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Datasheet for the decision of 20 September 2018

Case Number: T 0715/13 - 3.5.04

Application Number: 06757934.2

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Language of the proceedings: EN

Title of invention:
STEREOPROJECTION SYSTEM

Applicant:
ARSENICH, Svyatoslav Ivanovich

Headword:

Relevant legal provisions:
EPC 1973 Art. 84
RPBA Art. 13(1)

Keyword:
Claims - clarity - main request (no)
Late-filed auxiliary requests - admitted (no)

Decisions cited:

Catchword:

Europäisches Patentamt
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Case Number: T 0715/13 - 3.5.04

D E C I S I O N
of Technical Board of Appeal 3.5.04
of 20 September 2018

Appellant: (Applicant)	ARSENICH, Svyatoslav Ivanovich Pr-t Jubileiny 1-204 Reutov, Moskovskaya obl., 143965 (RU)
Representative:	Bucher, Ralf Christian Patentanwalt Dipl.-Ing. Alte Landstraße 23 85521 Ottobrunn (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 11 October 2012 refusing European patent application No. 06757934.2 pursuant to Article 97(2) EPC**

Composition of the Board:

Chairman	C. Kunzelmann
Members:	B. Willems
	T. Karamanli

Summary of Facts and Submissions

I. The appeal is against the decision of the examining division dated 11 October 2012 refusing European patent application No. 06 757 934.2 pursuant to Article 97(2) EPC. The application was published under Article 153(4) EPC as EP 2 061 261 A1.

II. The documents cited in the decision under appeal included the following:

D1: RU 2 221 350 C2;

D7: US 2002/186348 A1.

III. The application was refused on the grounds that claims 1 to 17 of the then sole request did not meet the requirements of Article 84 EPC, the subject-matter of claim 1 lacked inventive step over the combined disclosures of D1 and D7 (Article 56 EPC), the subject-matter of claims 18 and 19 extended beyond the disclosure of the application as filed (Article 123(2) EPC) and the amendments made to claims 18 and 19 did not meet the requirements of Rule 137(5) EPC. Separate independent claims 1 and 18 were found not to be allowable under Rule 43(2) EPC.

IV. The applicant filed notice of appeal requesting that the examining division's decision be set aside. In the statement of grounds of appeal, the appellant requested the grant of *"a patent based on the enclosed amended description pages 1 to 27, the drawing sheets 1-3 as originally filed, and the enclosed new claims 1-6*". He indicated a basis (in the application as filed with entry into the regional phase before the EPO) for the claimed subject-matter and provided arguments as to why

the amended claims were clear and met the requirements of Articles 54 and 56 EPC and Rule 137(5) EPC.

V. The board issued a summons to oral proceedings. In a communication under Article 15(1) RPBA (Rules of Procedure of the Boards of Appeal, OJ 2007, 536), annexed to the summons, the board gave its provisional opinion that claim 1 *inter alia* contained a feature defined by a result to be achieved which essentially corresponded to the problem underlying the application, and the remaining features did not comprise all essential features necessary for achieving that result (Article 84 EPC 1973).

VI. With the letter dated 20 August 2018, the appellant replied to the board's communication. However, he did not address the objection raised by the board under Article 84 EPC 1973.

VII. Oral proceedings before the board were held on 20 September 2018.

The appellant confirmed his final requests as follows:

It is requested that the decision under appeal be set aside and that a European patent be granted on the basis of the claims according to the main request filed as sole request with the statement of grounds of appeal or, in the alternative, according to auxiliary request 1 or auxiliary request 2 as filed during the oral proceedings of 20 September 2018.

At the end of the oral proceedings, the chairman announced the board's decision.

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

"A stereoscopic projection system for glasses free viewing of horizontal stereo pairs images on a screen comprising
a reflecting and focusing stereoscreen (1),

a stereoprojector (6) for projection of stereopair frame images, and

a tracking system (3, 4) for monitoring of the eyes and the pupils of the eyes of a viewer,

characterized in that

the stereoprojector (6) is adapted for convergence of the projection optical axes with consideration of the viewers' ocular convergence and ocular focal points,

a video corrector (11) is provided to correct displacements of the frame centers of the projected stereopair frame images by optimal stereobases for harmonizing of horizontal parallaxes with the viewers' ocular focal points and viewers' ocular convergence,

and the tracking system (3, 4) is connected with the video corrector and adapted to perform a continuous monitoring of position data of the eyes of the viewer to determine exact coordinates of the eyes and pupils of the eyes for determining the viewers' ocular convergence and ocular focal points."

IX. Claim 1 of the first and second auxiliary requests reads as follows (additions in claim 1 of the second auxiliary request are in *italics*):

"A stereoscopic projection system for glasses free viewing of horizontal stereo pairs images on a screen comprising

a reflecting and focusing stereoscreen (1),

a stereoprojector (6) for projection of stereopair frame images, and

a tracking system (3, 4) for monitoring of the eyes and the pupils of the eyes of a viewer,

characterized in that

the stereoprojector (6) is adapted for convergence of the projection optical axes with consideration of the viewer's ocular convergence and ocular focal points,

an electronic and optical video corrector (11) for correction of stereobase, scales and geometrical parameters of the projected stereopair frame images inside the stereoprojector is provided to correct displacements of the frame centers of the projected stereopair frame images by optimal stereobases for harmonizing of horizontal parallaxes with the viewer's ocular focal points and viewer's ocular convergence, wherein the video corrector is connected to a unit for forming the projected stereopair frame images in the stereoprojector, *and wherein the video corrector (11) is adapted to correct displacements of the frame centers projected on the stereoscreen (1) by correcting a displacement between projection optical axes of the stereoprojector (6) and the angle of convergence between the projection optical axes with consideration of the viewer's ocular convergence and focal points,*

and the tracking system (3, 4) is connected with the video corrector and adapted to perform a continuous monitoring of position data of the eyes of the viewer to determine exact coordinates of the eyes and pupils of the eyes for determining the viewer's ocular convergence and ocular focal points."

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

(a) It was the quintessence of the present application that the angle of convergence of the visual axes of the viewer's eyes and the focal point were determined by the tracking system and used to optimally project the stereoscopic image for comfortable viewing. This had been clearly explained in the statement of grounds of appeal on pages 4 and 5. How to actually carry out the necessary corrections related to implementation details which need not be claimed.

(b) Amended claim 1 of the first auxiliary request addressed the objections set out in the board's communication under points 3.2, 5.3 and section 4. For instance, claim 1 had been amended to correct the erroneous reference to "viewers'" (plural).

(c) The amendments to claim 1 of the first auxiliary request were based on claim 1 as originally filed and the English translation of the application filed upon entry into the regional phase before the EPO, page 5, second full paragraph. The features disclosed in this paragraph were partly mentioned in original claim 1.

(d) Since there was only one party in *ex parte* proceedings, no other party could be surprised by amendments based on features taken from the description.

(e) The complexity of claim 1 of the first and second auxiliary requests resulted from the intricate description of a multitude of embodiments.

(f) The amendments made to claim 1 of the second auxiliary request were derived from pages 4 and 5 of the statement of grounds of appeal. Some of the features were present in original claim 1. The person skilled in the art knowledgeable about stereoscopic projection systems could easily ascertain that the subject-matter of claim 1 of the second auxiliary request was disclosed in the application as filed.

(g) Only during the oral proceedings did the appellant understand the exact nature of the objection set out in the board's communication, points 5.4 and 5.5. Auxiliary request 2 was filed in reaction to the discussion of this objection.

(h) The representative only received instructions from the appellant at a very late stage and the appellant was a private inventor.

Reasons for the Decision

1. The appeal is admissible.

2. *The invention*

2.1 The present application concerns a stereoscopic projection system which provides "*full comfort stereo viewing*" for the viewer (see the part of the description headed "Disclosure of Invention"). As discussed on pages 4 and 5 of the statement of grounds of appeal, the improved comfort (compared to prior-art stereoscopic projection systems) is essentially achieved by means of an eye tracking system in combination with a video corrector of the stereo projector, which allow the viewer to view as usual, in particular, to look at a focal point.

2.2 The application discusses a multitude of embodiments ranging from stereoscopic projection systems intended for cinemas (as illustrated in figure 1) via systems intended for a desk or a bed (as illustrated in figures 3 and 10) or for a portable notebook (as illustrated in figure 11) to head-mounted systems (as illustrated in figures 12 and 13). It also discusses several types of projectors (figures 6 to 8) and stereoscreens (figure 14).

3. *Main request - clarity (Article 84 EPC 1973)*

3.1 According to established case law, Article 84 EPC 1973 has to be interpreted as meaning not only that a claim must be comprehensible from a technical point of view, but also that it must define all the essential features of the invention. All features which are necessary for

solving the technical problem with which the application is concerned have to be regarded as essential features. If an independent claim contains a feature defined by a result to be achieved which essentially corresponds to the problem underlying the application, the remaining features of the claim have to comprise all essential features necessary for achieving that result (see Case Law of the Boards of Appeal of the European Patent Office, 8th edition 2016, II.A.3.2).

3.2 Claim 1 specifies:

"*a video corrector (11) is provided to correct displacements of the frame centers of the projected stereopair frame images by optimal stereobases for harmonizing of horizontal parallaxes with the viewers' ocular focal points and viewers' ocular convergence*".

3.3 In view of the application and the appellant's submissions (see also point 2.1 above), the correction of the displacements of the projected stereopair frame images with consideration of the viewers' ocular convergence and ocular focal points, as specified in claim 1, defines a result to be achieved which corresponds to the problem of harmonising horizontal parallaxes with viewers' ocular convergence and viewers' ocular focal points (see also point X(a) above). Hence, the claimed correction of the displacements simply restates the definition of the problem underlying the application.

3.4 However, the remaining features of claim 1 do not comprise all essential features necessary for achieving the claimed result.

3.4.1 The board has not been persuaded that establishing which system parameters were essential to carry out the necessary corrections relates to implementation details, such as an algorithm, which need not be specified in the claim (see point X(a) above).

3.4.2 In contrast to the appellant's submissions on pages 4 and 5 of his statement of grounds of appeal, claim 1 does not suggest how to adjust the displacement and the angle of convergence ß2 between the projection axes of the lenses taking into account the focal point C1 and the angle of convergence ß1 of the optical axes of the viewer's eyes (see point X(a) above). What is more, on pages 4 and 5, the appellant only mentions two adjustable system parameters, i.e. the displacement and the angle of convergence ß2, without specifying their exact relationship with the focal point C1 and the angle of convergence ß1. Details of the adjustment of these projector parameters are not discussed either.

3.4.3 In the particular example depicted in the figure on page 4 of the statement of grounds of appeal, it is essential to determine the curvature of the mirror (corresponding to the stereoscreen in claim 1) to establish the relationship between the angles ß1 and ß2.

In general, however, depending on the particular embodiment, different parameters may be essential for configuring the system so that it allows comfortable viewing. Thus, in view of the multitude of embodiments envisaged, the claim does not specify which different parameters are essential to configure the system for comfortable viewing of a stereoscopic image.

3.4.4 The above considerations also apply if the reference to "*viewers' ocular focal points and viewers' ocular convergence*" is considered to be an error in the claim which, when construed correctly, refers to a single viewer.

3.5 In view of the above, the board concludes that claim 1 of the main request does not meet the requirements of Article 84 EPC 1973.

4. *First auxiliary request – admission into the appeal proceedings (Article 13(1) RPBA)*

4.1 Under Article 13(1) RPBA, any amendment to a party's case after it has filed its statement of grounds of appeal may be admitted and considered at the board's discretion. The discretion is to be exercised 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.

4.2 Although Article 13(1) RPBA does not list an exhaustive set of criteria the board should consider when exercising its discretion, the board finds that neither receiving instructions at a very late stage nor the fact that the appellant is a private inventor are applicable criteria (see also point X(h) above).

4.3 The first auxiliary request was submitted at the beginning of the oral proceedings, before any discussion of the objections raised against the main request. Therefore, the amendments could only be intended to address the objections set out in the board's preliminary opinion (see also point X(b) above), and the first auxiliary request should have been submitted prior to the oral proceedings.

4.4 The appellant indicated original claim 1 and page 5 of the English translation of the application filed upon entry into the regional phase before the EPO as a basis for individual features or phrases added to claim 1 of the main request (see point X(c) above). Claim 1 relates to a new combination of features taken from different parts of the originally filed description and claims, and the appellant only indicated separate bases for some of the individual features or phrases. Therefore, irrespective of the fact that no other party could have been "surprised" by this new combination of features (see also point X(d) above), the board would have to assess on the basis of the appellant's fragmentary and incomplete indication of a basis whether the subject-matter of claim 1 of the first auxiliary request is directly and unambiguously derivable from an intricate disclosure of a multitude of embodiments (see also point X(e) above).

4.5 Summarizing, the amendments to the appellant's case give rise to complex new issues relating to the question whether the claimed subject-matter is directly and unambiguously derivable from the disclosure of the description, claims and drawings as filed.

4.6 In view of the above, the board exercised its discretion under Article 13(1) RPBA and decided not to admit the first auxiliary request into the appeal proceedings.

5. *Second auxiliary request - admission into the appeal proceedings (Article 13(1) RPBA)*

5.1 The second auxiliary request was filed for the first time during the oral proceedings, after the discussion

relating to the first auxiliary request. Hence, it was filed at a very late stage of the appeal proceedings.

5.2 The board's communication contained a detailed explanation of the objection raised under Article 84 EPC 1973. During the oral proceedings, the board essentially repeated this explanation. Therefore, the discussions at the oral proceedings cannot be considered as having caused the submission of the second auxiliary request as the appellant argued (see point X(g) above).

5.3 Claim 1 of the second auxiliary request is based on claim 1 of the first auxiliary request. Even though individual phrases or expressions can be found in original claim 1, the board does not agree with the appellant that the person skilled in the art could easily ascertain that the subject-matter of claim 1 of the second auxiliary request was disclosed in the application as filed (see point X(f) above). Since the appellant only gave a fragmentary and incomplete basis for the features added to claim 1 of the second auxiliary request, these features increase even further the complexity of the question raised with respect to the first auxiliary request, i.e. whether the claimed subject-matter is directly and unambiguously derivable from the disclosure of the description, claims and drawings as filed (see point 4.5 above).

5.4 In view of the above, the board exercised its discretion under Article 13(1) RPBA and decided not to admit the second auxiliary request into the appeal proceedings.

6. Since none of the appellant's requests is allowable, the appeal is to be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

K. Boelicke C. Kunzelmann

Decision electronically authenticated