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**Datasheet for the decision
of 21 March 2024**

Case Number: T 0424/22 - 3.2.01

Application Number: 14425072.7

Publication Number: 2955064

IPC: B60R1/00, B60J1/00

Language of the proceedings: EN

Title of invention:

Window pane

Patent Proprietor:

Isoclima S.p.A.

Opponent:

Pilkington Group Limited

Headword:

Relevant legal provisions:

EPC Art. 56, 123(2)

Keyword:

Inventive step - main request (no)

Amendments - auxiliary requests - added subject-matter (yes)

Decisions cited:

G 0002/10

Catchword:



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Case Number: T 0424/22 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 21 March 2024

Appellant: Isoclima S.p.A.
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 7 December 2021
revoking European patent No. 2955064 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chairman G. Pricolo
Members: J. J. de Acha González
 A. Jimenez

Summary of Facts and Submissions

- I. The patent proprietor's appeal lies against the decision of the Opposition Division to revoke the European patent No. 2955064.
- II. In its decision the Opposition Division found among others that the subject-matter of claim 1 of the first auxiliary request did not involve an inventive step in view of the combination of D13 with D9:

D13: US2005/0084659 A1, and

D9: Extract from "Research Disclosure Journal".

- III. Oral proceedings before the Board took place on 21 March 2024 as a videoconference with the consent of the parties.

The appellant (patent proprietor) requested that the decision under appeal be set aside and the patent be maintained in amended form on the basis of the main request (filed as first auxiliary request with the statement of grounds of appeal), or, in the alternative, on the basis of the auxiliary request (filed as second auxiliary request with the statement of grounds of appeal).

The respondent (opponent) requested that the appeal be dismissed.

- IV. Claim 1 of the main request reads as follows (feature numbering according to the contested decision):

1.1 *Window pane, particularly a windscreen (1) of a vehicle*

like a car,

- 1.2** *which comprises at least one thin film electroluminescent electronic display (7)*
- 1.2.1** *that is optically transparent;*
- 1.2.2** *so that additional information displayed on the thin film electroluminescent electronic display (7) is viewable in superposition to environment light from outside of the window pane, characterized in that the window pane comprises*
- 1.3** *at least two transparent sheets (2, 3) each made of glass, plastic material or a vitreous ceramic material, and*
- 1.4** *at least one or several adhesive interlayer(s) (4, 5, 6) between each two sheets to form a laminated compound, that*
- 1.5** *the window pane is a bulletproof windscreen (1) to be used in a car, wherein*
- 1.5.1** *the windscreen comprises a transparent outer sheet (2) of bullet resistant glass directed to outside of the car,*
- 1.5.2** *a transparent inner sheet (3) of bullet resistant glass directed to inside of the car, and*
- 1.5.3** *a first transparent adhesive interlayer (4),*
- 1.5.4** *a second transparent adhesive interlayer (5),*
- 1.5.5** *a third transparent adhesive interlayer (6) arranged in this sequence between the outer sheet (2) and the inner sheet (3),*
- 1.6** *the optically transparent thin film electroluminescent electronic display (7) or TASEL display is integrated within a recess (8) or opening of the second adhesive layer (5) provided between the first and third adhesive layers (4) and (6); and that*
- 1.7** *the window pane comprises transparent thin film electrically conducting tracks (10) or contacts on a substrate embedded in the second adhesive interlayer*

(5) for coupling the thin film electroluminescent electronic display (7) to a connector (7.3).

Claim 1 of the auxiliary request differs from claim 1 of the main request in that it includes the following additional feature between features 1.5.2 and 1.5.3:

1.5.2' *a transparent sheet made of plastic material like PC (polycarbonate).*

Reasons for the Decision

1. *Main request - inventive step*
- 1.1 The subject-matter of claim 1 of the main request, which corresponds to that of the first auxiliary request underlying the contested decision, does not involve an inventive step in view of D13 together with common general knowledge of the person skilled in the art and the teachings of D9 (Article 56 EPC).
- 1.2 The appellant argued that D13 could not be considered as suitable closest prior art for assessing the obviousness of the subject-matter of claim 1 because it did not disclose a bulletproof windscreen as claimed. A key argument was that, in the absence of any evidence to the contrary, no one had thought of integrating an electroluminescent electronic display into a bulletproof windscreen in order to improve occupant safety prior to the invention of the patent in suit. Accordingly, there was no indication in the prior art which would have led the skilled person without hindsight to the subject-matter of claim 1.

Moreover, the subject-matter of claim 1 differed from the windscreen disclosed in D13 not only by virtue of the features identified as such in the contested decision (features 1.5.4, 1.6 and part of 1.7), but also on account of the following features:

- feature 1.2.2 (viewable in superposition),
- feature 1.5 (bulletproof windscreen),
- feature 1.5.1 (transparent outer sheet of bullet resistant glass), and
- feature 1.5.2 (transparent inner sheet of bullet resistant glass).

In particular, with respect to feature 1.2.2, D13 did not disclose that additional information was viewable in superposition to environment light from outside of the window pane.

The appellant formulated the objective technical problem from those differences to be two-fold. On the one hand, the safety of the passengers was increased from a mechanical point of view by the windscreen due to the resistance of its glass to projectiles by virtue of its bulletproof property and, on the other hand, the safety of the passengers was increased by the use of the electroluminescent electronic display which prevented the driver from looking away from the field of vision of the windscreen to the control panel.

D9 did not disclose the use of at least one thin film electroluminescent electronic display (features 1.2 to 1.2.2) for bulletproof glass for vehicles (features 1.5 to 1.5.2), nor that it resulted in the embedding of transparent conductive tracks or contacts on a substrate in the second adhesive structure (feature 1.7).

Accordingly, even if one were to take D13 as the closest prior art, a combination of the windscreen disclosed therein with the common general knowledge of the skilled person and the teaching of D9 could not lead to the subject-matter of claim 1. The respondent's reasoning and that of the Opposition Division in its decision were based on hindsight.

1.3 The Board judges that these arguments are not persuasive for the following reasons, and the line of argumentation of the respondent is correct.

1.3.1 It pertains to established case law of the Boards of Appeal that one of the criteria for determining the closest prior art is whether a prior art document discloses subject-matter having the same purpose or aiming at the same objective as the claimed invention (see Case Law of the Boards of Appeal of the EPO, 10th Edition 2022, I.D.3).

In the present case, D13 discloses a windscreen of a vehicle including a head-up display for placing information to a vehicle operator in the field of vision so that the operator does not have to glance away to read such information (see paragraphs [0001] and [002] of D13). Accordingly, D13 has the same purpose as the contested patent (see paragraph [0009]) and represents therefore a suitable starting point for assessing inventive step.

The fact that D13 is silent on the properties of the windscreen as regards bullet resistance does not preclude it from being considered as the closest prior art. On the contrary, having regard to the above-mentioned advantages of D13 in terms of visibility and displaying of information, the skilled person would

might well consider additionally providing it with bulletproof properties.

- 1.3.2 It is undisputed that the subject-matter of claim 1 differs from the windscreen glass disclosed in D13 at least on account of features 1.5.4, 1.6 and 1.7. This is correct.

The patent proprietor is also correct that D13 does not specify, either implicitly or explicitly, whether the windscreen disclosed therein is a bulletproof windscreen. The document is silent on that point. The Opposition Division took the view that all vehicle windscreens were bulletproof within the meaning of the patent (see point 6 of the contested decision). However, not every vehicle windscreen is bulletproof. A bulletproof windscreen is a concept and property of a windshield that is known to those skilled in the art in the field of windscreens made out of at least two layers of glass. At the same time, the patent does not specify the bulletproof grade/level of the windscreen - i.e. the type of ammunition fired by a particular type of firearm that the windscreen glass is capable of stopping.

Regarding feature 1.2.2, the appellant is not correct. The information displayed by the electronic display (TOLED) in the windshield of D13 is viewable in superposition to environment light from the outside of the windshield, at least for a passenger in the car. The information displayed is superposed to the light coming from the other side of the windshield. This is a well-known feature of head-up displays in vehicles.

Consequently, the subject-matter of claim 1 differs from the windscreen disclosed in D13 - namely the

embodiment with the split interlayer of polyvinyl butyral (PVB) between an outer and an inner glass sheets (see paragraphs [0014] and [0015]) - on account of the following features:

- a bullet proof windscreen made out of an outer and an inner bullet resistance glass (features 1.5 to 1.5.2);
- a second transparent adhesive interlayer between the two interlayers of PVB (feature 1.5.4);
- the electronic display integrated within a recess or opening of the second adhesive layer (feature 1.6); and
- the electrically conducting tracks or contacts on a substrate (see paragraph [0017] of D13) embedded in the second adhesive interlayer (feature 1.7).

1.3.3 The technical effect of the bulletproof features (Group A) is the mechanical property of the windscreen to stop ammunition of a certain calibre.

The technical effect of the remaining differences (group B) is to avoid air from being trapped around the edges of the display where the two layers of PVB overlap. The respondent and the Opposition Division are correct in this respect.

The view of the appellant that the latter features are intended to prevent the driver from looking away from the windscreen cannot be accepted since, as stated above, this is already achieved by the windscreen of D13.

1.3.4 Therefore, as argued by the respondent, the above effects of features in Groups A and B are not functionally interdependent such that they show a

combinative effect going beyond the sum of their individual effects. Accordingly, the features of Groups A and B are a mere aggregation of features without a synergistic technical effect aimed at solving the following partial problems:

- enhance the safety of the passengers (Group A),
and
- improve the quality of the windscreen by avoiding bubble formation around the electroluminescent display.

1.3.5 The skilled person, when faced with the problem of improving the safety of the passengers of the vehicle against firearms in general, would, on the basis of common general knowledge, make the disclosed structure for the windscreen in D13 bulletproof. In fact, the structure of the windscreen of D13, comprising an outer layer of transparent glass, an inner layer of transparent glass and two interlayers of PVB, is well suited for making it bulletproof, as bulletproof windscreens are usually made out of at least two layers of glass.

As regards the second partial problem, the skilled person would, as the Opposition Division pointed out in its decision, come up against the teachings of D9 when seeking a solution. D9 pertains exactly to the same technical field as D13, namely the manufacture of glasses incorporating a non-adhesive functional device, such as an electroluminescent display, by lamination and for use in the automotive industry. D9 teaches that in order to avoid the occurrence of bubbles in the glass produced around the edges of the display, which occur when the thickness of the display is greater than 25µm (greater than 150µm in D13, see paragraph [0018]), three layers of PVB are used instead of two. A section

of the middle layer is removed to accommodate the display in the cavity, before being covered by the top layer of PVB and subsequently autoclaved.

Accordingly, D9 points to the same solution of the same partial technical problem of the invention according to the patent in suit by providing a middle interlayer with a recess or cavity.

The skilled person would therefore apply the teachings of D9 to solve the partial problem, thereby including the Group B features in the windscreen of D13. It should be noted, as pointed out by the Opposition Division and the respondent, that since the teaching of D9 is how to avoid the discontinuities of functional devices having a thickness greater than 25µm, the separate conductors having a thickness of 100 to 200µm would also be applied within a cavity of the middle layer in order to avoid bubbles.

2. *Auxiliary request - inadmissible extension*

2.1 The subject-matter of claim 1 of the auxiliary request extends beyond the content of the application as originally filed (Article 123(2) EPC).

2.2 Claim 1 differs from claim 1 of the main request in that it also includes feature 1.5.2', namely:

"...a transparent sheet made of plastic material like PC (polycarbonate),"

2.3 The appellant submitted that the added feature 1.5.2' was based on paragraph [0010] of the application as originally filed (see A1 publication of the European patent application). It ensued from this paragraph that, in addition to the adhesive interlayers, the

window pane might contain more than two transparent sheets, such as a third transparent sheet made of a plastic material like PC (polycarbonate).

2.4 According to established case law of the Boards of Appeal the criterion for assessing whether the subject-matter of a European patent extends beyond the content of the application as originally filed is the "*gold standard*", i.e. whether the claimed subject-matter is derivable directly and unambiguously for the skilled person from the application as originally filed (see e.g. points 4.3 and 4.6 in the Decision of the Enlarged Board of Appeal G 2/10, OJ EPO 2012, 376).

2.5 However, as argued by the respondent, the basis given in the originally filed application, i.e. paragraph [0010], does not directly and unambiguously disclose the subject-matter of claim 1, in particular for the specific laminated structure of the window pane resulting from features 1.3 to 1.5.5 (see point 6.3 of the reply to the statement of grounds of appeal). According to that paragraph, the at least two transparent sheets may consist of a plastic material such as PC (polycarbonate) but not the interlayers. In contrast, the window pane claimed comprises a transparent inner and outer sheet of glass and, between them, a transparent sheet made of plastic material such as PC (polycarbonate) and three transparent adhesive interlayers. Such a specific structure does not derive directly and unambiguously from paragraph [0010] of the application as originally filed.

2.6 The auxiliary request was filed for the first time with the appellant's statement of grounds of appeal. Since the request does not meet the requirements of Article 123(2) EPC for the reasons given above, the question of

its admissibility in the appeal proceedings can remain unanswered.

3. It follows from the above that the patent proprietor's appeal is not allowable.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



H. Jenney

G. Pricolo

Decision electronically authenticated