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D E C I S I O N
of 17 December 1998

Case Number: T 0315/97 - 3.4.2

Application Number: 86308961.1

Publication Number: 0225103

IPC: G02B 5/128

Language of the proceedings: EN

Title of invention:
Encapsulated-lens retroreflective sheeting and method of making

Patentee:
Minnesota Mining and Manufacturing Company

Opponent:
Nippon Carbide Industries Co., Ltd. New Tokyo Building

Headword:
-

Relevant legal provisions:
EPC Art. 112(1)(a)

Keyword:
"Reformatio in peius"

Decisions cited:
G 0009/92, G 0004/93, T 0923/92, T 0752/93, T 1002/95, T 0812/94, T 0579/94

Headnote:
The following point of law is referred to the Enlarged Board of Appeal:

Must an amended claim which would put the opponent and sole appellant in a worse situation than if he had not appealed - e.g. by deleting a limiting feature of the claim - be rejected?

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Case Number: T 0315/97 - 3.4.2

D E C I S I O N
of the Technical Board of Appeal 3.4.2
of 17 December 1998

Appellant: (Opponent)
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Decision under appeal:
Interlocutory decision of the Opposition Division of the European Patent Office posted 23 January 1997 concerning maintenance of European patent No. 0 225 103 in amended form.

Composition of the Board:

Chairman: E. Turrini
Members: M. Chomentowski
B. J. Schachenmann

Summary of Facts and Submissions

I. The respondent is proprietor of European patent No. 0 225 103 which was granted with 20 claims on the basis of European patent application No. 86 308 961.1, which made reference, among other prior art documents, to **US-A-4 505 967**.

Claim 1 as granted read as follows:

"1. Method of making encapsulated-lens retroreflective sheeting which comprises the following steps:

(1) partially embed substantially a monolayer of lenses into a carrier web,

(2) deposit specularly reflecting material over the lens-bearing surface of the carrier web,

(3) under heat and pressure, contact with a high molecular weight thermoplastic binder film having a weight average molecular weight of at least 60,000 and a melt index less than 750, portions of the specularly reflecting deposit which are on lenses without contacting any portion of the specularly reflecting deposit which is on the surface of the carrier web between lenses,

(4) strip off the carrier web,

(5) lay a cover film over the exposed lenses, and

(6) apply heat and pressure along a network of interconnecting lines to soften and deform the binder material into contact with the cover film, thus forming hermetically sealed cells within which the lenses are encapsulated and have an air interface."
Claims 2 to 8 were dependent method claims and claims 9 to 20 were product claims.

II. An opposition was filed against the patent on the grounds of lack of novelty and inventive step having regard to a plurality of prior art documents.

III. The opposition division decided to maintain the patent in amended form. In particular, step 3 of the claimed method was amended to read (with some of the added features being shown in bold type):

"3) assemble a high molecular weight thermoplastic binder film having a weight average molecular weight of at least 60,000, **a gradual change in viscosity over a temperature interval of 50°C in the softening range indicated by a less-than-order-of-magnitude reduction in loss modulus measured in dynes per square centimeter**, and a melt index less than 750 against the monolayer of lenses in the carrier web, pass the assembly between rollers, the heat, pressure and rate of passing between rollers being selected to embed the lenses into the thermoplastic binder film and thereby contacting the thermoplastic binder film with the specularly reflecting deposit on the lenses but not to the extent that there is any contact between the thermoplastic binder film and any portion of the

specularly reflecting deposit which is on the surface of the carrier web between lenses,".

IV. The opponent lodged an appeal as the sole appellant against the interlocutory decision of the opposition division maintaining the patent in amended form.

V. At the oral proceedings of 17 December 1998 before the Board of Appeal the respondent (patent proprietor) filed a total of 13 sets of claims as main and auxiliary requests, some of them having already been on file and discussed in the proceedings before the opposition division.

The **main request** on file contains claims 1 to 8 as maintained by the opposition division in its interlocutory decision. Claim 1 of this request is objected to by the appellant (opponent) with respect to a feature introduced during the opposition proceedings. It concerns the definition of the thermoplastic binder film by its loss modulus characteristic in step 3 of the claimed method ("**a gradual change in viscosity ... indicated by a ... reduction in loss modulus measured in dynes per square centimeter**"). In the appellant's submission this feature was unclear (Article 84 EPC), extended beyond the content of the application as filed (Article 123(2) EPC) and defined subject matter not sufficiently clearly and completely disclosed for it to be carried out by a person skilled in the art (Article 83 EPC).

The **first auxiliary request** consists of a set of claims which is distinguished from the set of claims of the

main request in that, in claim 1, **the feature objected to by the appellant has been deleted**.

In some of the further auxiliary requests the feature deleted in the first auxiliary request at least partially reappears and/or these requests contain supplementary amendments. For instance, in the seventh auxiliary request, claim 1 again contains this feature and, moreover, features specifying the used heating and pressing means which are not included in the first auxiliary request.

As last auxiliary request, the respondent requests remittal of the case to the opposition division with the order to reconsider the patentability of all sets of claims.

The appellant, on the other hand, requests that all petitions submitted by the respondent be examined for clarity and in view of "**reformatio in peius**" and, moreover, that the following questions be referred to the Enlarged Board of Appeal:

"1) Must an amended claim which, if accepted by the Board of Appeal, would put the opponent and sole appellant in a worse position than if he had not appealed, be rejected? (see T 923/92, OJ EPO 1996, 564 vs. T 752/93 of 16 July 1996, unpublished in the OJ EPO);

2) If the answer to the first question is no, is it appropriate under such circumstances to remit the case to the opposition division for further examination?"

VI. The appellant submitted the following arguments in support of his requests:

The respondent's main request contained inter alia the feature "a gradual change in viscosity ....in dynes per square centimeter" which was not comprised *verbatim* in the claims of the application as filed or in the claims as granted and which is based on a cross-reference in the original application to the document US-A-4 505 967. The main request lacked clarity because there was an ambiguity as to which high molecular weight thermoplastic binder films were covered by the present formulation of the claim including the feature referred to above.

In the respondent's first auxiliary request, this particular feature had been deleted. Thereby, the protection conferred by the patent was extended to methods of making encapsulated-lens retroreflective sheeting using high molecular weight thermoplastic binder films which were not such that they showed "**a gradual change in viscosity ....in dynes per square centimeter**", as was the case for the method of claim 1 maintained by the interlocutory decision.

However, as stated in the decision G 9/92, OJ EPO 1994, 875, of the Enlarged Board of Appeal (see in particular Headnote II), or in the decision G 4/93, which has the same text as G 9/92, if the opponent was the sole appellant against an interlocutory decision maintaining a patent in amended form, the patent proprietor was primarily restricted during the appeal proceedings to

defending the patent in the form in which it was maintained by the opposition division in its interlocutory decision. Amendments proposed by the patent proprietor as a party to the proceedings as of right under Article 107, second sentence, EPC, must be rejected as inadmissible by the Board of Appeal if they are neither appropriate nor necessary.

In the present case, it was therefore not open to the respondent simply to delete the feature objected to from claim 1 as this would have the effect of substantially increasing the scope of the protection of the patent in the appeal proceedings. This would be to the appellant's disadvantage. Should the Board consider such an amendment to be admissible, the appellant would envisage withdrawing the appeal. Instead, the only course of action open to the respondent was to restrict the thermoplastic binder film in claim 1 to specific resins which were both explicitly mentioned in the opposed patent and proved to possess the loss modulus characteristic defined by the feature objected to. Should the present Board of Appeal have any doubt about this and be inclined to go against the order of the decision G 9/92, then the requested questions should be asked to the Enlarged Board of Appeal.

VII. The respondent argued in substance as follows in support of his requests:

The skilled reader was able to determine which high molecular weight thermoplastic binder film was covered by the present formulation including the feature "a gradual change in viscosity ....in dynes per square

centimeter", even if some of these materials would not be chosen by him taking into account other technical reasons. Therefore, claim 1 of the main request was clear.

As to the admissibility of the **first auxiliary request**, the following had to be taken into account:

Firstly, if the feature objected to in claim 1 of the main request was to be considered as meaningless, then deleting it for arriving at the first auxiliary request did not extend the protection.

Moreover, according to decision G 9/92 (see point 16 of the reasons), amendments proposed by the patent proprietor and respondent in the appeal proceedings could indeed be rejected by the Board of Appeal if they were neither appropriate nor necessary, which was the case if the amendments did not arise from the appeal.

However, in the present case, where deleting the feature "**a gradual change in viscosity ....in dynes per square centimeter**" was for meeting the objection that said feature introduces unclarity, the amendment proposed for the first auxiliary request in the appeal proceedings was, in the sense of the decision G 9/92, appropriate and necessary as arising from the appeal. Therefore, it should not be rejected. This was also in line with the conclusions of decision T 752/93 stating that such amendments could actually extend the scope of the claims as maintained by the opposition division.

In any case, although the respondent was not against

referral to the Enlarged Board of Appeal of the question of "reformatio in peius" with respect to the first auxiliary request, indications by the Board about the admissibility and allowability of the sets of claims of the further auxiliary requests, some of which contain the feature objected to in claim 1, would be welcome.

Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and with Rule 1(1) and Rule 64(b) EPC and is therefore admissible.

2. *Main request*

2.1 Claim 1 of the respondent's main request comprises, in its step (3), the feature that the high molecular weight (HWM) binder film is such that it presents "**a gradual change in viscosity over a temperature interval of 50°C in the softening range indicated by a less-than-order-of-magnitude reduction in loss modulus measured in dynes per square centimeter**".

This feature has been added to claim 1 as granted during the opposition proceedings in order to specify the type of HWM thermoplastic binder film to be used in step (3) of the method and thus to restrict the method as compared to the method of claim 1 as granted, which does not specify said binder film material.

This additional feature was not comprised *verbatim* in the claims of the application as filed and it has not been disputed that the corresponding amendment of the patent in suit was based on a passage of the description of the application as filed (see page 3, lines 30 to 35) which reads as follows:

"Best results in the practice of this invention are obtained when the HMW thermoplastic binder resin has a gradual change in viscosity over a wide range of temperatures as taught in **U.S.** Patent No. **4,505,967** (Bailey) at col. 8, lines 16 to 59 and Fig. 6."

Figure 6 of **US-A-4,505,967** shows a set of graphs A to E of loss modulus in dynes per square centimeter versus temperature in degrees centigrade for a variety of polymeric materials showing a property useful in achieving retroreflective sheeting of the invention disclosed therein. However, according to this document, "best results" were obtained only with materials having properties as represented in curves A and B.

2.2 In this respect, during the oral proceedings, the Board pointed out that Figures 6 of the cross-referenced document showed a set of curves A to E and that, in addition to the curves A and B corresponding to materials which were adequate for the invention, at least curve E also appeared to satisfy the feature added to claim 1. The respondent, when asked whether methods with the material of curve E were also covered by claim 1 of the main request, answered that this material could be less convenient for other reasons, so that the person skilled in the art would not use it for

the intended purpose, but that it was covered by the claim anyway.

However, it is to be noted that, in this case, an ambiguity arises. The wording in the present description referring to US-A-4 505 967 and beginning with "Best results....." can be construed as relating to all the curves A to E, whereas the text location referred to in this document refers only to the materials of curves A and B of Figures 6 of US-A-4 505 967 for obtaining "best results".

Thus, the skilled reader is left in a situation where he cannot determine from the wording of claim 1, interpreted with the description and drawings, which are the binder film materials intended for use in step 3 of the method of this claim, either just those of curves A and B, or those of curves A, B, and also at least E.

2.3 For these reasons, the Board is not able to envisage giving a positive decision on the basis of the respondent's main request. It is therefore relevant for the further proceedings whether the respondent's first auxiliary request could be acceptable.

3. *The auxiliary requests*

3.1 In the respondent's first auxiliary request, the feature referred to above has been deleted. Thereby, the protection conferred by the patent is extended to methods of making encapsulated-lens retroreflective sheeting which are not limited to the use of a thermoplastic binder film having "**a gradual change in viscosity over a temperature interval of 50°C in the softening range indicated by a less-than-order-of-magnitude reduction in loss modulus measured in dynes per square centimeter**", as was the case for the method of claim 1 maintained by the interlocutory decision.

The respondent's argument, that if the objected feature of claim 1 of the main request was meaningless, then deleting it for arriving at the first auxiliary request did not extend the protection, cannot convince. The objection concerning said particular feature is not that it is meaningless, but that there is ambiguity concerning which binder films are covered by its formulation. For instance, it has not been disputed that binder film materials corresponding to curves A and B of Figure 6 of US-A-4 505 967 referred to in the present description satisfy the condition of said feature. However, it is not clear whether the same is true for materials showing the characteristics of curve E of this Figure (see point 2.1, supra).

3.2 In the present case it cannot therefore be disputed that the amendment leading to the first auxiliary request and consisting in the deletion of the feature "**a gradual change in viscosity ....in dynes per square centimeter**" of step (3) of claim 1 results in the scope

of protection being broadened and thus putting the appellant in a position worse than if he had not appealed. This could be the case either because of the broadened protection of the contested patent or because of the financial losses arising from the uselessly incurred costs of the appeal if the appellant, as declared during the oral proceedings, sees himself obliged to withdraw the appeal and thus accept the contested patent in a form which has been found objectionable.

It is not disputed either that the requested deletion arises from the appeal and could be considered as appropriate and necessary because it is used for meeting an objection put forward during the appeal proceedings.

The central issue to be decided in connection with the respondent's first auxiliary request is therefore whether, in the present proceedings, the amendment proposed by the non-appealing patent proprietor - i.e. deleting the limiting feature of claim 1 - which would put the opponent and sole appellant in a worse situation than if he had not appealed, must be rejected even if it arises from the appeal.

3.3 In decision T 923/92 (OJ EPO 1996, 564, points 40 to 42 of the reasons) it was set out that "in accordance with decision G 4/93 (...) amended claim requests which, if accepted by the Board, would put the appellants in a worse position than if they had not appealed must be rejected". The decison went on to state that it must therefore be examined whether the extent of protection

conferred by the amended claim was larger than that conferred by the claims maintained by the opposition division. Since, in the circumstances of that case, the Board came to the conclusion that the scope of each request was the same and that, therefore, the appellants would not be in a worse position it finally admitted the amended claim request.

Decision T 579/94 of 18 August 1998 (point 2.1 of the reasons) concerned a case in which a new set of claims was introduced by the non-appealing proprietor in response to an objection, under Article 123(2) EPC, to a claim maintained by the opposition division in amended form. The scope of the new set of claims was broader than that of the claims underlying the interlocutory decision. The Board found that, therefore, the new set of claims, if admitted by the Board, would result in a contravention of the principle of "prohibition of reformatio in peius" set out in the decisions G 9/92 and G 4/93. The fact that the new claims had been introduced in response to an objection did not, in the Board's view, justify a departure of the principle referred to above, particularly since this was not the only possible way of meeting the objection.

3.4 On the other hand, it was pointed out in decision T 752/93 of 16 July 1996 (the catchword and points 2.3 and 2.4 of the reasons) that, in a situation as referred to above, it was not relevant whether or not amendments requested by the non-appealing proprietor resulted in a limitation or an extension of the scope of the patent maintained by the opposition division in

amended form provided that the amendment was appropriate and necessary and did not infringe Article 123(3) EPC).

In case T 1002/95 of 20 February 1998 (points 3.1 to 3.5 of the reasons) the opponent and sole appellant objected to the admissibility of an amendment removing a deficiency under Article 123(2) EPC in a claim upheld by the opposition division. Since the deficiency was independent from the objections made by the appellant in the appeal, he considered himself in a worse position than when compared to the situation if no appeal had been filed. However, the Board found that a non-appealing proprietor was entitled to make amendments on its own volition even if these amendments - although occasioned by an opposition ground under Article 100 EPC - did not arise from the opponent's appeal. The Board referred to new Rule 57a EPC explicitly allowing - without any time limit - amendment of the description, claims and drawings of a patent provided that the amendments are occasioned by grounds for opposition, even if the respective ground has not been invoked by the opponent. Thus, the requirements set out in decisions G 9/92 and G 4/93 are also satisfied if an amendment does not arise from the appeal but from a ground for opposition.

3.5 From the decisions referred to above it appears that the jurisprudence of the Boards of Appeal is not uniform. On the one hand, there are decisions putting the emphasis on the principle that the opponent and sole appellant must not be placed in a worse position than if he had not appealed (point 3.3, supra). From

that principle it is derived that the scope of the claims maintained by the opposition division in amended form constituted a bar to any amendment requested by the non-appealing proprietor resulting in the broadening the claims. According to other decisions (point 3.4, supra) the only criterion to be applied for admitting such amendments is whether or not they are appropriate or necessary, be it that they arise from the appeal or from a ground for opposition, despite any broadening of the claims underlying the interlocutory decision under appeal.

An indication of the legal uncertainty created among the parties by the jurisprudence referred to above is given by the fact that the legal point referred to above was raised in several cases after the Enlarged Board of Appeal had issued its decisions G 9/92 and G 4/93 in 1994 and that in at least three cases the parties requested to refer it to the Enlarged Board of Appeal (T 752/93, T 812/94 of 14 March 1996 and the present case).

3.6 Therefore, the present Board finds that the balance of priorities of the criteria in the decision G 9/92, i.e. the worsening of the position of the sole appellant vs. the appropriate and necessary character of the amendments still needs clarification. As already set out a decision is requested for the above purposes.

In view of the above the two conditions of Article 112(1)(a) EPC for referring a matter to the enlarged Board of Appeal have been met. The issue raised is an important point of law as it touches both

on the rights of parties in appeal proceedings and the powers of the Boards of Appeal. Given that previous rulings have produced decisions stressing contradictory priorities to one or the other of the criteria set in decision G 9/92, it is also a question of ensuring uniform application of the law.

Consequently, the question arises in which circumstances an amendment in the claims requested by the proprietor and respondent could be allowed, if it put the opponent and sole appellant in a worse situation than if he had not appealed.

Order

For these reasons it is decided that:

The following point of law is referred to the Enlarged Board of Appeal:

Must an amended claim which would put the opponent and sole appellant in a worse situation than if he had not appealed - e.g. by deleting a limiting feature of the claim - be rejected?

The Registrar: The Chairman:

P. Martorana E. Turrini