



Case Number: T 0766/91 - 3.3.2

D E C I S I O N of 17 June 1994
correcting errors in the decision of the Technical Board of Appeal 3.3.2
of 29 September 1993

Appellant: The Boeing Company
P.O. Box 3707
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Decision under appeal: Decision of the Examining Division of the
European Patent Office dated 9 April 1991 and
posted on 29 May 1991 refusing European patent
application No. 88 200 678.6 pursuant to
Article 97(1) EPC.

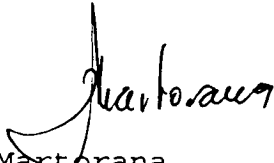
Composition of the Board:

Chairman: P.A.M. Lançon
Members: I.A. Holliday
S.C. Perryman

In application of Rule 89 EPC the word "Examination" has been substituted by the word "Examining" on page 3, line 20; on page 4, lines 8 and 31; on page 5, lines 9, 17 and 21; on page 12, lines 7 and 26.

The word "Opposition" has been also substituted by the word "Examining" on page 3, line 13 and on page 9, line 32.

The Registrar:



P. Martorana

The Chairman:



P.A.M. Lançon

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File No.: T 0766/91 - 3.3.2
Application No.: 88 200 678.6
Publication No.: 0 288 107
Classification: B32B 7/02
Title of invention: Decorative laminates with heat release reducing and ink discoloration preventive protective layer

D E C I S I O N
of 29 September 1993

Applicant: The Boeing Company
Proprietor of the patent: -
Opponent: -

Headword: Decorative laminates/BOEING

EPC: Art. 56, 96(2), 113(1), 116(1); R. 71

Keyword: "Inventive steps (yes); choice of solutions available; common general knowledge allegation - challenge to; document first referred to in decision"

Catchwords

Substantiation of an allegation that something is common general knowledge is only required if this is challenged by another party or the EPO (reasons 8.1) - Information has usually not become common general knowledge because it was published in any particular handbook or textbook, but rather it appears in handbooks or textbooks because it was already common knowledge, thus such a publication is evidence both that the information is known and that it is common general knowledge (reasons 8.2).



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**Decision of the Examining Division of the
European Patent Office dated 9 April 1991 and
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Summary of Facts and Submissions

I. European patent application No. 88 200 678.6 (publication No. 0 288 107) was refused by a decision of the Examining Division on the grounds of lack of inventive step. Claim 1 reads as follows:

"1. Decorative laminate formed by a heat and pressured laminating process and comprising

- i) a substrate layer (10;95) comprising at least one resinous layer including a cured resin;
- ii) a decorative layer (50;75) formed by a decorative ink;
- iii) a barrier layer (30;70) comprising a protective material (35) selected from the group comprising metals, ceramics, and composite material, located such between the substrate layer (10;95) and the decorative layer (50;75), that the decorative layer (50;75) lies at one side of the barrier layer (30;70) and any resinous layer lies at the other side of the barrier layer (30;70).

The following documents cited during the examination procedure remain relevant to the present decision:

- (1) US-A-4 006 048
- (5) EP-A-0 173 795.

II. In the contested decision, the Examining Division held that document (1) was the closest state of the art in that it recognised the desirability of providing a barrier layer. According to (1), a decorative laminate is provided with a barrier layer comprising unfilled paper sheet which was impregnated with sufficient resin

(e.g. an aminoplast or unsaturated polyester resin) to prevent a bleed of phenolic or epoxy resin from the supporting layer to the decorative layer during curing.

The barrier layer, according to the present application, differed from that known from (1) in that it consisted of metal, ceramic or composite material. Having regard to the problem of reducing heat release and the discharge of toxic gases, it was in the Examining Division's view obvious to replace the barrier known from (1), especially with metal such as aluminium foil. This view was based on the common general knowledge of laminates and was supported by references to three well-known encyclopedias.

- III. The Appellant lodged an appeal against the decision of the Examining Division. Oral proceedings took place on 29 September 1993.
- IV. Both during the examination procedure and throughout the appeal, the Appellant denied that document (1) was the closest prior art. In the light of more stringent regulations from the Federal Aviation Administration (FAA) for laminates used in passenger aircraft, the barrier layer must fulfil three criteria: (i) it must be impervious to reaction products released during curing of the laminate, otherwise known as "resin bleeding"; (ii) it must be impervious to decomposition products, i.e. noxious gases which might occur when the laminate is exposed to fire and (iii) it must act as a heat sink, i.e. avoid excessive release of heat when exposed to fire. Accordingly, the skilled person seeking a laminate for use in aircraft would not consider that disclosed in document (1) since it would satisfy only the first of the three stated criteria.

It was the Appellant's opinion that document (5) should be regarded as closest prior art since it disclosed a laminate having layers corresponding to those of the present application but with a different topology, i.e. the layers arranged in a different order. The Appellant argued that there was nothing in the cited prior art which might have induced the skilled person to rearrange the order of the layers disclosed in document (2) and so to arrive at the laminate of the present application.

- V. Before the Board the Appellant also objected that there had been a procedural violation relating to the late introduction of the encyclopaedia references by the ~~Opposition~~^{Examining} Division. Those referred to as documents (2) and (3) in the decision under appeal were first introduced at the oral proceedings on 9 April 1991, and document (4) was first mentioned in the decision itself.

In a communication dated 26 March 1991, accompanying the summons of the same date to attend at short notice pursuant to Rule 71(1) EPC oral proceedings fixed for 9 April 1991, the ~~Examination~~^{ing} Division stated:

"2. However, the Art. 52, 56 EPC objection is still outstanding.

(i) In fact, it belongs to the general knowledge of a skilled engineer that a layer of metal, in particular aluminium, can be used in decorative laminates, immediately below the print sheet or decorative surface, as a heat sink (application to permit contact with a burning cigarette without staining or blistering).

(ii) Moreover, it is also generally known that both ceramic refractory materials and, e.g. reinforced

plastics (i.e. composite materials) are good heat-sink materials."

At the oral proceedings on 9 April 1991 the Appellant's representative contested the objection in this communication that the properties of the selected materials and their use in decorative laminates was already generally known to the skilled engineer. The Examination ^{ing}~~ion~~ Division in response supplied copies of extracts of the Encyclopaedia of Polymer Science and Engineering (editions of 1985 and 1966 respectively) forming Annexes 2 and 3 to the decision under appeal. The Appellant's representative objected to the fact that these documents had not been furnished previously and that he thus had no opportunity to contact the Appellant for its comments.

VI. In paragraph 1.2 of the decision under appeal there is stated in relation to ceramics and composite materials, mentioned in Claim 1 as alternatives to an aluminium barrier layer, that:

"It is also generally known that both ceramic refractory materials and, e.g. reinforced plastics (i.e. composite materials) are good heat-sink materials.

Attention is drawn, in this regard to (4) = KIRK-OTHMER, Encycl. of Chem. Technol., 1981..."

(4) was made Annex 4 to the decision, but had not been referred to in the procedure previously.

VII. The Appellant argued essentially that the way the documents forming Annexes 2, 3 and 4 to the decision under appeal had been introduced into the proceedings amounted to a procedural violation. It appeared likely that the Examination ^{ing}~~ion~~ Division was already aware of these

documents when sending the summons to oral proceedings, and in that case, following T 21/83 of 6 April 1984 (unpublished), it should have referred to the documents and supplied copies. Certainly it should not have waited until a challenge was made at the oral proceedings before producing the documents forming Annexes 2 and 3, and it was quite incorrect to refer to the document forming Annex 4 for the first time in the decision itself. The Examination^{ing}~~ation~~ Division should allow at least one month time for consideration of any new argument or document, by analogy with the procedure as laid down in the Guidelines E-III.5, second paragraph, that observations from any party should be received in time for them to be communicated to the other parties at the latest one month before the oral proceedings. Further Article 96(2) EPC taken in combination with Rule 84 EPC requires the Examination^{ing}~~ation~~ Division to invite the applicant as often as necessary to file his observations on objections made, within a period to be fixed at between two and four months, and in this case the Examination^{ing}~~ation~~ Division did not comply with this requirement.

VIII. The Appellant requested that the decision of the Examining Division be set aside and a patent granted on the basis of Claims 1 to 16 submitted during the oral proceedings before the Examining Division on 9 April 1991.

Reasons for the Decision

1. The appeal is admissible.
2. Claim 1 submitted during the oral proceedings before the Examining Division differs from the originally filed

version in three respects: (a) the introduction of reference numerals is derived from Figures 1 and 2 of the originally filed drawings; (b) a reference to the layers being of metal, ceramic or composite material is derived from page 10, lines 10 to 12 of the original documents (column 7, lines 41 to 44 of the printed version); (c) the specification that any resinous layer lies on the other side of the barrier layer from the printed or decorative layer is implicit from the original documents (e.g. page 10, lines 14 to 20; page 11, lines 2 to 5). The requirements of Article 123(2) EPC are accordingly satisfied.

3. The Board has no reason to differ from the view taken by the Examining Division in part A of the contested decision that the amended Claim 1 conforms to the requirements of Article 84 EPC.

4. Having regard to the fact that the barrier layer according to Claim 1 may be a "composite material", the Board raised the question of novelty *vis-à-vis* document (1) at the oral proceedings. However, it is clear from item (c) of Claim 1 of (1) that resin must be present on the side of the barrier layer nearest to the printed layer. Although document (5) comprises layers corresponding to the requirements of Claim 1, they are not disclosed in the same sequence as that demanded by the said claim. The encyclopedia references, especially Encyclopedia of Polymer Science and Technology, Wiley, 1968, Vol. 8, page 134, disclose laminates with an aluminium layer next to the printed decorative layer but do not contain sufficient detail to anticipate Claim 1.

The Board is thus satisfied that the subject-matter of Claim 1 of the present application is novel.

5. It is the Board's opinion that document (5) represents the closest prior art.

5.1 Document (5) relates to a laminate which, according to the Appellant at the oral proceedings before the Board, satisfied earlier less stringent FAA regulations. The laminate according to (5) contains an aluminium layer placed in juxtaposition to the resin impregnated paper base sheet; such a layer would act as a heat sink. Above the aluminium layer lies a resinous embossing film and finally the laminate is topped with a decorative print layer interposed between two layers of polyvinyl fluoride (PVF). Having regard to the resinous layer above the aluminium barrier layer, the laminate of (5) would be liable to emit toxic gases when burning, i.e. condition (ii) set out in point IV above would not be satisfied. Resin bleeding might also take place depending on the nature of the resinous embossing layer.

5.2 Starting from document (5), the problem to be solved is to devise a laminate which satisfies all three requirements referred to above, i.e. a laminate which would not only act as a heat sink but also would not emit toxic gases and which would avoid resin bleeding. The solution is embodied in the laminate prescribed by Claim 1 of the present application. Having regard to the description of the application in suit, the Board is satisfied that the problem has been plausibly solved.

6. It remains to consider whether or not Claim 1 satisfies the requirements of Article 56 EPC in respect of inventive step.

6.1 The difference between the laminate disclosed in document (5) and that of the application in suit lies in the presence, according to (5), of a resinous embossing layer between the aluminium layer and the decorative

layer. Such layers are commonly present in laminates in order to obtain a non-planar surface, e.g. a simulated wood grain or fabric effect, by embossing. As previously indicated the presence of such a resinous layer would mean that all three conditions specified in point IV above would not be satisfied. If the resinous embossing layer were polyester, such would give rise to toxic gases on burning (patent in suit, column 1, line 57). In the light of the discussion during the oral proceedings, the Board is convinced that the layers of PVF present in the laminates of (5), having regard to their porous nature, do not perform the function of barrier layers, within the meaning of Claim 1 of the application in suit.

- 6.2 With hindsight it might seem obvious merely to delete the resinous embossing layer from the structure described in (5) and so obtain a laminate having no resinous layer between the aluminium layer and the decorative layer. Such a laminate, which would satisfy the requirements of Claim 1 of the application in suit would, however, lose the facility of being embossable to obtain a patterned surface. Such a patterned surface could still be desirable.
- 6.3 Omission of the resinous layer is by no means the only solution available. It would, for example, be possible to place the resinous embossing layer below the aluminium layer adjacent to the base layer. Alternatively, one might introduce a further barrier layer between the resinous embossing layer and the decorative layer. Furthermore, it would be possible to change the chemical composition of the said embossing layer.
- 6.4 Having regard to the variety of solutions available, it is apparent that a "one-way street" situation as for

example envisaged in decision T 192/82, OJ EPO 1984, 415 does not apply to the present case. The chosen solution is perhaps the most simple. However, because it is simple it is not necessarily obvious to the skilled man (see, e.g. T 9/86, OJ EPO 1988, 12). It is to be noted that the chosen solution would allow the presence of an embossing layer, provided that it is not a resinous layer in juxtaposition with the printed layer. It was not possible for the Board to find any document pointing towards the chosen solution.

6.5 It is admitted that document (1) recognised the necessity of a barrier layer to prevent resin bleed. The unfilled paper barrier sheet contains sufficient resin, e.g. aminotriazine resin, to prevent phenolic or epoxy resin bleed through the core during laminating (column 3, lines 38 to 40). However, the emphasis in (1) is upon preparing a cheap laminate which avoids the use of expensive alpha cellulose print sheets (see column 1, lines 5 to 9 and 20 to 25 and sentence bridging columns 4 and 5). It is thus apparent from the materials used to prepare it that the laminate of (1) would not satisfy the other criteria referred to in the present application (cf. point IV above); i.e. the barrier according to (1) would not act as a heat sink nor would it inhibit the transmission of toxic gases in a burning situation. The Board is accordingly convinced that one skilled in the art, being aware of the stringent FAA regulations, when seeking a laminate for use in passenger aircraft would not consider the teaching of document (1), especially as closest prior art.

6.6 The encyclopedia references were introduced by the ~~Examination~~ ^{Examining} ~~Opposition~~ Division in order to confirm that aluminium layers were known in decorative laminates before the priority date. There is nothing in these references

which would render obvious the laminates currently claimed.

- 6.7 Accordingly, in the light of the present documentation, an inventive step can be accorded.
7. Analogous reasoning supports the patentability of independent Claim 8 which relates to a process for creating a decorative laminate by applying heat and pressure to an assembly of layers as defined in Claim 1. The dependent claims derive their patentability from Claims 1 and 8 respectively.
8. *Challenge to allegation concerning common general knowledge*
- 8.1 By its very nature common general knowledge can be inferred from a number of sources, and proof that something is general knowledge in a particular art does not depend on proof of any particular document being published at a particular date, so that, for example, for the purposes of Rule 55(c) EPC it would be sufficient to state a fact and allege that it is general knowledge in the art concerned, without referring to a particular publication. Substantiation of an allegation that something is common general knowledge is only required if this is challenged by another party or the EPO. This manner of proceeding is necessary as otherwise examination and opposition procedures would drown in a flood of textbook and encyclopaedia extracts concerning facts which turn out not to be in dispute, and is justified because the parties can be presumed not to be taken by surprise by anything that is common general knowledge in the particular art concerned.
- 8.2 It is normally accepted that common general knowledge is represented by basic handbooks and textbooks on the

subject in question (cf. T 20/81, OJ EPO 1982, 217, Reasons 5). It is knowledge that an experienced man in this field is expected to have, or at least to be aware of to the extent that he knows he can look it up in a handbook if he needs it. Statements in such works are used as convenient references to show what is common knowledge. However, the information itself is likely to have been published much earlier, for example in research papers or patents, or to have been used openly in industrial practice. It has usually not become common general knowledge because it was published in any particular handbook or textbook, but rather it appears in handbooks or textbooks because it was already common knowledge. This is the reason that publication in, for example, an encyclopaedia or basic textbook usually can be accepted as evidence not merely that the information was known, but that it was common general knowledge.

8.3 An allegation that some fact is common general knowledge can be challenged on the basis that it was not known at the priority date at all, or that it was not common general knowledge in the relevant art at the priority date. This challenge should be made as early as possible. The challenger must be prepared to deal with arguments based on the fact alleged where there is evidence at the oral proceedings that it really is common general knowledge.

8.4 The facts alleged to be common general knowledge (see point V above) were stated in a communication dated 26 March 1991 sent to the Appellant's representatives, together with the summons dated 26 March 1991 to attend oral proceedings pursuant to Rule 71(1) EPC at short notice. An acknowledgement of receipt for this on the file for these documents is dated 28 March 1991. The Appellant's representative made no complaint that this summons itself was a procedural violation because

consent had not been given under Rule 71(1) EPC to a summons at less than two months' notice, so the Board can only presume that such consent was given.

8.5 At the oral proceedings on 9 April 1991, the Appellant, for the first time, challenged that the facts alleged in paragraph 2(i) of the communication of 26 March 1991 were common general knowledge, and the Examination^{ing}~~ation~~ Division substantiated their allegation by providing the encyclopaedia extracts forming documents (2) and (3). In the circumstances these documents were not provided late, so that there is no procedural violation in respect of these documents.

9. *Document first referred to in decision*

9.1 It is not clear from the file whether at the oral proceedings on 9 April 1991, the Appellant made any challenge that the facts alleged in paragraph 2(ii) of the communication of 26 March 1991 were common general knowledge. If no challenge was made, then the reference to document (4) in the decision to substantiate this particular allegation was a work of supererogation. A document that has not previously been drawn to a party's attention should not be referred to in a decision.

9.2 In this particular case, the whole passage referring to document (4) is in fact merely an *obiter dictum* not affecting the decision, because the passage does not relate to any request before the Examination^{ing}~~ation~~ Division. In these circumstances there is no procedural violation as a result of the reference to document (4), as this reference is not part of the grounds of the decision on which under Article 113(1) EPC the parties concerned must have had an opportunity to present their comments.

- 9.3 The above *obiter dictum* amounts to saying that if there had been a request with a more limited Claim 1, the Examining Division would still have refused such a claim as lacking inventive step in view of the common general knowledge embodied in document (4). Such an *obiter dictum* passage referring for the first time to a document should, however, not appear in a decision, because, as in this case, it is likely to give a party the impression that its rights under Article 113 EPC have been ignored.
10. Article 96(2) and Rule 84 EPC do not apply to communications accompanying a summons to oral proceedings, because this is not an invitation to file observations within a period to be fixed by the Examining Division, but an alternative process regulated by the provisions of Article 116(1) EPC and Rule 71 EPC under which the Applicant would normally have at least two months' time in which to prepare for the oral proceedings, if he has not agreed to short notice.

Order

For these reasons, it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the first instance with the order to grant a patent on the basis of Claims 1 to 16 as submitted during the oral proceedings before the Examining Division on 9 April 1991 and the description on file.

The Registrar:

The Chairman:

P. Martorana

P.A.M. Lançon