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**Datasheet for the decision
of 8 October 2019**

Case Number: T 0002/15 - 3.2.02

Application Number: 03738882.4

Publication Number: 1496805

IPC: A61B17/068, A61B17/115,
A61B17/28, A61B17/072,
A61B19/00

Language of the proceedings: EN

Title of invention:

SURGICAL INSTRUMENTS INCLUDING MICRO-ELECTROMECHANICAL SYSTEMS
(MEMS)

Patent Proprietor:

Covidien LP

Opponent:

ETHICON ENDO-SURGERY, INC.

Headword:

Relevant legal provisions:

EPC Art. 100(c), 123(2), 123(3)
EPC R. 103(1)(a)

Keyword:

Grounds for opposition - added subject-matter (yes)
Amendments - added subject-matter - first, fifth, sixth
auxiliary requests (yes)
broadening of claim - second, third auxiliary requests (yes)
Reimbursement of appeal fee - (no)

Decisions cited:

T 0190/99

Catchword:



Beschwerdekammern
Boards of Appeal
Chambres de recours

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Case Number: T 0002/15 - 3.2.02

D E C I S I O N
of Technical Board of Appeal 3.2.02
of 8 October 2019

Appellant: Covidien LP
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 23 October 2014
revoking European patent No. 1496805 pursuant to
Article 101(3) (b) EPC**

Composition of the Board:

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

Summary of Facts and Submissions

- I. The patent proprietor has appealed against the Opposition Division's decision, despatched on 23 October 2014, to revoke European patent No. 1 496 805 for added subject-matter.
- II. Notice of appeal was filed on 18 December 2014. The appeal fee was paid on the same day. The statement setting out the grounds of appeal was received on 20 February 2015.
- III. Oral proceedings took place on 8 October 2019.

The appellant requested that the decision under appeal be set aside and that the patent be maintained as granted or, in the alternative, on the basis of one of the first to third, fifth and sixth auxiliary requests, all filed with letter dated 20 February 2015. The fourth auxiliary request, filed with letter dated 20 February 2015, was withdrawn.

The respondent requested that the appeal be dismissed.

- IV. **Claim 1 of the patent as granted** reads as follows:

"A surgical stapler (100, 200, 300), comprising:

an end effector (317) configured and adapted to engage tissue, the end effector including a staple cartridge assembly (318) and an anvil (320) operatively associated with the staple cartridge assembly; and
at least one micro-electromechanical system (MEMS) device ("M") operatively connected to the end effector, each of the staple cartridge assembly and

the anvil defining tissue contacting surfaces and the at least one MEMS device being operatively connected to at least one of the tissue contacting surface (318a) of the staple cartridge assembly and the tissue contacting surface (320a) of the anvil, the MEMS device including an integrated electronic system including at least one sensor for sensing the amount of pressure applied to tissue clamped between the staple cartridge assembly and the anvil and a distance between the tissue contacting surface of the staple cartridge assembly and the tissue contacting surface of the anvil, the MEMS device further including one or more electronic circuits for determining a thickness of the tissue, by computing the thickness of the tissue clamped from the known distance."

Claim 1 of the first auxiliary request corresponds to claim 1 of the patent as granted, with the exception that the wording "at least one sensor" has been replaced by "sensors".

Claim 1 of the second auxiliary request corresponds to claim 1 of the patent as granted, with the exception that the wording "at least one sensor" has been replaced by "a sensor", and that immediately before the first occurrence of the word "distance", the wording "a sensor for sensing a" has been inserted.

Claim 1 of the third auxiliary request corresponds to claim 1 of the second auxiliary request, with the exception that immediately before the first occurrence of the word "sensor" the word "first" has been inserted, and immediately before the second occurrence of the word "sensor", the word "second" has been inserted.

Claim 1 of the fifth auxiliary request corresponds to claim 1 of the first auxiliary request, with the following wording added at the end of the claim:

"which circuits comprising light producing devices and light receiving devices which known distance being determined from one of: (a) amount of light received or (b) a time between light being produced and received".

Claim 1 of the sixth auxiliary request corresponds to claim 1 of the first auxiliary request, with the following wording added at the end of the claim:

"which circuits comprising light producing devices and light receiving devices which known distance being determined from one of: (a) amount of light received or a time between light being produced and received by a processor or (b) accessing one or more look-up tables or other data structures and correlating the measured time to distance and then correlating the distance to tissue thickness".

V. The appellant's arguments, where relevant to the present decision, may be summarised as follows:

Patent as granted

The Opposition Division's conclusion that the feature "including at least one sensor for sensing the amount of pressure applied to tissue clamped between the staple cartridge assembly and the anvil and a distance between the tissue contacting surface of the staple cartridge assembly and the tissue contacting surface of the anvil" in claim 1 included added subject-matter was wrong.

The interpretation adopted by the Opposition Division, according to which the "at least one sensor" was a sensing element which could sense both pressure and distance, made no technical sense and should be ruled out, as also held in T 190/99. In view of the disclosure of the patent as a whole, the technically correct interpretation of "at least one sensor" was a sensor means which could include one unit or element to detect pressure and another unit or element to detect distance. More specifically, the at least one sensor was to be equated to the claimed MEMS device, which comprised different units to detect pressure and distance. For such a technically correct interpretation, there was ample basis in the application as originally filed, for example on page 2, lines 1 to 9; page 2, line 34 to page 3, line 1; page 3, lines 17 to 21; and page 3, line 32 to page 4, line 2. Figure 12 of the application as originally filed also included a MEMS device with both of the claimed functions.

Auxiliary requests

The amendment in claim 1 of each of the first, fifth and sixth auxiliary requests, according to which "at least one sensor" had been replaced by "sensors", was based in particular on page 3, lines 16 to 21 of the application as originally filed.

The amendment in claim 1 of each of the second and third auxiliary requests, according to which the MEMS device included two separate sensors for sensing respectively pressure and distance, complied with Article 123(3) EPC, since it did not extend the scope of protection of claim 1 of the patent as granted. The claims according to those auxiliary requests covered

only a subset of the possibilities covered by the granted claim, which were: one sensor which senses both pressure and distance, more than one sensor with each sensor sensing both pressure and distance, a sensor sensing pressure and a sensor sensing distance, and sensors sensing pressure and distance.

Reimbursement of the appeal fee

During the oral proceedings before the Opposition Division, the appellant had not been given sufficient opportunities to amend its requests or submit further requests. This amounted to a substantial procedural violation which merited the reimbursement of the appeal fee.

- VI. The respondent's arguments, where relevant to the present decision, may be summarised as follows:

Patent as granted

The application as originally filed did not disclose a sensor that can sense the two particular parameters as defined in claim 1 of the patent as granted.

The application as originally filed consistently used the word "sensor" to mean a device for sensing a single parameter and having an output indicative of that parameter. Where multiple parameters were sensed, the application as originally filed indicated that multiple sensors were employed. Accordingly, a MEMS device could include one or more of the disclosed sensors (page 3, lines 17 to 21).

Whether the application as originally filed disclosed a MEMS device configured to sense both pressure and

distance was beside the point, since claim 1 of the patent as granted required the at least one sensor to sense pressure and distance.

Auxiliary requests

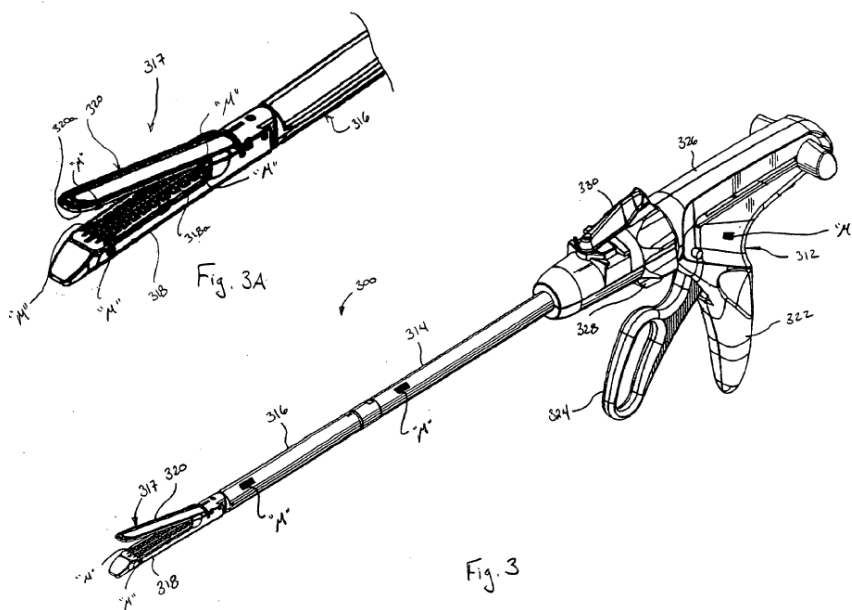
The amendment in claim 1 of each of the first, fifth and sixth auxiliary requests did not comply with Article 123(2) EPC for still containing the technical information that each of the claimed sensors could sense both pressure and distance.

The second and third auxiliary requests did not comply with Article 123(3) EPC, since in claim 1 of each of these requests it was no longer required that at least one sensor sensed both pressure and distance.

Reasons for the Decision

1. The appeal is admissible.
2. The invention

The invention relates to a surgical stapler (300) as the one depicted in Figures 3 and 3A reproduced below, with an end effector (317) for engaging tissue between a cartridge assembly (318) and an anvil (320) and then stapling that tissue together.



The end effector is operatively connected with at least one micro-electromechanical system (MEMS) device ("M") which senses the amount of pressure applied to the tissue clamped between the cartridge assembly and the anvil and the distance between these two elements.

While the presence of MEMS devices, due to their dimensions and structure, is practically no hindrance in the use of the end effector, the knowledge of the two parameters sensed can be helpful in the correct operation of the surgical stapler, as explained in paragraph [0054] of the description.

3. Patent as granted

The subject-matter of claim 1 of the patent as granted, which, to a large extent, is based on claims 1, 2 and 4 to 8, and page 12, lines 3 and 4 of the application as originally filed, is considered by the respondent and the Opposition Division as comprising added subject-matter because of its feature "the MEMS device including an integrated electronic system including at

least one sensor for sensing the amount of pressure [...] and a distance".

It is common ground that the application as originally filed disclosed MEMS devices for sensing both pressure and distance. For example, page 4, lines 29 to 34, reads:

"The MEMS devices are configured and adapted to measure distance between the tissue contacting surface of the staple cartridge assembly and the tissue contacting surface of the anvil. The MEMS devices are configured and adapted to measure at least one of the amount of pressure applied to tissue and the thickness of tissue clamped between the tissue contacting surface of the staple cartridge assembly and the tissue contacting surface of the anvil."

However, there is no literal disclosure of a single "sensor" being capable of sensing both pressure and distance.

It is therefore crucial to establish which technical information is conveyed by the disputed feature in the claim.

The Board agrees with the appellant that interpretations of claim wording which are literally correct but do not make technical sense should be ruled out. The argument that one such interpretation was the one according to which the claimed "at least one sensor" was a single sensing element able to sense both pressure and distance may have some merit. However, the Board is not convinced that the disputed feature should be so interpreted, that the claimed MEMS device equates to the "at least one sensor".

As the respondent submitted, in the application as originally filed, the term "sensor" was consistently employed for an individual entity capable of sensing one parameter. While a MEMS device could include one or more of such entities, the MEMS device was not equated to one of these entities. For example, page 3, lines 17 to 21, reads:

"The at least one MEMS device is at least one of a pressure sensor, a strain sensor, a displacement sensor, an optical sensor, a biosensor, a temperature sensor, a torque sensor, an accelerometer, a flow sensor, an electrical sensor and a magnetic sensor, for at least one of sensing, measuring and controlling the associated condition and/or parameter."

Page 11, lines 7 to 13, reads:

"MEMS devices and/or systems considered to be within the scope of the present disclosure, include, for example, MEMS sensors and/or sensor devices, actuator MEMS devices (motors, hydraulics, pumps, ultrasonic devices, etc.), fluid moving and mixing components, heaters, and diagnostic MEMS devices for measuring physiologic parameters and tissue properties..."

The description of the patent comprises passages corresponding to the ones cited just above. Hence, throughout the description a difference is made between MEMS devices and sensors. It follows that the sensor in claim 1 cannot be equated to the MEMS device. Rather, the MEMS device defines an entity and the sensor defines another entity. More precisely, the "at least one sensor" defined in claim 1 has to be interpreted as an individual sub-entity of the MEMS device. This sub-

entity must be capable of sensing both pressure and distance, possibly employing two physically distinct sensing elements, as the case may be. These distinct sensing elements, however, must belong to one and the same sub-entity.

This conveys technical information extending beyond the content of the application as originally filed, which was limited to the presence of separate sensor entities in the MEMS device whenever both pressure and distance were sensed.

It follows that the ground for opposition under Article 100(c) EPC prejudices the maintenance of the patent as granted.

4. Auxiliary requests

- 4.1 The amendment in claim 1 of each of the first, fifth and sixth auxiliary requests, according to which "at least one sensor" has been replaced by "sensors", suffers from the same deficiency.

As the respondent submitted, at least one of the technically sensible interpretations of the claim wording is that each of the claimed sensors is capable of sensing both pressure and distance.

This interpretation conveys technical information extending beyond the content of the application as originally filed, as explained under point 3 above.

Hence, the patent cannot be maintained on the basis of any of the first, fifth and sixth auxiliary requests for lack of compliance with Article 123(2) EPC.

- 4.2 For analogous reasons, the subject-matter of claim 1 of each of the second and third auxiliary requests would extend the protection conferred by the patent as granted.

As explained under point 3 above, the skilled person would interpret claim 1 of the patent as granted as requiring at least one sensor as an individual sub-entity of the MEMS device, the sub-entity being capable of sensing both pressure and distance.

This requirement is no longer present in claim 1 of each of the second and third auxiliary requests.

It follows that the patent cannot be maintained on the basis of either the second or the third auxiliary request for lack of compliance with Article 123(3) EPC.

5. Since there is no request on the basis of which the patent can be maintained, the impugned decision cannot be set aside.
6. Reimbursement of the appeal fee

The appellant requested reimbursement of the appeal fee arguing that in the first-instance proceedings it was not given sufficient opportunities to amend its requests or submit further requests. The Board notes that, in appeal, all the requests submitted by the appellant were considered and none of them was found allowable.

Under Rule 103(1) (a) EPC, a precondition for reimbursement of the appeal fee in the event of a substantial procedural violation is that the appeal must be allowable. Since, as explained above, the

appeal cannot be allowed, no reimbursement of the appeal fee can be ordered.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



D. Hampe

E. Dufrasne

Decision electronically authenticated