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Datasheet for the decision of 9 March 2011

Case Number: T 1577/08 - 3.2.02

Application Number: 98919874.2

Publication Number: 0979059

IPC: A61F 2/06

Language of the proceedings: EN

Title of invention:
Improved stent configurations

Patentee:
Boston Scientific Limited

Opponents:
01) CONOR MEDSYSTEMS
02) Biotronic SE & Co. KG

Headword:
-

Relevant legal provisions:
EPC Art. 54, 84, 123

Relevant legal provisions (EPC 1973):
-

Keyword:
"Novelty (yes, after amendments)"
"Clarity (yes)"
"Extended subject-matter (no)"

Decisions cited:
-

Catchword:
-

Case Number: T 1577/08 **-** 3.2.02

D E C I S I O N
of the Technical Board of Appeal 3.2.02
of 9 March 2011

Appellant: (Patent Proprietor)	Boston Scientific Limited The Corporate Centre Bush Hill Bay Street St. Michael (BB)
Representative:	Vossius & Partner P.O. Box 86 07 67 D-81634 München (DE)
Respondents: (Opponent 01)	CONOR MEDSYSTEMS 1003 Hamilton Court Menlo Park CA 94025 (US)
Representative:	TER MEER - STEINMEISTER & PARTNER GbR Patentanwälte Mauerkircherstrasse 45 D-81679 München (DE)
(Opponent 02)	Biotronic SE & Co. KG Woermannkehre 1 D-12359 Berlin (DE)
Representative:	Eisenführ, Speiser & Partner Anna-Louisa-Karsch-Strasse 2 D-10178 Berlin (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted 29 May 2008 revoking European patent No. 0979059 pursuant to Article 101(3)b EPC.**

Composition of the Board:

Chairman: D. Valle
Members: P. L. P. Weber
A. Pignatelli

Summary of Facts and Submissions

I. The appellant (patentee) lodged an appeal on 7 August 2008 against the decision of the opposition division posted on 29 Mai 2008 to revoke the patent for lack of novelty. The fee for the appeal was paid the same day and the statement setting out the grounds for appeal was received on 16 September 2008.

II. The following documents are relevant for the decision:

A6 = Xipolis definition of "Spirale"
A7 = Oxford Dictionary of English, 2nd edition, page 1705, comprising the definition of "spiral"
D7 = WO - A - 98/33546.

III. Oral proceedings took place on 9 March 2011.

The appellant I (patentee) requested that the decision under appeal be set aside and that the patent be maintained on the basis of the claims according to the main request or to the auxiliary requests 1 to 3 all filed with letter of 16 September 2008 or to the auxiliary requests 4 to 7 all filed with letter of 9 February 2011; the claims being accompanied by an adapted description as filed with letter of 9 February 2011, drawings as granted.

The respondent (opponent I) requested that the appeal be dismissed or auxiliarily that the case be remitted to the first instance for further prosecution in case that one of the requests will be considered to be novel.

The opponent II did not intervene in the proceedings before the Board.

IV. Claim 1 of the main request reads as follows:

"An expandable stent in the form of a generally tubular body (10), characterized in that the configuration thereof includes a plurality of spiral elements (16), each spiral element comprised of a plurality of members (13 a, b) winding about a common point, the spiral elements disposed about the body of the stent."

Claim 1 of the first auxiliary request reads as follows:

"An expandable stent in the form of a generally tubular body (10), characterized in that the configuration thereof includes annular serpentine elements (12) and a plurality of spiral elements (16) disposed about the body of the stent, each spiral element comprised of a plurality of members (13a, 13b) forming a wound structure about a common point, wherein said members (13a, 13b) are of narrower gauge than said annular serpentine elements (12)."

Claim 1 of the second auxiliary request reads as follows (additions with respect to the first auxiliary request are in bold):

"An expandable stent in the form of a generally tubular body (10), characterized in that the configuration thereof includes annular serpentine elements (12) and a plurality of spiral elements (16) disposed about the body of the stent, each spiral element comprised of a

plurality of members (13a, 13b) forming a wound structure about a common point, wherein said members (13a, 13b) are of narrower gauge than said annular serpentine elements (12) **and wherein said members unwind and undergo a straightening action upon expansion of the stent.**"

Claim 1 of the third auxiliary request reads as follows (additions with respect to the first auxiliary request are in bold):

"An expandable stent in the form of a generally tubular body (10), characterized in that the configuration thereof includes annular serpentine elements (12) **having apices** and a plurality of spiral elements (16) disposed about the body of the stent, each spiral element comprised of a plurality of members (13a, 13b) forming a wound structure about a common point, wherein said members (13a, 13b) are of narrower gauge than said annular serpentine elements (12) **and wherein said members (13a, 13b) are connected to said annular serpentine elements (12) at or proximate the apices thereof.**"

Claim 1 of the auxiliary requests 4 to 7 are derivable from the main to third auxiliary request, respectively, by adding the feature:

"**wherein the plurality of members wind in a continuous and gradually widening curve about the common point.**"

V. The appellant argued that the subject-matter of claim 1 of the main and of the first three auxiliary requests was novel. D7 did not disclose spiral elements nor a

different gauge of the spirals with respect to the serpentine elements. The elements of D7 did not undergo a straightening action upon expansion of the stent and D7 did not show connections to the annular elements proximate to the apices thereof.

The auxiliary requests four to seven were been filed in order to prevent an unfavourable interpretation of the term "spiral" which was to be expected since the communication of the Board in preparation for the oral proceedings contained no guidance for the interpretation of the term. The amendments to the claims were straightforward and could not come as a surprise for the opposed party.

Auxiliary request four was supported by the original description, was clear and was novel having regard to D7.

The respondent (opponent I) argued that claim 1 of the main and of the first three auxiliary requests was not novel.

Auxiliary requests four to seven were lately filed and there were no reason to admit them.

Furthermore the fourth auxiliary request contained extended subject-matter. It was also not clear what was meant with the wording "winding in a continuous and gradually widening curve" in claim 1 of the fourth auxiliary request. Finally claim 1 of the fourth auxiliary request was not novel having regard to D7, Figures 20A, 21 and 22.

Reasons for the Decision

1. The appeal is admissible.

2. Main request

D7 (see in particular Figures 20A, 21 and 22), discloses an expandable stent in the form of a generally tubular body (the tubular form is standard for the stents and can be seen for example in Figure 14), whereby the configuration thereof includes a plurality of spiral elements each spiral element comprised of a plurality of members winding about a common point, the spiral elements being disposed about the body of the stent.

The cited figures are of straightforward interpretation, showing a section of the stent with a periodical pattern with curved branches departing from a common central area. More particularly, looking for example at Figures 21 and 22 and considering the vertical axis called expansion axis and the horizontal axis called longitudinal axis, it can be seen that along the expansion axis there are repetitive, so to say "S" shapes joining at points 68 or 69. As explained page 13, lines 3 to 5: "In these embodiments, stent expansion is achieved by rotation of the joints 68 and 69, and by consequent straightening of the undulated or highly curved, radially oriented segments 65." Thus, upon expansion of the stent these S-shapes unwind and straighten so that they must be considered members of spiral elements winding about a common point in the sense of claim 1. It is to be noted that how much the - more or less - straight elements joining the points 68

or 69 along the longitudinal axis change their shape upon expansion of the stent, and whether these elements must also be considered to be members winding about a common point in the sense of claim 1 is of no importance for the novelty, since claim 1 only requires a plurality of spiral elements, and that each spiral element comprises a plurality of members winding about a common point. In other words the wording of claim 1 allows for the presence of other elements than members winding about a common point in each of the spiral elements.

The appellant argued that D7 did not disclose spiral elements, but spiral-like elements. The spiral elements of the invention were intended in a strict, mathematical sense, as explained in documents A6 and A7.

A6 is an excerpt from the Brockhaus Encyclopaedia and defines "Spirale" as "eine ebene Kurve, die sich um einen Punkt ... windet". A7 is an excerpt from the Oxford dictionary and defines "spiral" as "winding in a continuous and gradually widening ... curve ... around a central point".

The Board is of the view that a spiral in a mathematical sense is a line (that is a geometrical element generated by a moving point and that has extension only along the path of the point, see Merriam Webster dictionary), winding around a point (that is a geometric element that has zero dimensions and a location determinable by an ordered set of coordinates, see Merriam Webster dictionary).

Contrary to the assertion of the appellant, the patent does not claim spirals in geometrical sense since the curved branches have an extension transversal to the path of the point generating the curve and the central point has a finite extension. In the view of the Board, the patent claim on the other hand *spiral-like elements in the sense that they show a plurality of curved branches winding around a central area*. However, also D7 discloses spiral-like elements in this sense, see again Figures 20A, 21 and 22.

The appellant argued further that the purpose of the slightly bent connectors in D7 (i.e. the curved branches winding around a common point) was not to unwind during expansion of the stent but to simply rotate (see page 4 of the statement of grounds, fourth paragraph). However claim 1 of the main request does not refer to the behaviour of the connectors during expansion.

Accordingly, claim 1 of the main request is not novel.

3. Auxiliary request 1

D7, Figure 22, discloses an expandable stent in the form of a generally tubular body, whereby the configuration thereof includes annular serpentine elements (65) and a plurality of spiral elements (69) disposed about the body of the stent, each spiral element comprised of a plurality of members forming a wound structure about a common point, wherein said members are of narrower gauge than said annular serpentine elements.

For the interpretation of the term "spiral" see main request. Figure 22 is self-explaining and shows a periodical pattern made of alternate serpentine and spiral elements.

The appellant argued that the spiral elements of Figure 22 of D7 did not show a gauge narrower than the annular serpentine elements. This argument is however not convincing. Using the references of Annex 1 to the statement of grounds, the serpentine elements have the reference number 65 and they have a broader gauge (i.e.: cross-sectional size) than the spiral elements made of the elements 65a and 65b.

The appellant argued further that D7 did not say anything about any spiral element being of narrower gauge than any annular serpentine elements. D7 only discussed thickness but not gauge (see statement of grounds, page 5, last paragraph).

However, in the view of the Board, the term "gauge" has to be intended as "cross-sectional size" and corresponds to the term "thickness" referred to at page 13 of D7 with reference to Figure 22, and in this sense the claimed feature regarding the gauge difference is disclosed in D7 as explained in the preceding paragraph.

Accordingly, claim 1 of the first auxiliary request is not novel.

4. Auxiliary request 2

The additional feature that the members unwind and undergo a straightening action upon expansion of the stent is clearly known by D7, see page 13, lines 3 - 15.

The appellant argued that the purpose of the connectors of D7 was not to unwind, but simply to rotate (see again page 4 of the statement of grounds, fourth paragraph). However, the Board is of the view that the straightening of the connectors of D7 as described at page 13, line 5 of the description is in fact nothing else than the unwinding of the element which implies the rotation of the common central points.

Accordingly, claim 1 of the second auxiliary request is not novel.

5. Auxiliary request 3

The additional feature of claim 1:

"wherein said members (13a, 13b) are connected to said annular serpentine elements (12) at or proximate the apices thereof"

has to be intended in the sense that the connecting point does not lie within the distal half of the serpentine elements, see Figure 14 of the patent in suit, where part of the connecting points lies about the middle of the serpentine elements.

It follows that this feature is also disclosed in Figure 22 of D7 which shows also connecting points lying about the middle of the serpentine elements 65.

Accordingly, claim 1 of the third auxiliary request is not novel.

6. Auxiliary request 4

6.1 Auxiliary request 4 has been filed with letter of 9 February 2011 and therefore late. However, the Board decides to introduce it into the proceedings because it represents a serious attempt to overcome the main point of discussion, that is the specification of the meaning of the term "spiral". The amendment is straightforward and it does not represent an excessive burden for the other party to consider it, as conceded by the respondent during the oral proceedings.

6.2 Auxiliary request 4 contains with respect to the main request the additional feature that:

"the plurality of members wind in a continuous and gradually widening curve about the common point."

The feature is supported by the original drawings, see for example Figure 12, where the plurality of members winding in a continuous and gradually widening curve about a common point are clearly to be seen. Accordingly, the feature complies with Article 123(2) EPC.

The feature represents also a restriction of the protection sought since claim 1 of the main request

contained only the requirement that the plurality of members wound about a common point, so that the requirements of Article 123(3) EPC are met as well.

The respondent argued that the additional feature did not add anything to the claim since it was simply a clarification of the term "spiral elements" already contained in claim 1 of the main request. However, the reference in claim 1 of the main request to "spiral elements" is not equivalent to the additional feature above. According to the interpretation developed for the test of novelty of the main request (see point 2), the term "spiral element" has namely to be intended as: element comprising a plurality of curved branches winding around a central area, not necessarily in a continuous and gradually widening curve.

The feature is also clear. The expression "continuous and gradually widening curve" is self-explaining. The skilled person would find not difficulty in understanding it. Accordingly claim 1 of the fourth auxiliary request complies with Article 84 EPC.

The additional feature is not disclosed by D7. Figures 20A, 21 and 22 of D7 clearly do not show members winding in a continuous and gradually widening curve, but members having a constant curvature. Accordingly claim 1 of the fourth auxiliary request is novel having regard to the disclosure of document D7.

7. Remittal to the first instance

The decision of the first instance concerned only the novelty of the claims. Taking in consideration that the

respondent requested a remittal to the first instance in case that one of the requests was found to be novel and that the appellant did not object on this point, the Board finds it appropriate to remit the case to the first instance.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the first instance for further prosecution on the basis of the auxiliary request 4.

The Registrar: The Chairman:

D. Sauter D. Valle