camera with a battery (24) and an emitting antenna (28) in order to send the image signal without cables to a receiver placed elsewhere.



In the terms of claim 1, D5 - or more precisely the embodiment according to Figure 7 - discloses an arthroscopy apparatus comprising:

- a lens-carrying device (10) including arthroscopy lens;
- a light-supply device having a light source (23) in the interior thereof;
- a miniaturised camera (21), not requiring a cable and intended to produce photographs or videos, comprising

batteries (24), emitter (22), antenna (28), on/off switch (not mentioned, but implicitly present), focus (21b) and objective (21a), wherein said light-supply device is physically and optically coupled directly to said lens-carrying device (10), such that light enters directly from said light source into said arthroscopy lens, and wherein coupling of the light-supply device to the lens-carrying device (10) permits rotation of the arthroscopy lens (as can be seen in Figure 7, and as explained in paragraphs [0047] to [0050]), and wherein both the light-supply device (10) and the miniaturised camera (21) do not comprise connecting cables.



3.2 The apparatus according to D5 (i) does not comprise three independent elements but only two independent elements, since the light source (23) is integrated in the arthroscopy lens (10) as can be seen in Figure 7, and (ii) does not comprise a cold light device as a light source. In the embodiment according to Figure 7 the light source, as indicated in paragraph [0024], is a miniature bulb, a halogen lamp, a tungsten lamp, a metal halide short arc lamp or another suitable lamp.

The appellant argued that in the embodiment according to Figure 7 the light supply device is not physically and optically coupled directly to the lens (10).

The Board fails to see why this would not be the case. The lamp is integrated in the proximal end of the lens and so is obviously physically directly coupled to the lens. Furthermore, the lamp directs its rays directly into the bundle (15) of optical fibres and so is also optically coupled directly to the lens (10).

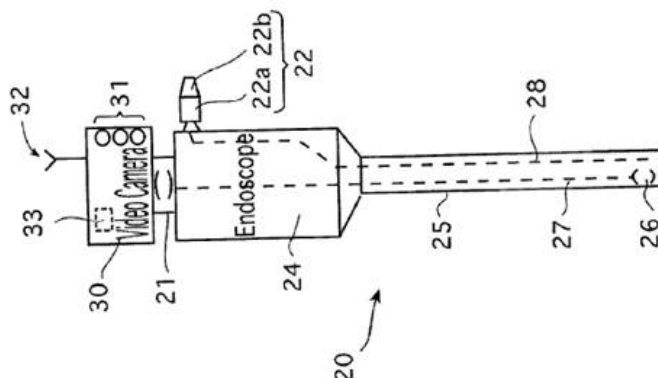
- 3.3 In the Board's opinion there is no synergetic effect between features (i) and (ii). Indeed, the kind of lamp used does not have any relation to the fact of having an independent light-supply device or capsule instead of the light source integrated in the lens. The appellant did not present any synergetic effect either.

Starting from the embodiment of Figure 7 of D5, the separation of the light-supply device from the lens to form an independent unit to be connected to it has the advantage of avoiding the rather complex rotational electrical connection with circular contacts (63), and possibly facilitates the replacement of a defective lamp, whereas the use of a cold light source has the advantage of avoiding heat production.

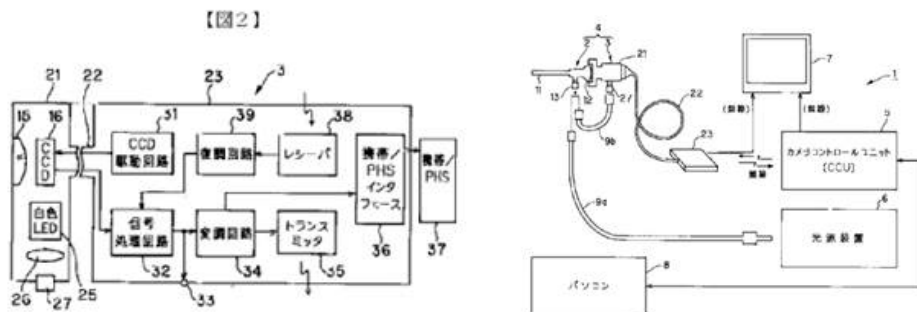
- 3.4 Therefore, the objective problems can be seen on the one hand as one of improving light supply management and on the other hand as one of avoiding heat production at the proximal end of the lens.

- 3.5 In the Board's opinion the solution to the first problem is suggested in the more general technical field of endoscopes by D1, which uses a separate unit (22) comprising the light source (22a) and the battery

(22b) for the provision of light to an endoscope as shown in Figure 1 and explained in paragraph [0046].



The second problem is solved by using cold light, which even according to the application as filed was already known as a light source for arthroscopes in the 1970s (page 1, lines 35 to 37). It was further also known to be used in endoscopes, as document D4 (cited in the supplementary search report) shows in Figure 2 (element 25). In this device the LED light source is placed in the camera head 21.



This combination with document D4 was presented to the appellant during oral proceedings, and the appellant was given time to study it.

In the Board's opinion, taking these solutions over into the arthroscopy apparatus of D5 belongs to the normal activities of the person skilled in the art who, faced with a simple problem, seeks for a solution in

the same or a neighbouring field without the involvement of any inventive step.

The appellant considered that it would require a complete redesign of the apparatus according to Figure 7 of D5 to integrate a cold light source, and therefore the subject-matter of claim 1 would be inventive.

The Board does not share this opinion. The replacement of a heat-producing lamp by a cold light source such as an LED falls within the kind of technical amendments the person skilled in the art would undertake within their normal activities, especially as the discomfort due to heat production by the lamp and the consequent heating of the proximal part of the lens will appear during use of the arthroscopy apparatus, such that no particular investigation is necessary to recognise the problem. Moreover, document D5 itself, as stated above, already mentions the possibility of using several types of lamp. In addition, the Board sees no particular difficulty in the device of Figure 7 which might hinder the person skilled in the art from making such a change.

3.6 Therefore, the subject-matter of claim 1 of the main request does not involve an inventive step pursuant to Article 56 EPC.

4. Auxiliary request - admissibility

This request is based on the auxiliary request filed with letter dated 16 November 2017. Compared to the latter only minor amendments have been introduced for clarity reasons. Additionally, the function of the greater diameter of the sheath was introduced into the claim to complete the wording of the last feature.

This request is therefore admissible pursuant to Article 13 RPBA because it deals with the objection under Article 123(2) EPC raised in the impugned decision and in the annex to the summons issued by the Board, and it deals with the inventive step objection first raised in said annex to the summons.

5. Auxiliary request - added subject-matter

The Examining Division considered that the last feature of claim 1 on which the impugned decision was based - *"that the coupling of said light source to said arthroscopy lens (12) permits rotation of said arthroscopy lens (12) with respect of the sheath"* - added matter because the application as filed did not disclose that the lens could rotate with respect to the lens.

This objection has been dealt with in the present auxiliary request because its wording specifies on the one hand that the *"coupling of the light-supply device (1) to the lens-carrying device (12) permits rotation of the arthroscopy lens"* and on the other hand that *"the apparatus further comprises a sheath covering and protecting the lens-carrying device (12) having a diameter greater than the lens-carrying device (12), for forming a cavity in which serum facilitating the viewing upon carrying out arthroscopies can circulate."*

This wording no longer makes any connection between the possible rotation of the lens and the presence of a sheath, and so the objection raised by the Examining Division is overcome.

Moreover, since the wording of the last feature is almost identical to or rather has the same technical content as the wording of page 7, lines 4 to 9, of the application as filed, the introduction of this feature does not add matter.

Claim 1 of the auxiliary request therefore satisfies the requirements of Article 123(2) EPC.

6. Auxiliary request - clarity - insufficiency

The Board is satisfied that the clarity and insufficiency objections raised in the impugned decision under points 2.1.2 and 2.2.2 of the reasons have been dealt with in this version of claim 1, since this claim only contains apparatus features.

7. Auxiliary request - inventive step

7.1 Claim 1 of this request is still directed to an arthroscopy apparatus, and so as for claim 1 according to the main request the closest prior art is D5.

7.2 The apparatus according to D5 (i) does not comprise three independent elements but only two independent elements, since the light source (23) is integrated in the arthroscopy lens (10), as can be seen in Figure 7, and (ii) does not comprise a sheath covering and protecting the lens-carrying device (12) having a diameter greater than the lens-carrying device (12), for forming a cavity in which serum facilitating viewing when carrying out arthroscopies can circulate.

For examining inventive step, the Board will concentrate on the second distinguishing feature (ii).



7.3 Concerning this second distinguishing feature (ii), according to the appellant it is clear to the person skilled in the art that the diameter is greater than the lens in order to allow sufficient serum to be brought to the joint through the space so created in order to form a so-called cavity (filled with serum) allowing better viewing of the inside of the joint. The Board concurs with the appellant.

Document D5 discloses the presence of a collar (17) of the locking mechanism for locking a trocar onto the lens (paragraph [0019]). A trocar is used to help introduce the lens into the joint. As such, it necessarily has an inner diameter slightly greater than the diameter of the lens on which it is positioned. However, the space between the trocar inner diameter and the lens outer diameter is not disclosed as being suitable to be used to transport fluid into the joint, and the provision of such suitability would require a complete redesign of the lens. Moreover, nothing in D5 suggests that serum can be used in order to form a cavity for better viewing within the joint to be examined or treated.

None of the other cited documents suggests covering the lens with a sheath having a diameter greater than the lens by such an amount that it allows the inner space thus created to be used to transport sufficient serum to the joint in order to form a cavity within the latter for better viewing.

Moreover, using such a sheath with a greater diameter to introduce the serum has the advantage that no other opening has to be made to bring serum into the joint, since this is done through the same opening as that used to introduce the lens.

- 7.4 For the above reasons the subject-matter of claim 1 of the auxiliary request is inventive, and so the requirements of Article 56 EPC are fulfilled.
8. Therefore the requirements of Article 52(1) EPC are satisfied.
9. The description has been adapted to the claimed subject-matter.  
The Board notes that on page 7, line 7, the appellant has of its own volition amended the wording to better reflect the meaning of the Spanish text originally filed, pursuant to Article 14(2) EPC.

## Order

### For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance with the order to grant a patent on the basis of:
  - claims 1 and 2 of the auxiliary request filed during the oral proceedings;
  - pages 1 to 9 of the adapted description filed during the oral proceedings; and
  - figures 1 to 3 of the patent application as filed.

The Registrar:

The Chairman:



D. Hampe

E. Dufrasne

Decision electronically authenticated