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**Datasheet for the decision  
of 12 April 2016**

**Case Number:** T 1160/14 - 3.2.08

**Application Number:** 03754743.7

**Publication Number:** 1567088

**IPC:** A61F2/82

**Language of the proceedings:** EN

**Title of invention:**  
STENT WITH IMPROVED FLEXIBILITY

**Patent Proprietor:**  
Boston Scientific Limited

**Opponent:**  
Angiomed GmbH & Co. Medizintechnik KG

**Headword:**

**Relevant legal provisions:**  
EPC Art. 123(2)  
RPBA Art. 13(1), 15(1)

**Keyword:**  
Amendments - added subject-matter  
Late-filed auxiliary request

**Decisions cited:**

**Catchword:**



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

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Case Number: T 1160/14 - 3.2.08

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.08**  
**of 12 April 2016**

**Appellant:** Angiomed GmbH & Co. Medizintechnik KG  
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**Decision under appeal:** **Decision of the Opposition Division of the European Patent Office posted on 10 March 2014 rejecting the opposition filed against European patent No. 1567088 pursuant to Article 101(2) EPC.**

**Composition of the Board:**

**Chairwoman** P. Acton  
**Members:** M. Alvazzi Delfrate  
D. T. Keeling

## Summary of Facts and Submissions

I. By its decision posted on 10 March 2014 the opposition division rejected the opposition against European patent No. 1 567 088.

II. The appellant (opponent) lodged an appeal against that decision in the prescribed form and within the prescribed time limit.

III. Oral proceedings before the Board of Appeal were held on 12 April 2014. At the end of the oral proceedings the requests of the parties were the following:

The appellant requested that the decision under appeal be set aside and that the patent be revoked.

The respondent (patent proprietor) requested that the appeal be dismissed and that the opposition be rejected or, in the alternative, that the patent be maintained on the basis of one of auxiliary requests 1-3 filed on 12 December 2011 or on the basis of auxiliary request 1a filed at the oral proceedings before the Board.

IV. Claim 1 of the **main request** (patent as granted) reads as follows:

"1. A stent, comprising:  
a plurality of serpentine circumferential bands comprising alternating peaks and troughs, adjacent serpentine circumferential bands connected to one another, the serpentine circumferential bands including a first serpentine circumferential band, a second serpentine circumferential band and a third serpentine circumferential band,

the first serpentine circumferential band including high peaks and low peaks,  
the second serpentine circumferential band including high peaks and low peaks, high troughs and low troughs,  
the third serpentine circumferential band including high troughs and low troughs,  
the high peaks of the first serpentine circumferential band substantially circumferentially aligned with the low troughs of the second serpentine circumferential band and the low peaks of the first serpentine circumferential band substantially circumferentially aligned with the high troughs of the second serpentine circumferential band,  
the high peaks of the second serpentine circumferential band substantially circumferentially aligned with the low troughs of the third serpentine circumferential band and the low peaks of the second serpentine circumferential band substantially circumferentially aligned with the high troughs of the third serpentine circumferential band,

characterized in that the first serpentine circumferential band (20) includes a plurality of interlaced peaks (16), each of which is positioned between at least two troughs (18) of the second serpentine circumferential band (20) and the second serpentine circumferential band (20) includes a plurality of interlaced peaks (16), each of which is positioned between at least two troughs (18) of the third serpentine circumferential band (20)."

Claim 1 of **auxiliary request 1** differs from claim 1 of the main request in that the characterising portion reads as follows (differences in respect of the main request emphasised):

"characterized in that the first serpentine circumferential band (20) is interlaced with the second serpentine circumferential band (20) and includes a plurality of interlaced peaks (16), each of which is positioned between ~~at least~~ two high troughs (18) of the second serpentine circumferential band (20), and the second serpentine circumferential band (20) is interlaced with the third serpentine circumferential band (20) and includes a plurality of interlaced peaks (16), each of which is positioned between ~~at least~~ two high troughs (18) of the third serpentine circumferential band (20)."

Claim 1 of **auxiliary request 2** differs from claim 1 of auxiliary request 1 in that the characterising portion reads as follows (differences in respect of auxiliary request 1 emphasised):

"characterized in that the first serpentine circumferential band (20) is interlaced with the second serpentine circumferential band (20) and includes a plurality of interlaced peaks (16), each of which is positioned between two high troughs (18) of the second serpentine circumferential band (20), and the second serpentine circumferential band (20) is interlaced with the third serpentine circumferential band (20) and includes a plurality of interlaced peaks (16), each of which is positioned between two high troughs (18) of the third serpentine circumferential band (20), wherein the serpentine circumferential bands are each constructed of a repeating pattern of struts (14a, 14b, 14c) of at least three different lengths."

Claim 1 of **auxiliary request 3** reads as follows (differences in respect of auxiliary request 1 emphasised):

"1. A stent, ~~comprising~~ consisting of:  
a plurality of serpentine circumferential bands  
comprising alternating peaks and troughs, adjacent  
serpentine circumferential bands connected to one  
another, the serpentine circumferential bands including  
at least a first serpentine circumferential band, a  
second serpentine circumferential band and a third  
serpentine circumferential band, and optionally a  
plurality of longitudinal connectors connecting  
adjacent serpentine circumferential bands, the optional  
connectors extending between substantially  
circumferentially aligned peaks and troughs, the first  
serpentine circumferential band including high peaks  
and low peaks,  
the second serpentine circumferential band including  
high peaks and low peaks, high troughs and low troughs,  
the third serpentine circumferential band including  
high troughs and low troughs,  
the high peaks of the first serpentine circumferential  
band substantially circumferentially aligned with the  
low troughs of the second serpentine circumferential  
band and the low peaks of the first serpentine  
circumferential band substantially circumferentially  
aligned with the high troughs of the second serpentine  
circumferential band,  
the high peaks of the second serpentine circumferential  
band substantially circumferentially aligned with the  
low troughs of the third serpentine circumferential  
band and  
the low peaks of the second serpentine circumferential  
band substantially circumferentially aligned with the  
high troughs of the third serpentine circumferential  
band,  
characterized in that the first serpentine  
circumferential band (20) is interlaced with the  
second serpentine circumferential band (20) and

includes a plurality of interlaced peaks (16), each of which is positioned between two high troughs (18) of the second serpentine circumferential band (20), and the second serpentine circumferential band (20) is interlaced with the third serpentine circumferential band (20) and includes a plurality of interlaced peaks (16), each of which is positioned between two high troughs (18) of the third serpentine circumferential band (20)."

Claim 1 of **auxiliary request 1a** differs from claim 1 of the main request in that the characterising portion reads as follows (differences in respect of the main request emphasised):

"characterized in that the first serpentine circumferential band (20) is interlaced with the second serpentine circumferential band (20) to form ~~includes~~ a plurality of interlaced peaks (16), each of which is positioned between ~~at least~~ two troughs (18) of the second serpentine circumferential band (20), and the second serpentine circumferential band (20) is interlaced with the third serpentine circumferential band (20) to form ~~includes~~ a plurality of interlaced peaks (16), each of which is positioned between ~~at least~~ two troughs (18) of the third serpentine circumferential band (20)."

V. The arguments of the appellant can be summarised as follows:

*Main request*

The application as originally filed did not disclose the characterising features of granted claim 1.



The positioning of the interlaced peaks "between" the two troughs stipulated by claim 1 defined the circumferential arrangement of the peaks, without specifying their respective longitudinal position and without any link to them being "interlaced". In any event this feature was not an explanation of the term "interlaced". As a consequence, the expression "interlaced peaks" in the claim was open to different interpretations. For instance it could indicate that an element, such as a circumferential ribbon, joined the "interlaced" peaks. Alternatively, it could define that the peaks were disposed in an alternate way on both sides of a radius or of a circumferential line.

None of these arrangements was disclosed in the originally filed application. In claim 16 and on page 3, lines 17-19 the application disclosed interlaced bands and not interlaced peaks. Interlaced bands could be obtained without the need of interlaced peaks. For instance, the "interlaced" bands could be joined together by some kind of connector. Therefore, interlaced peaks as required by claim 1 were not disclosed in the application as originally filed.

Moreover, even taking the opposite view would not render the claim allowable because it would still represent an inadmissible intermediate generalisation. The claim did not define the number or type of the interlaced peaks, while the drawings all showed that the overlapping peaks were the totality of the highest peaks of the band. There was no basis for the omission of this feature.

*Auxiliary request 1*

The situation was not improved by auxiliary request 1, because according to its claim 1 the interlaced peaks were not necessarily the result of the interlaced bands. Hence the claimed stent comprised interlaced bands, which were originally disclosed, and interlaced peaks, which were not originally disclosed.

*Auxiliary requests 2 and 3*

The same objection applied to auxiliary requests 2 and 3, because none of them defined the "interlaced peaks" nor their relation with the interlaced bands.

*Auxiliary request 1a*

There was no justification for submitting auxiliary request 1a at this extremely late stage, because the relevant objections had already been set out in the statement of grounds of appeal. Moreover, this request introduced complex new subject-matter and would require an additional prior art search and, as a consequence, an adjournment of the oral proceedings. Finally, it failed to overcome all the objections under Article 123(2) EPC and introduced a lack of clarity because the interlacing of the bands should form interlaced peaks and troughs and not only interlaced peaks. Therefore, auxiliary request 1a should not be admitted into the proceedings.

VI. The arguments of the respondent can be summarised as follows:

*Main request*

The application as originally filed disclosed in claim 16 and on page 3, lines 17-19, that the first serpentine circumferential band is interlaced with the second serpentine circumferential band and the second serpentine circumferential band is interlaced with the third serpentine circumferential band. The term "interlaced" meant that some peaks of one band extended beyond the circumferential line where some troughs of the other band lay, so as to be positioned between said troughs, as shown in the drawings.

Exactly this arrangement was now defined in claim 1, according to which the peaks were interlaced, in the sense of positioned between the troughs, thereby providing an improved flexibility of the stent. It was clear that this positioning referred to the longitudinal arrangement of the peaks and the bands, because the circumferential arrangement was already defined in the preamble of the claim.

As to the fact that in the drawings all the highest peaks were interlaced, this was merely a preferred feature and did not need to be included in the claim.

*Auxiliary request 1*

In any event, auxiliary request 1 clarified that the interlaced peaks were the result of the interlaced bands, which were undisputedly originally disclosed. Therefore, this request complied with the requirements of Article 123(2) EPC.

*Auxiliary request 2*

Auxiliary request 2 further defined the structure of the peaks, in particular the interlaced peaks. Hence, it also met the requirements of Article 123(2) EPC.

*Auxiliary request 3*

The further features introduced in auxiliary request 3 were not intended to address the Article 123(2) EPC objections but rather novelty and inventive step.

*Auxiliary request 1a*

Auxiliary request 1a was filed as a reaction to the discussion at the oral proceedings. The communication sent by the Board together with the summons did not state that auxiliary request 1 was not allowable, but merely that it might be considered. Therefore, the respondent had received no guidance that this request might not comply with the requirements of Article 123(2) EPC, rendering a further amended request necessary. Moreover, this request was not complex, did not require a further search and appeared to overcome all the formal objections. Hence, it should be admitted into the proceedings.

**Reasons for the Decision**

1. Main request
- 1.1 According to claim 1 as granted the first serpentine circumferential band includes a plurality of interlaced

peaks, each of which is positioned between at least two troughs of the second serpentine circumferential band and the second serpentine circumferential band includes a plurality of interlaced peaks, each of which is positioned between at least two troughs of the third serpentine circumferential band.

It is undisputed that this arrangement is not *verbatim* disclosed in the application as originally filed. Hence, in order to assess the allowability of the main request in view of Article 100(c) EPC, it must be established which features are defined by the wording in question (see following point 1.2) and whether or not these features are disclosed, albeit with a different wording, in the application as originally filed (see following point 1.3).

- 1.2 The preamble of present claim 1 defines that the high peaks of the first serpentine circumferential band are substantially circumferentially aligned with the low troughs of the second serpentine circumferential band and the low peaks of the first serpentine circumferential band are substantially circumferentially aligned with the high troughs of the second serpentine circumferential band (a corresponding condition is defined also for the high and low peaks of the second band). In this way, the preamble of the claim defines the circumferential position of the high and low peaks of the first band, which have to be positioned in such a way as to be longitudinally on substantially the same line as the low and high troughs of the second band. As a consequence, the feature that each of the "interlaced peaks" of the first band is positioned between at least two troughs of the second serpentine circumferential band cannot be understood to refer to the circumferential position, as this would result in a

repetition of what is already defined in the preamble of the claim. Rather, the Board concurs with the respondent that the positioning of the "interlaced" peaks "between" the troughs should be understood to define their longitudinal position, stipulating that the "interlaced" peaks extend beyond the circumference where the apices of at least two troughs lie.

However, contrary to the respondent's opinion, the wording of the claim does not present the positioning of the peaks "between" the troughs as an explanation of the expression "interlaced peaks". As a matter of fact, the claim does not even require the term "interlaced" to relate to the longitudinal positioning of the peaks. Accordingly, the expression "interlaced peaks" does not need to be interpreted as meaning that the peaks are positioned between two troughs of the adjacent band. Rather, this expression can define further possible configurations.

For instance it can be interpreted in accordance with the normal meaning of "interlaced" as joined together by crossing as if woven: namely to indicate that some kind of further structural element, for instance a circumferential ribbon, joins the interlaced peaks. Alternatively, another possible interpretation could be that the peaks are disposed in an alternate way on both sides of a radius or of a circumferential line, as shown in points 1.1 and 1.2 of the appellant's letter of 10 March 2016, so that they are somewhat "interlaced" with said lines.

As explained hereafter, none of these further possible configurations is disclosed in the application as originally filed.

1.3 In the application as originally filed the term "interlaced" is used only in claim 16 and on page 3, lines 17-19. These passages disclose that the first serpentine circumferential band is interlaced with the second serpentine circumferential band and the second serpentine circumferential band is interlaced with the third serpentine circumferential band. Accordingly, they do not mention "interlaced peaks" but merely bands interlaced with each other.

As to the drawings, they do not show stents where the peaks are woven together with other elements, i.e. "interlaced" in the usual meaning of this term. Instead they depict stents wherein the highest peaks extend beyond the circumferential line where the high troughs lie, so as to be positioned between said troughs. This is, according to the respondent, the meaning of the term "interlaced" in the context of the application.

1.4 However, as explained above, the wording "interlaced peaks" in the context of granted claim 1 can also be understood to describe further possible configurations, which are not disclosed in the application as originally filed. As a consequence, already for this reason, claim 1 of the main request comprises subject-matter that extends beyond the content of the application as originally filed.

1.5 Additionally, even if, for the sake of argument, it would be accepted that the "interlaced peaks" of the first band of claim 1 were to be understood as the peaks positioned between two troughs of the second serpentine circumferential band (as shown in the drawings), claim 1 would still not be allowable, as explained hereafter.

While the claim does not specify the number or the nature of the "interlaced" peaks, the drawings consistently show stents where the peaks positioned between the troughs of the adjacent band are all the highest peaks. This omitted feature is essential for achieving the object of avoiding interference (page 1, lines 8-15). Hence, its omission would represent an inadmissible intermediate generalisation, resulting in subject-matter that extends beyond the content of the application as originally filed.

2. Auxiliary request 1

According to claim 1 of auxiliary request 1 the first serpentine circumferential band is interlaced with the second serpentine circumferential band and includes a plurality of interlaced peaks.

Contrary to the respondent's view, this wording does not specify that the interlaced peaks are the result of the interlaced bands (which were disclosed in the application as originally filed). Rather, the claim introduces interlaced bands and interlaced peaks as two separate features. Since as explained above said interlaced peaks can define an arrangement that was not originally disclosed, auxiliary request 1 is also at odds with the requirements of Article 123(2) EPC.

3. Auxiliary request 2

Auxiliary request 2 introduces the feature according to which the serpentine circumferential bands are each constructed of a repeating pattern of struts of at least three different lengths. This feature further defines the geometry of the bands in a way that allows the formation of high and low peaks (see Figure 1a) but



do not add any information as to the nature of the "interlaced peaks". Therefore, auxiliary request 2 is not allowable for the same reasons given for auxiliary request 1.

4. Auxiliary request 3

As recognised by the respondent itself, auxiliary request 3 does not change the situation in respect of the definition of the "interlaced peaks". Accordingly, it is not allowable in view of Article 123(2) EPC either.

5. Auxiliary request 1a

Auxiliary request 1a was filed at the oral proceedings before the Board. Hence, it is within the discretionary power of the Board to admit it or not into the proceedings. This discretion is exercised, in accordance with Article 13 (1) RPBA, 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.

In the present case the Board considers that auxiliary request 1a, being mostly based on auxiliary request 1 already on-file, neither introduces new complex subject-matter nor would require an additional prior art search and, as a consequence, an adjournment of the oral proceedings.

However, all the reasons why, in the appellant's view, auxiliary request 1 does not comply with the requirements of article 123(2) EPC were not raised for the first time at the oral proceedings, but at the very beginning of the appeal proceedings, namely in the

statement of grounds of appeal (point 1.4.1). Nor could the respondent gain the impression that auxiliary request 1 did not present any problem under Article 123(2) EPC from the communication sent together with the summons by the Board. In this context it is pointed out that the purpose of the communication according to Article 15(1) RPBA, which is not mandatory, is merely to draw attention to matters which seem to be of special significance. In any event, in the present case the communication of the Board certainly did not indicate that auxiliary request 1 was seen as allowable, but merely that it might be considered. Despite these facts and notwithstanding that the disclosure of "interlaced peaks" was clearly a critical issue for all the requests, the respondent did not see fit to file any new request in the written phase of appeal proceedings to address this point. Hence, no justification can be seen for delaying the submission of this request until an advanced phase of the oral proceedings.

Moreover, it is not apparent that this request could overcome all the Article 123(2) EPC objections (see point 1.5 above) and it introduces additional clarity issues since the interlacing of the bands is actually caused by the interlacing of peaks and troughs and not of the peaks alone.

Under these circumstances the submission at this late stage of auxiliary request 1a cannot be in the sense of an efficient conduct of the proceedings. Therefore, the Board decided not to admit it into the proceedings.

**Order**

**For these reasons it is decided that:**

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairwoman:



T. Buschek

P. Acton

Decision electronically authenticated