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D E C I S I O N
of 19 October 1995

Case Number: T 0920/92 - 3.4.2

Application Number: 85100895.3

Publication Number: 0160778

IPC: G02B 6/44

Language of the proceedings: EN

Title of invention:
Waterproof optical fiber cable

Patentee:
Mitsubishi Cable Industries, Ltd.

Opponent:
Philips Patentverwaltung GmbH

Headword:
-

Relevant legal provisions:
EPC Art. 14(1), 54, 56, 80(d), 83, 100(b)
EPC R. 1(3) EPC

Keyword:
"Patent application filed in one of the official languages - yes"
"Documents in any language may be cited"
"Disclosure - cross reference"
"Inventive step - yes"

Decisions cited:
-

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0920/92 - 3.4.2

D E C I S I O N
of the Technical Board of Appeal 3.4.2
of 19 October 1995

Appellant: (Opponent)
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Decision under appeal: **Decision of the Opposition Division of the European Patent Office dated 8 May 1992, posted on 4 August 1992, rejecting the opposition filed against European patent No. 0 160 778 pursuant to Article 102(2) EPC.**

Composition of the Board:

Chairman: E. Turrini
Members: W. W. G. Hofmann
M. Lewenton

Summary of Facts and Submissions

1. The Appellants (Opponents) lodged an appeal against the decision of the Opposition Division on the rejection of the opposition against the patent No. 0 160 778.

Opposition had been filed against the patent as a whole and based on Article 100(a) and (b) EPC.

The Opposition Division had held that the grounds for opposition mentioned in Article 100(a) and (b) EPC did not prejudice the maintenance of the patent unamended, having regard to the following documents

(D1) DE-A-2 946 027
(D2) EP-A-0 137 203 (prior art under Article 54(3) EPC)
(D3) DE-A-2 806 510
(D4) JP-A-56/78806 (English abstract)
(D5) DE-A-2 657 280
(D6) Ullmanns Enzyklopädie der technischen Chemie, Band 2/1, München-Berlin, 1961, page 778.

II. Upon summons to oral proceedings, the Appellants communicated to the Board that they would not participate in the oral proceedings.

In the letter of appeal, the Appellants requested the revocation of the patent as a whole.

Oral proceedings were held in the absence of the Appellants. The Respondents (Proprietors of the patent) requested that the patent be maintained on the basis of an amended Claim 1 filed at the oral proceedings.

III. The wording of Claim 1 on file at the time of the present decision reads as follows:

"1. An optical fiber cable comprising a water blocking layer (3), an optical fiber (12) disposed inside the water blocking layer, and a water blocking material (5) filling the space between the water blocking layer and the optical fiber, wherein the blocking material (5) is grease and has an apparent viscosity, as measured in accordance with JIS (Japanese Industrial Standard) K 2220-1980, 5.15, of lower than 3x103 Pa.s (3x104 poise) at 40°C, at a shear rate of 10 sec.-1; a worked penetration, as measured in accordance with JIS K 2220-1980, 5.3, of 145 to 450 at 25°C; and also an unworked penetration, as measured in accordance with JIS K 2220-1980, 5.3, of at least 105 at 0°C."

IV. The Appellants substantially argued as follows:

The Japanese Industrial Standard to which reference is made in Claim 1 and the description of both the original application and the patent, is a document written in Japanese, which is none of the official languages of the EPO. Since according to the EPC the application has to be written in one official language, the reference to documents written in Japanese has to be ignored (otherwise a potential (national) infringer or potential opponent would have to understand Japanese in order to find out whether he infringes the patent or not, or whether he should file an opposition). Therefore, lacking information as to the test method used, the given values concerning apparent viscosity, worked penetration and unworked penetration have no meaning at all, and the invention cannot be carried out by a skilled person (Articles 83 and 100(b) EPC). The text referring to the American ASTM method was not in the original application and thus constitutes added

subject-matter, contrary to Articles 123(2), 100(c) EPC. Since the thus undefined parameters have to be ignored, the claimed subject-matter also lacks novelty or inventive step, in particular having regard to D1.

V. The Respondents' arguments can be summarised as follows:

In accordance with the EPC, reference can be made to documents of any language, otherwise there would be an unjust difference between attacks against novelty and inventive step which can be based of documents in any language, and assistance to the teaching of the application by means of cited documents. Therefore, the parameters given in Claim 1 are well defined and form part of the invention. None of the documents cited against the patent mentions, either explicitly or implicitly, a water blocking material having these parameters. In particular, although the classes of compositions mentioned in D1 might comprise some compositions having an apparent viscosity at a shear rate of 10 s-1 and a worked penetration at 25°C falling within the ranges defined therefor in Claim 1, the unworked penetration cannot at all be determined for (and attributed to) the materials mentioned in D1 since they are gels. In order to make the main point of the invention even clearer, Claim 1 now defines the water blocking material as grease. This is in itself a clear distinction from D1 which uses gels. None of the cited documents suggests the use of a grease. The grease, however, does not need heating for filling it into the cable and does not solidify as fast as gels during the filling.

Reasons for the Decision

1. The appeal is admissible.

2. The reference to the Japanese Industrial Standard (JIS)

2.1 The references in Claim 1 and in the description to the JIS are essential since the meaning of the values of "apparent viscosity", "worked penetration" and "unworked penetration" depends very much on the definition of these terms and the specific method according to which they are determined. For defining the meaning of these parameters, any clear and complete description of a measuring method would be acceptable. The JIS is such a description.

2.2 The Appellants argue that the present application was not filed in one of the official languages of the European Patent Office as required by Article 14(1) EPC or is not clear and complete for it to be carried out by a person skilled in the art, in the sense of Articles 83 and 100(b) EPC, since it contains and has to rely on references to the JIS which is written in Japanese.

2.3 In the view of the Board, the said requirement of Article 14(1) EPC has to be understood in the usual sense in which any reader judges whether a text is eg English, French or German, ie by classifying the text as to the words and the grammar used. In this sense the text of the present application (and patent) is English. The language of citations to which reference is made, be it for the purpose of acknowledging prior art or of supplementing the teaching of the application, does not form a criterion for judging the language of the text

itself. Therefore, the requirements of Article 14(1) EPC are fulfilled in the present case. The same is true with regard to Article 80(d) EPC.

2.4 The Board does not see any restriction in the EPC for the language in which a text cited for reference in an application may have been written. On the contrary, Rule 1(3) EPC states that documents to be used for purposes of evidence before the European Patent Office (which will usually be the case for citations), and particularly publications, may be filed in any language, and Article 54(2) EPC determines that the state of the art comprises everything (without any restriction concerning the language) made available to the public, eg by means of a written description, before the date of filing of the European patent application (the JIS constitutes such piece of the state of the art). Reference can, in principle, be made to any piece of prior art, be it for any purpose whatsoever. Articles 83 and 100(b) EPC, which the Appellants consider contravened, refer to the "person skilled in the art". This hypothetical person, however, must be considered to understand all documents of the state of the art in the sense of Article 54(2) EPC, ie his understanding is independent of the language.

This lack of restriction as to the language of evidence and prior art may sometimes cause inconvenience for the public as well as for the applicants. But it is no doubt intentional that such restrictions have been left out of the EPC.

2.5 Naturally, independently of the question of language, the connection of cited information with the content of the application or patent must be clear and unambiguous.

This is the case in the patent in suit where the JIS defines the test method for the measurement of the parameters specified in Claim 1.

It is of no relevance for the above considerations, but may nevertheless be mentioned here, that the JIS is also available in the form of a published English translation. Copies thereof have been filed by the Respondents upon request of the Board.

2.6 For these reasons, the reference in Claim 1 and in the description to the JIS forms part of the original disclosure and of the patent.

Consequently, the invention is disclosed in the patent in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art (Articles 83 and 100(b) EPC).

3. The comments regarding the American Standard ASTM made on page 3, lines 20/21 and 32/33; page 5, lines 64/65; and page 6, lines 1, 3 and 4, of the patent specification, which comments were not contained in the original application, do not form subject-matter extending beyond the content of the application as filed in the sense of Articles 123(2) and 100(c) EPC since - like complementing values of measurement originally given in one system of units with the corresponding values according to another system of units - they only express in other words the same information concerning the indicated parameter values as already disclosed in the original application.

The feature "grease" added to Claim 1 after grant is originally disclosed in Claims 4 to 8 and eg on page 6, line 22, and page 7, last line, to page 8, line 8, of the description.

The addition of this feature only limits the scope of Claim 1.

For these reasons, the requirements of Articles 123(2) and (3) and 100(c) EPC are fulfilled.

All of the essential amendments to the patent as granted were submitted by the Respondents with their letter of 20 September 1995, and only linguistic amendments added at the oral proceedings, so that no new facts were put forward in the absence of the Appellants (in conformity with decision G 4/92 (OJ 94, 149) of the Enlarged Board of Appeal).

4. *Novelty*

4.1 D1 (see in particular Claim 1; page 2, line 31, to page 3, line 3; and page 3, line 31, to page 4, line 7) discloses an optical fibre cable comprising a water blocking layer ("Schutzhülle"), an optical fibre disposed inside the water blocking layer, and a water blocking material filling the space between the water blocking layer and the optical fibre.

However, the water blocking material is not a grease, but a gel or gel-like substance. It should be pointed out that the term "grease" is well defined in the art and distinguished from "gel", in particular by the structure of the colloidal system.

No values are given in D1 for the apparent viscosity, worked and unworked penetration.

With their letter of 20 September 1995, the Respondents have filed Comparative Tests conducted with some materials prepared from specific compounds from the groups of compounds indicated in Tables I and II of D1.

The result was that one of the four chosen materials had values of apparent viscosity and worked penetration falling within the ranges specified in present Claim 1. Values for the unworked penetration could not be given for any of the materials since the materials did not allow penetration of the test cone. This is a consequence of the gel-like nature of the materials according to D1.

Thus, for the double reason that neither the specific compounds leading to the coinciding apparent viscosity and worked penetration values are indicated in D1, nor is there any correspondence of unworked penetration values, the disclosure of D1 does not, even implicitly, anticipate a water blocking material having the set of parameters as claimed in the patent in suit.

4.2 D2 is not prepublished and represents prior art only in the sense of Article 54(3) EPC. It describes an optical fibre cable comprising a water blocking material made of grease having values of the worked penetration at 25°C falling within the range specified in present Claim 1 (see in particular page 7 and Table 1).

However, no values for the apparent viscosity and for the unworked penetration at 0°C are given.

4.3 D3 relates to a water blocking material for a cable. This material (see in particular Table II on page 11) has values of the worked penetration of 200 to 257 at 25°C (measured according to ASTM D-217 which corresponds to the test method referred to in Claim 1).

However, the cable is not an optical, but an electrical cable, the water blocking material does not consist of grease, but mainly of petrolatum, the apparent viscosity is not indicated, and the given values for the unworked

penetration (highest value 94, measured not at 0°C, but at 25°C) are lower than the minimum of 105 at 0°C specified in Claim 1.

4.4 The optical fibre cable according to D4 is filled with a water blocking material.

However, this material is polybutene or vaseline for the worked and unworked penetration of which no values are given. A viscosity value of eg 105 centipoise is mentioned which, however, cannot be compared with the claimed apparent viscosity values since no shear rate for the measurement is indicated.

4.5 D5 describes an electrical cable, the filling material of which is neither a grease, nor has any specified values of apparent viscosity, worked and unworked penetration.

4.6 D6 is part of a textbook and deals with the term "apparent viscosity". No specific values or applications to optical cables are indicated.

4.7 Therefore, the subject-matter of present Claim 1 is novel in the sense of Article 54 EPC.

5. *Inventive step*

5.1 D1 is considered as representing the closest prior art since not only does it relate to an optical cable filled with a water blocking material, but it also mentions at least some of the problems with which the patent in suit is also concerned, ie avoiding push or pull forces acting on the optical fibres, which forces might be caused by the water blocking material during filling or during external movements at various temperatures (see in particular pages 2 and 3).

However, with the gel-like materials according to D1, these problems are not yet satisfactorily solved since gels tend to solidify too fast during filling of the cable and have too pronounced a dependence of their properties on temperature. The water blocking material should not be too hard, even at very low temperatures. Moreover, materials of excessive flowability are to be avoided because they may flow down in the interior of the cable at inclined sections thereof and thus even cause breaks in the sheath (cf. page 2, lines 37 to 41 and 44 to 46, and page 3, lines 22 to 27, of the patent specification). The patent in suit aims at improving all these properties.

5.2 The first step towards solving this problem is using a grease. Grease does not show such a strong dependence of its hardness and viscosity on shear stress (thixotropy) and does not change its properties as fast as a gel. There is no suggestion in any prepublished prior art document concerning grease.

The prior art also does not give any suggestion to choose the set of parameter values in accordance with the claimed values. The parameters apparent viscosity, worked penetration and unworked penetration are not arbitrarily chosen for further defining the water blocking material, they are, on the contrary, the usual parameters for defining the properties of greases and similar materials, and it is indeed these properties which have to be balanced to solve the underlying problem.

While it might be obvious to choose a low apparent viscosity for filling the cable, it is not so straightforward to find the necessary range for the worked penetration. D1 and D4 give no teaching in this respect and D3 (which shows a range of worked

penetration values interleaving with the claimed range) relates only to electrical cables which the skilled person would expect to be less sensitive to stress and bending (but more sensitive to electrical conductivity) so that other parameter values might be required. The unworked penetration is only mentioned in Table II of D3 (which relates to electrical cables), and the indicated maximal value of 94 measured at a temperature of 25°C is considerably lower than the values of at least 105 measured at 0°C according to Claim 1.

For suitably choosing the whole set of claimed parameters, a quantitative insight into the complicated mechanisms of movements and stresses of the optical fibres in the cable would be required which would go beyond the capabilities of an average person skilled in the art.

5.3 From the Appellants, arguments regarding inventive step have come only during the opposition procedure. These arguments related to the alleged fact that the choice of the necessary parameters followed automatically from the evident aims regarding filling and working with the optical cable. This question has already been dealt with in paragraph 5.2 above.

5.4 For these reasons, the subject-matter of Claim 1 involves an inventive step in the sense of Article 56 EPC. Claim 1 is therefore allowable (Articles 52(1) and 100(a) EPC).

The dependent Claims 2 to 9 are allowable due to their dependence on the allowable Claim 1.

6. The patent and the invention to which it relates thus meet the requirements of the EPC (Article 102(3) EPC).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the Opposition Division with the order to maintain the patent in amended form as follows:

   Claims 1 to 9,
   description pages 2 to 20,
   Figures 1 and 2,

   all as presented during the oral proceedings.

The Registrar: The Chairman:

P. Martorana E. Turrini