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**Datasheet for the decision  
of 17 January 2018**

**Case Number:** T 1733/14 - 3.2.08

**Application Number:** 04777891.5

**Publication Number:** 1691741

**IPC:** A61F9/01, G02C7/04

**Language of the proceedings:** EN

**Title of invention:**

APPARATUSES FOR ALTERING RELATIVE CURVATURE OF FIELD AND  
POSITIONS OF PERIPHERAL, OFF-AXIS FOCAL POSITIONS

**Patent Proprietor:**

VISION CRC LIMITED

**Opponent:**

CooperVision, Inc

**Headword:**

**Relevant legal provisions:**

EPC Art. 84

**Keyword:**

Claims - clarity after amendment (no)

**Decisions cited:**

G 0003/14

**Catchword:**



**Beschwerdekammern**  
**Boards of Appeal**  
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Case Number: T 1733/14 - 3.2.08

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.08**  
**of 17 January 2018**

**Appellant:** CooperVision, Inc  
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**Decision under appeal:** Interlocutory decision of the Opposition  
Division of the European Patent Office posted on  
24 June 2014 concerning maintenance of the  
European Patent No. 1691741 in amended form.

**Composition of the Board:**

**Chairwoman** P. Acton  
**Members:** C. Herberhold  
Y. Podbielski

## **Summary of Facts and Submissions**

- I. By decision posted on 24 June 2014 the Opposition Division decided that European patent No. EP-B-1 691 741, account being taken of the amendments made during the opposition proceedings, met the requirements of the EPC.
- 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 took place on 17 January 2018. For further details thereof, in particular the issues discussed with the parties and the parties' initial requests, reference is made to the minutes of the oral proceedings.
- IV. At the end of the oral proceedings the requests of the parties were as follows:  
  
The appellant requested that the decision under appeal be set aside and the patent be revoked.  
  
The respondent (proprietor) requested that the appeal be dismissed.
- V. Claim 1 of the main request (corresponding to claim 1 of the auxiliary request found by the Opposition Division to meet the requirements of the EPC) reads as follows:

"An ocular system (438) for application to a myopic eye, the eye having relative positive curvature of field, wherein the ocular system is a contact lens comprising:

a predetermined corrective factor to control the forward-backward positions of the peripheral off-axis focal points ~~of the eye~~ (433) relative to the central on-axis focal point ~~of the eye~~ (441) to produce at least one substantially corrective stimulus to ~~an~~ the eye (436) to alter eye growth; wherein the control of positions of peripheral focal points (433) is effected while simultaneously controlling the forward-backward position of the central on-axis focal point (441) near to the retina (444), and substantially simultaneously providing clear visual images; said ocular system (438) maintaining substantial axial alignment with said eye (436);

**characterized in that:**

said control of peripheral focal points (433) is effected to focus the peripheral off-axis focal points (433) anterior ~~or posterior~~ to the retina (444)."

Amendments with respect to claim 1 as granted are underlined or ~~striked through~~.

VI. The following document is mentioned in the present decision:

D30: Seidemann et al., "Peripheral refractive errors in myopic, emmetropic, and hyperopic young subjects", J. Opt. Soc. Am. A, Vol. 19, No. 12 (December 2002);

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

Even if the Board considered the feature "for application to a myopic eye, the eye having relative positive curvature of field" limiting on the structural features of a contact lens, the term "the eye having relative positive curvature of field" would be unclear.

Firstly, there were different methods of measuring curvature of field, either by best-fit of wavefront sensor data with Zernike polynomials in order to determine the Z02 "curvature" coefficient (see paragraphs [0112] and [0125] of the patent) or by measuring the relative location of peripheral image points using a refractometer (see paragraph [0068]).

When using a refractometer, it was furthermore unclear how to measure the peripheral image points as to e.g. how many such points to measure, in which part of the eye and at which field angles. This was, however, of paramount importance, because - see in this respect D30, page 2366, Figure 2, A and the patent Figure 12b-d - human eyes typically showed partly positive and partly negative relative curvature in different parts of the eye. Where to measure such points thus led to different results with respect to the eyes having either relative positive curvature of field or relative negative curvature of field or mixed curvature of field.

Indeed, up to the day of the oral proceedings it was part of the respondent's case that eyes with mixed curvature could not be considered as having relative positive curvature of field (see point 4.6.13 of the submission dated 30 July 2015). On the day of the oral

proceedings, the respondent announced that it now took the view that they could.

Therefore, obviously, the term was unclear. As the amended features were intertwined with the rest of the claim's features, the amendments further aggravated the pre-existing lack of clarity of the granted claim.

Even if the term "positive relative curvature of field" was considered as being not limiting on the structural features of a contact lens, it had to be clear.

Hence, claim 1 as maintained by the Opposition Division did not fulfil the requirements of Article 84 EPC.

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

Relative curvature of field was a concept well understood and established in the relevant art. This was not changed by the fact that it could be determined and described in different ways or with different accuracy. The situation was comparable to the concept of a geographical position, which could likewise be expressed in different coordinate systems, using higher or lower accuracy and different measurement means.

With respect to the eye shown in Figure 12a-d of the patent, which had different relative curvature of field in different regions, this eye qualified as "an eye having relative positive curvature of field" because it had stimulus for elongation. While it was true, that the above assessment differed from the one taken by the respondents in their submission dated 30 July 2015, it was what clearly transpired from the overall disclosure of the patent. The essential teaching of the patent was

that, as long as there were peripheral off-axis focal points posterior to the retina, these needed to be brought anterior. An eye having such posteriorly located focal points was an eye suitable to be treated by bringing these points anteriorly, and thus an eye having positive relative curvature of field. The situation was comparable to cancer diagnostics, where a single biopsy detecting cancerous cells in a particular part of the body allowed the conclusion that the body as a whole suffered from cancer.

Moreover, the concept of "relative curvature of field" was also defined in the patent specification, which further taught ways of measuring the curvature of field (see paragraphs and [0068], [0070] and [0125]). The term was thus clear.

Even if the term "relative positive curvature of field" was found to be tainted by some ambiguity, this did not influence the definition in the claim, because the term anyway imposed no limitation on the claimed contact lens. In fact, the normal high street practitioner could not and would not test curvature of field. Being a property normally unknown to the practitioner, the definition of the eye's relative positive curvature of field thus did not affect the definition of the matter for which protection was sought.

Consequently, the claim fulfilled the requirements of Article 84 EPC.



## Reasons for the Decision

1. Clarity
  - 1.1 According to G 3/14 (OJ 2015, 102), in considering whether, for the purposes of Article 101(3) EPC, a patent as amended meets the requirements of the EPC, the claims of the patent may be examined for compliance with the requirements of Article 84 EPC only when, and then only to the extent that the amendment introduces non-compliance with Article 84 EPC.
  - 1.2 Thus, as accepted by both parties, in particular the term "the eye having relative positive curvature of field", which has been introduced into the claims during opposition proceedings and which was not present in any of the claims as granted, may be examined for compliance with the requirements of Article 84 EPC.
  - 1.3 With respect to that feature, the Board is confronted with two different interpretations set out below, both of which had been put forward by the respondent:
    - 1.3.1 First interpretation (respondent's letter, dated 30 July 2015, point 4.6.12):

"The skilled person is aware that the retina, being a curved surface, can be described by a shape having a certain degree of curvature. Similarly the native optics of the eye will focus an image onto an imaginary curved image surface, which itself has its own curvature. The term "relative positive curvature of field", as used in the patent, describes the relationship between these two curved surfaces and their degrees of curvature. A surface that is more curved, i.e. more concave than the retina, has relative

negative curvature of field. One which is less curved (i.e. less concave, or flat, or convex when compared to the concave retina) has relative positive curvature of field."

In this interpretation, a "global" approach to curvature is taken: compared are the retina and the image surface, not only sub-regions of these surfaces.

As a consequence, according to the first interpretation, "in cases where there is mixed curvature, i.e. both positive and negative curvature, as the Appellant has sought to focus on, the skilled person will not understand this to be an eye with relative positive curvature of field. In cases where the curvature is ambiguous, then again this will not be an eye with relative positive curvature of field" (see point 4.6.13 of the submission dated 30 July 2015).

It is noted that the respondent sought to introduce a declaration by an expert in the field who supported this interpretation, thereby putting considerable weight thereon.

1.3.2 Second interpretation (put forward during oral proceedings before the Board)

During oral proceedings the meaning of the term "relative positive curvature of field" was discussed with respect to eyes having mixed curvature of field, such as the eye discussed with respect to Figures 12a-d of the patent. In this eye (patent, paragraph [0113]), due to the presence of asymmetric aberrations including astigmatism and coma, the relative curvature of field differs for the different half-meridians (see Figure

12c for the upper vertical half-meridian vs. Figure 12d for the lower vertical half-meridian).

The respondent argued during the oral proceedings, that this eye exhibited relative positive curvature of field, because it had stimulus for axial elongation and eyeball growth leading to myopia development due to the presence of peripheral image points being located behind, i.e. posterior the retina (as e.g. shown in Figure 12b and d). In this interpretation, the presence of peripheral image points posterior of the retina in only a sub-part of the image surface suffices to qualify the eye as "an eye having relative positive curvature of field". Compared to the above discussed "global" approach, this can be thought of as a more "local" approach to the definition of relative curvature of field. Or, to put it in the words of the respondent: "It is like with cancer: if you find cancer cells in one part of the body, the whole body has cancer".

Following the second interpretation, the respondent concludes that eyes with mixed curvature of field, i.e. both positive and negative curvature (such as the eye shown in Figures 12 a-d of the patent), qualify as being an eye with relative positive curvature of field, because they have stimulus for elongation.

1.4 With respect to the second interpretation, it is noted that the "cancer-analogy" is not convincing.

It is correct that a single negative biopsy (i.e. a biopsy in which no cancer cells can be detected) cannot lead to the conclusion that there is no cancer. However, in an eye having mixed curvature of field, there are sub-parts of the image surface with

peripheral image points posterior to the retina, just as there are sub-parts of the image surface with peripheral image points anterior to the retina.

The former points provide - as argued by the respondent - stimulus for axial elongation and eyeball growth leading to myopia development. However, the latter points simultaneously provide stimulus for axial shortening of the eyeball leading to presbyopia development. Applying the second interpretation in a symmetric way with respect to the definition of "relative positive curvature of field" and "relative negative curvature of field", the local finding of points anterior would suffice to qualify the eye as "an eye having relative negative curvature of field", whereas the local finding of points posterior would suffice to qualify the eye as "an eye having relative positive curvature of field". Different from what is the case in cancer diagnostics, the second interpretation is thus intrinsically inconsistent.

- 1.5 The two interpretations of the term lead to different results as to whether a contact lens was "for application to a myopic eye, the eye having mixed curvature of field".

In the first interpretation a contact lens, which is specifically customized for an eye having mixed curvature of field (as e.g. the lens of Figure 12f-h), will not be "for application to a myopic eye having relative positive curvature of field" and thus will not fall under the matter for which protection is sought. Conversely, in the second interpretation it will.

1.6 A party is of course not estopped from changing its interpretation of a claim feature. However, if clarity of that very feature is under debate, proposing two different interpretations, which lead to different results as to the matter for which protection is sought, immediately raises concerns as to whether that feature can be considered clear.

In the present case, for a conclusion that the claim was clear, the Board would have to follow one of the two interpretations. The question in this context is not whether the Board is more convinced by one interpretation over the other. The question is whether the person skilled in the art would clearly understand that the term can only be interpreted in one way, namely according to the first or the second interpretation.

The Board answers this question in the negative. In doing so, it cannot simply ignore the previous submissions made by the respondent on the issue of the interpretation of the relevant term for they seem pertinent to the issue of clarity. Thus, when the respondent put forward his second interpretation, he cast sufficient doubt on the first one for the Board to conclude that the person skilled in the art would not clearly understand the term according to the first interpretation.

The Board also concludes that the person skilled in the art would not clearly understand the term according to the second interpretation. One reason for this conclusion is outlined in point 1.4 above. In addition, the respondent's previous arguments in favour of the first interpretation have cast doubt on the second interpretation.

Thus, from the different submissions, it can only be concluded that the term "the eye having positive relative curvature of field" introduced into the claim during opposition proceedings is not clear and does not (clearly) define the matter for which protection is sought.

The amended term thus introduces a violation of the requirements of Article 84 EPC.

2. The respondent has argued that clarity of the term did not play a role because the feature was anyway non-limiting.

However, Article 84 EPC requires claims to be clear, no matter whether the particular feature is limiting or not. This may be relevant with respect to the feature's possible omission. It does, however, not change the above finding that the amendment does not fulfil the requirements of Article 84 EPC.

## Order

### For these reasons it is decided that:

1. The decision of the Opposition Division is set aside.
2. The patent is revoked.

The Registrar:

The Chairwoman:



C. Moser

P. Acton

Decision electronically authenticated