



Europäisches Patentamt
Beschwerdekammern

European Patent Office
Boards of Appeal

Office européen des brevets
Chambres de recours

14

Veröffentlichung im Amtsblatt	Ja/Nein
Publication in the Official Journal	Yes/No
Publication au Journal Officiel	Oui/Non

Aktenzeichen / Case Number / N^o du recours : T 127/85 - 3.3.2

Anmeldenummer / Filing No / N^o de la demande : 80 301 578.3

Veröffentlichungs-Nr. / Publication No / N^o de la publication : 19 458

Bezeichnung der Erfindung: Blasting composition

Title of invention:

Titre de l'invention :

Klassifikation / Classification / Classement : C06B 47/14, C06B 23/00

ENTSCHEIDUNG / DECISION

vom / of / du 1 February 1988

Anmelder / Applicant / Demandeur :

Patentinhaber / Proprietor of the patent /

Titulaire du brevet :

Ireco Incorporated

Einsprechender / Opponent / Opposant :

Nitro Nobel AB

Stichwort / Headword / Référence : "Blasting compositions"

EPÜ / EPC / CBE Art. 56, 84, 100 and Rule 89 EPC

Kennwort / Keyword / Mot clé :

"Inventive step"

"Amendment - Not relating to opposition issues"

"Interpretation of ambiguous term - Consistency of disclosure"

Leitsatz / Headnote / Sommaire

I. Objections to clarity of claims or any consequent requests for amendment are only relevant to opposition proceedings as far as they can influence the decisions on issues under Art. 100 EPC or arise in relation to matter to be amended in consequence of such issues.

II. It could lead to an abuse of the opposition proceedings if the patentee were allowed merely to tidy up and improve his disclosure by amendments (here: deletion of an example) not necessitated by proper opposition grounds.

Europäisches
Patentamt

Beschwerdekammern

European Patent
Office

Boards of Appeal

Office européen
des brevets

Chambres de recours



Case Number : T 127/85 - 3.3.2

D E C I S I O N
of the Technical Board of Appeal 3.3.2
of 1 February 1988

Appellant : Nitro Nobel AB
(Opponent) S-710 30 Gyttorp

Representative : Burman, Tore
Bergling & Sundbergh AB
P.O. Box 7645
S-103 94 Stockholm

Respondent : Ireco Incorporated
(Proprietor of the patent) Eleventh Floor
Crossroads Tower
Salt Lake City
Utah 84144
U.S.A.

Representative : Boon, Graham Anthony
Elkington and Fife
High Holborn House
52/54 High Holborn
London, WC1V 6SH
GB

Decision under appeal : Decision of the Opposition Division of the European Patent Office dated 18 March 1985 rejecting the opposition filed against European patent No. 0 019 458 pursuant to Article 102(2) EPC.

Composition of the Board :

Chairman : P. Lançon

Members : G. Szabo

C. Payraudeau

Summary of Facts and Submissions

- I. European patent No. 19 458 was granted on 5 January 1983 with 13 claims in response to the European patent application No. 80 301 578.3 filed on 14 May 1980 claiming the priority of the earlier application of 21 May 1979. Claim 1 is worded as follows:

"A cap-sensitive water-in-oil emulsion blasting composition comprising a water-immiscible liquid organic fuel as a continuous phase, an emulsified aqueous, inorganic oxidizer salt solution as a discontinuous phase, an emulsifier, and perlite as a density reducing agent in an amount sufficient to reduce the density of the composition to within the range of from 0.9 to 1.4 g/cm³ characterised in that the perlite has an average particle size ranging from 100 μ m to 150 μ m and is present in an amount sufficient to render the composition cap-sensitive".

- II. An admissible notice of opposition was, on 26 September 1983, filed against the European patent requesting that it be revoked on the ground of non-patentability in the light of the state of the art. US-A-4 110 134 (1), US-A-3 406 051 (2), the brochure "Perlite" by Norcem, January 1974 (3), and the brochure "Filtration and Filler Aids by Johnny-Manville (4) were cited in support.
- III. The Opposition Division rejected the opposition in a decision dated 18 March 1985. The reason for the rejection was that none of the cited documents specifically disclosed all the features of the subject-matter of Claim 1. As to the inventive step, the closest prior art, (1), led away from the use of perlite and stressed the importance of spheres with closed cell voids, which was not normally a

characteristic of perlites. The other documents did not even remotely suggest a correlation between cap-sensitivity and anything leading the skilled person to perlite.

- IV. The Appellant (Opponent) filed an appeal against the decision on 11 May 1985 after the payment of the appropriate fee on the previous day, and submitted a Statement of Grounds on 4 July 1985.
- V. The Appellant emphasized in his submissions that (1) disclosed the improvement of cap sensitivity of the blasting compositions by incorporating closed cell material containing voids or hollow cavities, such as glass microbubbles, and that US-3-755 964 (5) cited in the search report explained that expanded perlite was suitable to reduce the density of the composition. Commercial grades of this material embraced the claimed range for perlite particles (cf. (3), 0-1.5 mm). The range based on average particle size was not clearly defined in the claims, since this could either be based on weight or on the number of particles of the materials. It could not, in any case, characterise the spread of the distribution.
- VI. The Respondent (Proprietor of the patent) cited the Appellant's admission in a parallel case of a national application that perlite was not normally a closed cell, void containing material, and argued that according to (1) such additive would not yield sensitive explosives (cf. col. 5, lines 53-60). As to the clarity of the claims it was clear from the description that the average particle size referred to was based on weight average. Only such interpretation corresponds to the values in the examples, except one which inadvertently fell outside the scope of the claim and should therefore be deleted.

VII. The Appellant requests that the decision of the first instance be set aside and the patent be revoked. The Respondent's submissions imply that he requests that the appeal be rejected.

Reasons for the Decision

1. The appeal complies with Article 106 to 108 and Rule 64 EPC and is, therefore, admissible.
- 2.1. As to the question of the alleged lack of clarity of claims in consequence of the equivocality of the term "average particle size" in the claim or of an example falling outside the scope of the claim, this need not be investigated further than what is necessary to enable the assessment of the issue already at hand, i.e. the inventive step. It is the view of the Board that such objections and any consequent requests for amendments are only relevant to opposition proceedings as far as they can influence the decisions on issues under Article 100 EPC or arise in any case in relation to matter to be amended in the patent specification in consequence of such issues. This is particularly relevant to objections under Article 84 EPC.
- 2.2. Of the two possible interpretations of the term "average particle size", namely an average based on the weight of the particles and on the number of particles, the former appears to be consistent with all examples except the one with INSULITE, the calculated average falls just outside the stated limits. This would not be the case if one were to attribute the same importance to each particle whether large or small, and then averaged according to their numbers. Such calculation would reduce the average drastically to a figure below the range specified in the claim which would then be clearly inconsistent with the

disclosure (cf. decision on the allowability of corrective amendments on a similar basis in T 13/83, "Polyisocyanoureate" (OJ 9/1984, 428)). The Board therefore accepts the interpretation of the term on the weight basis. As the true construction of the disclosure effectively removes the alleged ambiguity, there is no need to amend the claim.

- 2.3 The further criticism that the average for particle size could not characterise the spread of the distribution, and the term was therefore unreliable is again a matter under Article 84 EPC. Since the average size still governs the main aspect of the particle size distribution, and there was no suggestion that the absence of additional secondary statistical characteristics makes any difference on the real issue of the case the argument must be rejected as irrelevant.
- 3.1 The subject-matter of the patent relates to water-in-oil blasting compositions which contain perlite in an amount sufficient to reduce the density of the formulation to a value from 0.9 to 1.4 g/cm³. The closest state of the art represented by document (1) describes similar compositions which reduce the density with any closed void-containing particulate materials such as glass spheres, or microspheres made of different materials. The particle sizes ranged from 10 to 175 µm. Improved cap-sensitivity was attained, i.e. detonability with a standardised cap at specified conditions, without the use of additional detonation catalysts. (Document (1); colum 1, lines 59 to column 2, line 1 and column 5, lines 5-13).
- 3.2 The technical problem in respect of the compositions according to (1) was to provide good cap sensitivity with inexpensive and not hazardous additives. The solution of the technical problem comprises the use of perlite specifically in an average particle size ranging from

100 μm to 150 μm in an amount sufficient to render the composition cap sensitive. This can for instance be achieved by using from 2 to 4% by weight based on the total composition (cf. Claim 6). It has been possible to achieve good cap-sensitivity in small diameters (cf. page 6, lines 64-65) and at a low temperature (page 7, line 20). The effects implied by the stated technical problem have therefore been achieved with commercially easily available perlite material which is of the crushed type, i.e. without closed voids therein.

4. As none of the cited documents discloses the use of perlite additives having the required average particle size, the claimed subject-matter must be considered as novel in the formal respect. Novelty has not been challenged in these proceedings.
- 5.1 As regards the inventive step, the question arises whether it was foreseeable that an advantageous cap sensitivity would be retained when the closed void-containing materials, i.e. glass spheres or alike, are replaced by perlites of a certain size. The basic prior art in (1) warns against any expectation of achieving the same when porous, i.e. not void-containing, agglomerates are used (cf. col. 5, lines 53-60). Thus it would not have been reasonable to move in the direction of such materials to replace the closed void-containing particles at all.
- 5.2 Even if the skilled person was fully aware, for instance on the basis of the much earlier document (2), that gas provided by occluded air for instance in a gas entrapping material, i.e. hollow microspheres or expanded perlite, i.e. not crushed closed material (col. 3, lines 59-67), was already used to reduce the density of the composition, this was not to increase cap sensitivity, at least primarily, since it was employed besides strontium ion as an essential

ingredient incorporated for the very purpose. Citation (1) also refers to various expanded materials, including such perlite (cf. col. 6, lines 12-14) to serve to lower the composition density. What was not apparent from the state of the art was the expanded effect of ordinary perlite, which was accepted by the Appellant as normally not closed material, in consequence of milling or crushing.

5.3 In view of the variety of sources for such kind of perlite (the specification relies on four different samples of commercially available brands), the ordinary meaning of perlite without the qualification of "expanded" must be construed in the sense of not being closed. Irrespective of the actual publication date of the brochure (4), purporting to show the free availability of expanded perlite as well, it must be noted that even this document is not unequivocal about such characteristics. The brochure explains the expansion of perlite to thirty times the volume when heated, and the following sentence then states that "as perlite expands, it creates an almost infinite variety of shapes, which when milled and classified form filter matrix of exceptionally high surface area" (emphasis added). The same page is headed "a variety of grades for specific filtration and filter application". The impression is given that the claimed properties are provided by milling.

5.4 Thus one distinction to the prior art is partly due to the implied necessity of using non-closed material in contrast to globules and spheres in the citations. Another essential distinction is based on the discovery that the cap-sensitivity of such material is correlated with a size distribution since outside of the range the effect is lost (page 7, lines 6-7). The selected range is narrow (100 to 150 μm) which was not, as such, easily available to the skilled person without special effort in view of the broad size range advertised by the sources of perlite (cf. (3),

0-1.5 mm at the best). The position of the range is important and the correct interpretation of the term "average size" crucial to the understanding of the invention. The teaching of the patent, i.e. the success in respect of the effect to produce good cap-sensitivity and the necessary selective measures as to the choice of ordinary perlite and of the required particle size is, in view of the warning in (1) against such a move, unexpected and therefore inventive.

6. The Board does not see any need to restrict the term "perlite" expressly to such ordinary milled variation since the likelihood of confusion is minimal and the skilled person would naturally select the common variety of perlite on the basis of the disclosure.

7.1 As to the request from the Respondent to delete the example titled INSULITE from the specification, the Board considers this as unacceptable in the circumstances of the case. Some uncertainty or ambiguity, i.e. lack of clarity may arise in certain instances for a claim which is otherwise perfectly clear in language and semantic content, if an example purporting to illustrate the invention falls outside its scope. This is, however, purely a question under Article 84 EPC relevant to the prosecution of the application before grant or to the proper examination of the allowability of an amended claim contemplated after grant. Any deficiency in this respect is, however, itself no ground whatsoever for opposition under Article 100 EPC before the EPO, including self-opposition in consequence of a decision of the Enlarged Board of Appeal (Gr 01/84 "Opposition by the proprietor/Mobil Oil", OJ 10/1985, 229) by the proprietor, and cannot therefore be considered by the Board unless the uncertainty of the scope of the claim influences the outcome of legitimate issues. It could lead

to an abuse of the institution of opposition proceedings if the patentee were allowed merely to tidy up and improve his disclosure by amendments not necessitated by the proper opposition grounds themselves even if the amendments were to comply with Article 123 EPC.

- 7.2 The requested correction of the specification cannot be construed as coming within Rule 89 EPC, either, since it cannot be considered in any case as an obvious mistake in the decision to grant the patent. This is because the original insertion of the example in the text could have also served the purpose of supporting a broader claim than that which was eventually granted. The request for the amendment cannot therefore be entertained, in the present case, for the patent under any of the provisions of the Convention.

Order

For these reasons, it is decided that

The appeal is rejected.

The Registrar:

The Chairman:

F.Klein

P.Lançon