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Datasheet for the decision of 7 December 2023

Case Number: T 0777/21 - 3.2.01

Application Number: 11184483.3

Publication Number: 2407041

IPC: A42B3/22

Language of the proceedings: EN

Title of invention:
A visor provided with a UV-sensitive material

Patent Proprietor:
Pinlock Patent B.V.

Opponent:
TRANSITIONS OPTICAL, INC.

Headword:

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - (no)

Decisions cited:

Catchword:

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Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 0777/21 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 7 December 2023

Appellant: (Patent Proprietor)	Pinlock Patent B.V. Zilverparkkade 135 8232 Lelystad (NL)
Representative:	Nederlandsch Octrooibureau P.O. Box 29720 2502 LS The Hague (NL)
Appellant: (Opponent)	TRANSITIONS OPTICAL, INC. 9251 Belcher Road Pinellas Park, FL 33782 (US)
Representative:	f & e patent Braunsberger Feld 29 51429 Bergisch Gladbach (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 26 February 2021 concerning maintenance of the European Patent No. 2407041 in amended form.**

Composition of the Board:

Chairman	G. Pricolo
Members:	S. Mangin
	O. Loizou

Summary of Facts and Submissions

I. The appeals were filed by the appellant 1 (patent proprietor) and the appellant 2 (opponent) against the interlocutory decision of the opposition division finding that, on the basis of the first auxiliary request, the patent in suit (hereinafter "the patent") met the requirements of the EPC.

II. The opposition division held that:
- the main request extended beyond the content of the application as filed (Articles 100(c) and 123(2) EPC), and
- the first auxiliary request was admissible and complied with Articles 123(2), 84, 83, 54 and 56 EPC.

III. Appellant 1 (patent proprietor) requested that the decision under appeal be set aside and the patent be maintained as granted (main request), or in the alternative that the patent be maintained in amended form on the basis of the first auxiliary request (dismissal of appeal of appellant 2) or on the basis of one of the second to eighth auxiliary request filed with the reply.

Appellant 2 (opponent) requested that the decision be set aside and the patent be revoked.

IV. Oral proceeding took place before the Board on 7 December 2023.

V. During oral proceedings, appellant 1 (patent proprietor) withdrew their appeal. The patent proprietor, now respondent, requested that the appeal of the opponent be dismissed and that the patent be

maintained on the basis of the first auxiliary request or in the alternative that the patent be maintained on the basis of one of the second to the eighth auxiliary requests filed with the reply.

VI. Independent claim 1 of the first auxiliary request with the feature numbering used in the appealed decision reads as follows:

1 A visor comprising at least one transparent plate,
2 wherein a light-sensitive material is present in or on the transparent plate,
2.1 which material has the property of transmitting less light as the amount of light incident thereon increases,
2.2 wherein the light-sensitive material comprises a pigment film comprising at least one base colour, light-sensitive pigment
2.2.1 between two transparent layers of plastic,
characterized in that
2.3 the light-sensitive material is integrated in a recess at an outer side of the transparent plate, the depth of said recess being equal to the thickness of the layer of the light sensitive material.

Independent claim 11 with the feature numbering used in the appealed decision reads as follows:

11.1 A method of manufacturing a visor,
11.2 wherein a light-sensitive material, in particular a UV-sensitive material is formed by applying a pigment film comprising at least one base colour, light-sensitive pigment between two transparent layers of plastic,
characterized in that

11.3 the light-sensitive material is integrated in a recess at an outer side of a transparent plate, the depth of said recess being equal to the thickness of the layer of the light sensitive material.

VII. Claim 1 of the second auxiliary request corresponds to claim 1 of the first auxiliary request with the amended features 2.2 and 2.3 as follows:
2.2 *"wherein the light-sensitive material consists of a pigment film comprising at least one base colour, light-sensitive pigment"*
2.3 *"the light-sensitive material is integrated in a recess that has been formed at an outer side of the transparent plate, the depth of said recess being equal to the thickness of the layer of the light sensitive material"*.

VIII. Claim 1 of the third auxiliary request corresponds to claim 1 of the first auxiliary request with the introduction in feature 1.2 that the light sensitive material is *"provided within at least part of a field of vision or viewing portion of said plate"*.

IX. Claim 1 of the fourth auxiliary request corresponds to claim 1 of the third auxiliary request specifying that the at least part of a field of vision or viewing portion of said plate is *"such that a user may look past said portion when there is not enough light available"*.

X. Claim 1 of the fifth auxiliary request corresponds to claim 1 of the third auxiliary request specifying that *"the material provided on the outer side of the visor is provided with an anti-scratch film applied to the outer side of the material"*.

XI. Claim 1 of the sixth auxiliary request corresponds to claim 1 of the fifth auxiliary request specifying *"the anti-scratch film being water repellent"*.

XII. Claim 1 of the seventh auxiliary request corresponds to claim 1 of the third auxiliary request specifying that *"the pigment film is at least 0.1 mm in thickness"*.

XIII. Claim 1 of the eighth auxiliary request corresponds to claim 1 of the third auxiliary request specifying that the visor is *"for a motorcycle helmet"*.

XIV. In the decision, reference is made to the following documents:
E1: DE 20012300 U1
E2: US 6,328,446 Bl
E7: "UVEX HELIX RS 750 CARBON", 26 September 2006

Reasons for the Decision

1. Auxiliary request 1 - Inventive step starting from E1 in combination with E2 - Article 56 EPC

The subject-matter of claim 1 does not involve an inventive step in view of E1 in combination with E2.

1.1 Starting from the embodiment of E1, where a phototropic plastic film is brought onto a visor (page 1, under the title *"Lösung"*, *"auf dem Visier wird eine phototrope Kunststofffolie aufgebracht")*, the visor of the subject-matter of claim 1 differs in that the light-sensitive material:
- is between two transparent layers of plastic, (feature 2.2.1) and,
- is integrated in a recess at an outer side of the transparent plate and that the depth of said recess is

equal to the thickness of the layer of the light-sensitive material (feature 2.3).
The appellants agreed on the above identified distinctive features.

1.2 The respondent (proprietor) argued that the invention had several advantages:
i- The visor required less light-sensitive pigments as it was incorporated in a recess which did not cover the whole surface of the visor such that costs could be reduced.
ii- The pigments could move more freely because they were incorporated in a film carrier that could be chosen and were not embedded in the transparent plate of the visor. This arrangement enabled a shorter reactive time.
iii- The edges of the pigment film in the recess were not exposed to water and were thereby protected. This advantage was disclosed in paragraph [0019] of the patent.
iv - The depth of said recess being equal to the thickness of the layer of the light sensitive material, the surface at the front side of the visor was flat, which reduced the occurrence of local turbulences, which may be accompanied by objectionable whistling sounds or noise while riding (paragraph [0019] of the patent).

Starting from E1, the problem to be solved was based on the above advantages that could be resumed as to provide a better, cheaper and easier to produce visor.

Starting from E1, the skilled person would not look into E2 as it was overly concerned with the issues of a power portion of an ophthalmic lens. Since the visor of

E1 did not have a power portion, the teaching of E2 was distant.

But even if the skilled person would consult E2, there was no guidance to implement the teaching of figure 2 of E2 in the visor of El. At best, the skilled person would be interested in an alternative source of phototropic material to replace the plastic film of the second embodiment of E1. Such a film was already disclosed in figure 3. In implementing the laminate of E2 into E1, the skilled person would simply apply it over the outer surface of a visor as a direct replacement for the existing functionality.
Furthermore, E2 taught different functional portions, including polarizing and photochromic functions and also properties such as decor, tint and color (see col. 6, line 28 to line 43) which required the skilled person to select the photochromic function.
The laminate of E2 might also be embodied as a two-layer laminate that could be directly adhered to the ophthalmic element (see col. 6, line 22 to line 27). While this option was indicated as less desirable for an ophthalmic lens, it did not mean that this was the case for a visor. Document E1 had already recognised the desirability of an adhesive film and this alternative would appear to be the simplest route to an "improved" alternative.
Therefore, there was no clear teaching regarding the motivation of the skilled person to adapt either of the embodiments of E1 and there was no reason why that skilled person would take a specific teaching from E2 to adapt E1 in the presently claimed manner to provide a photochromic laminated insert comprising a light-sensitive pigment between two transparent layers of plastic, integrated in a recess at the outer side of a transparent plate.

1.3 The Board does not agree with the respondent (patent proprietor). None of the effects alleged by the respondent are a direct result of the features recited in claim 1 and are achieved over the whole scope of claim 1.

i- The dimensions of the recess (depth and surface) and the amount of photochromic pigments used in the visor are not specified in claim 1. Therefore, the visor of the invention does not necessarily comprise less pigments than the visor of E1.

ii- Claim 1 does not define the film in which the photochromic pigments are inserted, neither the composition of the film, nor its properties (such as the rigidity), nor its dimensions. Similarly the size, the shape and the composition of the pigments are not defined in claim 1. Therefore, the pigments in the film of claim 1 are not necessarily more mobile than in the phototropic plastic film of E1.

iii- Paragraph [0019] of the patent cited by the respondent (patent proprietor) reads:

"When the polycarbonate is being injection-moulded, the preformed layer of material 6 can be melted in place in the recess 5. The advantage is that no water or moisture can penetrate between the various layers, which are thus closely packed together (...)".

However, claim 1 does not define the way the light sensitive material is integrated into the recess. Whether the edges of the light sensitive material flush with the edges of the recess is not specified in claim 1.

iv - The layer of light-sensitive material being equal to the depth of the recess, while reducing turbulence if the thicknesses are not equal, does not provide any advantage over the photochromic film applied over the visor in El which is anyway flat.

Therefore the objective technical problem of the respondent (proprietor) cannot be retained. In the absence of any credible effect over the whole scope of the claim, the problem to be solved is to provide an alternative visor.

Starting from the embodiment of E1 where a phototropic plastic film is brought onto a visor, the skilled person would turn to E2 dealing with optical elements that incorporate a laminate to provide a functional property such as photochromism.
As mentioned by the appellant (opponent), claim 2 and the passage on column 5, lines 28-30 of E2 define an ophthalmic lens with no ophthalmic prescription power. Therefore, the argument of the respondent (proprietor) that the skilled person would not combine E1 with E2 because E2 was mainly concerned with ophthalmic lenses having an ophthalmic prescription power cannot be followed.

The skilled person would implement the laminate of figure 3 either over the whole surface like on figure 1 or in a recess like in figure 2 depending on whether a full coverage of the visor is envisaged or a partial coverage as the two implementations are presented in E2 as two suitable alternatives.
Applying the laminate of figure 3 in the recess as on figure 2 instead of the phototropic plastic film of E1 the skilled person would arrive at the subject-matter of claim 1. Indeed the laminate is described as comprising a functional member 20 that includes a functional film 21 portion that entraps inorganic photochromic crystal (column 5, lines 58-61) between two thermoplastic layers 22 and 24.

While other functional films are disclosed in E2, starting from the visor of E1 which has a photochromic film, the skilled person looking to provide an alternative visor would keep the same photochromic function which is disclosed in E2 as one of the preferable functions.

Finally the skilled person does not need to combine the embodiment of figure 3 with the embodiment of figure 2 of E2 to arrive at the object of claim 1. As argued by the appellant (opponent), figures 2 and 3 disclose a single embodiment. Figure 3 discloses the laminate that is placed in the recess of figure 2.

2. Second to fourth auxiliary requests

The subject-matter of claim 1 of the second, third and fourth auxiliary requests does not involve an inventive step starting from E1 in combination with E2.

During oral proceedings, the parties referred to their written submissions.

2.1 The respondent (proprietor) did not explain how the amendments made to claim 1 of the second and the third auxiliary requests rendered the subject-matter of claim 1 inventive over E1 in combination with E2.

In the absence of any arguments in this respect, the Board cannot see how the features added to claim 1 of the second and third auxiliary requests, which are anyway disclosed in the visor of E1 on which a phototropic plastic film is applied (point 2 under "lösung") and in E2 (see Fig. 2 and col. 8, lines 19-21), might overcome the inventive step objection starting from E1 in combination with E2.

2.2 As for the fourth auxiliary request, wherein claim 1 specifies, as compared to claim 1 of the third auxiliary request, that the at least part of a field of vision or viewing portion of said plate is *"such that a user may look past said portion when there is not enough light available",* the respondent (proprietor) argued that this feature was extremely important in the context of visors for motorcycle helmets or the like, where a user must be able to quickly look past the darkened region in moments of abrupt shadow such as on entering a tunnel. Photochromic materials may be too slow in reverting to their lightened condition on removal of a source of light for safe usage without such a facility. Document E2 is concerned with sunglasses, which a user can easily remove if required. Additionally, since glasses tend to occupy a smaller field of view, it is already possible for a user to peer over or under them should that be so required. The skilled person would therefore not implement the added feature to claim 1.

2.3 The Board does not agree.
While the advantage alleged by the respondent (proprietor) is specified to be related to a motorcycle helmet, the Board notes that the visor of claim 1 is not specifically directed to a visor for a motorcycle helmet (this is only specified in claim 1 of the eighth auxiliary request). Furthermore as argued by the appellant (opponent), while it is possible to peer over small reading glasses for example, glasses having restricted functional parts where the user peers over but still through the glass are widespread as in the form of bifocal reading glasses. The skilled person would therefore consider without any inventive skills,

arranging the recess such that the user may look past the recess.

3. Fifth and sixth auxiliary requests

The subject-matter of claim 1 of the sixth auxiliary requests does not involve an inventive step in view of E1 in combination with E2 and E7. The subject-matter of claim 1 of the fifth auxiliary request being broader, it does not involve an inventive step either.

Claim 1 of the sixth auxiliary request corresponds to claim 1 of the third auxiliary request specifying that *"the material provided on the outer side of the visor is provided with an anti-scratch film applied to the outer side of the material, the anti-scratch film being water repellent".*

3.1 According to the respondent (proprietor), "*the outer side of the visor provided with an anti-scratch film applied to the outer side of the material, the anti-scratch film being water repellent*" is not disclosed in E2. Unlike for glasses, this is extremely important in the context of helmet visors since the ability to drive in rain (without the benefit of windscreen wipers) is paramount. The skilled person had no reason to combine the teaching of E7 (which does not include a photochromic insert within a recess) with either document E1, E2 or both documents.

3.2 The Board does not follow the argument of the respondent (proprietor). As argued by the appellant (opponent), the application of a water-repellent anti-scratch film is not functionally linked to the other features of claim 1 and especially it does provide any synergy with the light sensitive material integrated in

the recess. A partial problem may therefore be defined for the added feature. Based on the effect provided by the respondent (proprietor), the objective partial technical problem to be solved may be defined as to enable driving with the visor in the rain.
E7 discloses a helmet with a visor being "*super anti-scratch*" and "*repellent to water*". While E7 does not disclose the application of a functional film to obtain said properties, it was acknowledged by the parties during oral proceedings that the application of anti-scratch and anti-repellent films are known.
Starting from E1 in combination with E2, in view of the problem to be solved, the skilled person would combine it with the teaching of E7 and add an anti-scratch film being water repellent on the outer side of the visor.

4. Seventh auxiliary request

The subject-matter of claim 1 of the seventh auxiliary request does not involve an inventive step starting from E1 in combination with E2.

Claim 1 of the seventh auxiliary request corresponds to claim 1 of the third auxiliary request specifying that *"the pigment film is at least 0.1 mm in thickness".*

In writing, the respondent (proprietor) argued that pigment thicknesses of from 0.0005 mm to 0.002 mm were preferred in E2. A pigment film thickness of greater than 0.1 mm could be achieved by mixing the pigment with an adhesive to form the pigment film, which joined the two transparent plastic layers together. This alleviated the need for additional adhesive layers.
During oral proceeding, the respondent (proprietor) argued that a pigment film layer of at least 0.1 mm

enabled the light sensitive pigments to move more freely and respond more rapidly to light changes.

The Board does not agree with any of the two alleged effects brought forward by the respondent (proprietor):
- Claim 1 does not specify that the pigment is mixed with an adhesive to form the pigment film. Therefore the possible alleviation for additional adhesive layers cannot be retained.
- Claim 1 does not specify the composition or the rigidity of the film, or any details about the light-sensitive pigments (i.e size, amount, quantity) such that the response of the at least 0.1 mm thick pigment film to light changes cannot be regarded as being improved over the whole scope of claim 1.
In the absence of any effect over the whole scope of the claim, the additional problem to be solved has to be defined as providing an alternative thickness for the film. Providing an at least 0.1 mm thick light-sensitive pigment film is an arbitrary choice and moreover obvious in view of documents E1 and E2, which teach that light-sensitive pigments may be embedded in layers of very different thicknesses. Indeed, document E1 discloses light-sensitive pigments in the transparent plate or in a platic film and document E2 in film thickness of between 0.0005 to 0.002 mm.

5. Eighth auxiliary request

The subject-matter of claim 1 of the eighth auxiliary request does not involve an inventive step in view of E1 in combination with E2.

During oral proceedings, the parties referred to their written submissions.

The respondent (patent proprietor) argued that claim 1 according to the eighth auxiliary request was directed to a visor for use with a motorcycle helmet which limited the claim to the type of visors for which the concept of a field of vision (as included in the claim) was well understood.

The Board is not convinced. Claim 1 of the eighth auxiliary request corresponds to claim 1 of the third auxiliary request, further specifying that the visor is *"for a motorcycle helmet"*. As argued by the appellant (opponent), E1 discloses a visor for a motorcycle helmet, such that the subject-matter of claim 1 of the eighth auxiliary request, as compared to claim 1 of the third auxiliary request, does not add any additional feature which is not already disclosed by the teaching of E1 in combination with E2.

Order

For these reasons it is decided that:

- The decision under appeal is set aside.

- The patent is revoked.

The Registrar: The Chairman:

A. Vottner G. Pricolo

Decision electronically authenticated