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**Datasheet for the decision
of 24 September 2020**

Case Number: T 1233/16 - 3.2.06

Application Number: 08797931.6

Publication Number: 2337890

IPC: D07B1/16, C08J5/10

Language of the proceedings: EN

Title of invention:

Use of a friction stabilizer in a polymer jacket material of a cord and corresponding method of making a cord assembly comprising a jacket

Patent Proprietor:

Otis Elevator Company

Opponent:

Inventio AG

Headword:

Relevant legal provisions:

EPC Art. 108, 100(b), 83
EPC R. 99(2)
RPBA Art. 12(4)
RPBA 2020 Art. 13(1)

Keyword:

Admissibility of appeal - appeal sufficiently substantiated
(yes)

Late-filed document - admitted (no)

Sufficiency of disclosure - (no)

Decisions cited:

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 1233/16 - 3.2.06

D E C I S I O N
of Technical Board of Appeal 3.2.06
of 24 September 2020

Appellant: Inventio AG
(Opponent) Seestrasse 55
6052 Hergiswil (CH)

Respondent: Otis Elevator Company
(Patent Proprietor) One Carrier Place
Farmington CT 06032 (US)

Representative: Schmitt-Nilson Schraud Waibel Wohlfrom
Patentanwälte Partnerschaft mbB
Pelkovenstraße 143
80992 München (DE)

Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 4 March 2016
rejecting the opposition filed against European
patent No. 2337890 pursuant to Article 101(2)
EPC.**

Composition of the Board:

Chairman M. Harrison
Members: M. Hannam
W. Ungler

Summary of Facts and Submissions

I. An appeal was filed by the appellant (opponent) against the decision of the opposition division rejecting the opposition to European patent No. 2 337 890. It requested that the decision under appeal be set aside and the patent be revoked.

II. In its letter of response, the respondent (patent proprietor) requested that the appeal be rejected as inadmissible or that the appeal be dismissed.

III. The following documents, referred to by the appellant in its grounds of appeal, are relevant to the present decision:

D17 GB-A-782 445
D22 EP-A-0 617 079
D26 US-A-2003/0166749

IV. The Board issued a summons to oral proceedings and a subsequent communication containing its provisional opinion, in which it indicated *inter alia* that the appeal appeared to be admissible and that the absence of a test for determining the claimed 'desired friction characteristic' might be prejudicial to maintenance of the patent under Article 100(b) EPC unless such a test for establishing that feature was already known in the art.

V. With letter of 5 August 2020, the appellant filed a further document:

D28 Inventio AG, Qualification Test "Qualification

PVx0-1.73S PU FR"

VI. With letter of 6 August 2020, the respondent filed auxiliary requests 1 to 3.

VII. Oral proceedings were held before the Board on 24 September 2020. The requests of the parties at the end of the proceedings were as follows:

The appellant requested that the decision under appeal be set aside and the patent be revoked.

The respondent requested that the appeal be rejected as inadmissible or that the appeal be dismissed (main request), auxiliarily that the patent be maintained in amended form on the basis of one of the first to third auxiliary requests filed with letter dated 6 August 2020.

VIII. Claim 1 of both the main request and auxiliary request 1 read as follows:

"Use of at least one of melamine cyanurate, melamine-phosphate, and hydrocarbon phosphate as a friction stabilizer (62) in an assembly (26, 48, 56) comprising: at least one elongated tension member (32), and a jacket (34) covering at least some of the at least one tension member, the jacket comprising a polymer material (68) and the friction stabilizer, the friction stabilizer facilitating maintaining a desired friction characteristic of at least an exterior surface on the jacket (34)."

Claim 1 of auxiliary request 2 reads as for claim 1 of the main request with the following feature appended:

"and the jacket material including from 0.2% to 20% by weight of the friction stabilizer (62)".

Claim 1 of auxiliary request 3 reads as for claim 1 of the main request with the following feature appended:

"wherein the polymer material comprises between about 0.2% and about 10% by weight of the friction stabilizer (62)".

IX. The appellant's arguments may be summarised as follows:

The appeal was admissible. In arguing substantively against the objections raised in the grounds of appeal, the respondent had shown these to be understandable such that the appeal as a whole was admissible.

Documents D22, D26 and D28 should be admitted. D26 deprived the subject-matter of claim 1 of novelty while the other documents showed that the addition of melamine cyanurate to a polymer material had a negative impact on the polymer's mechanical properties.

The invention was not disclosed in a manner sufficiently clear and complete for the skilled person to carry it out for a number of reasons, for example: the patent failed to provide a test method for the stabilisation of the desired friction characteristic; not a single worked example was disclosed for the composition of the claimed assembly; the time over which the desired friction characteristic should be maintained was not disclosed; the effect of external influences such as lubricants and impurities on the desired friction characteristic was not acknowledged; and the composition of the polymer / friction stabilizer in the assembly was undefined. Consequently

the skilled person would not know whether they had actually carried out the invention or not.

The late-filed auxiliary requests 1 to 3 suffered from the same objections as the main request.

X. The respondent's arguments may be summarised as follows:

The appeal was inadmissible as it failed to indicate the reasons for setting aside the decision impugned (Rule 99(2) EPC) and failed to enable the Board to understand immediately why the decision was incorrect without first having to make investigations of its own. The opposition division had decided on matters of sufficiency of disclosure, added subject-matter, novelty and inventive step yet the grounds of appeal referred just once to the decision and even then without providing an objection which could be clearly understood. Numerous findings of the opposition division remained unchallenged by the appellant in its grounds of appeal such that the appeal should be found inadmissible.

Documents D22, D26 and D28 should not be admitted. They were all late-filed and lacked *prima facie* relevance.

The main request met the sufficiency of disclosure requirements. The provision of a specific test method was not necessary for the claimed 'desired friction characteristic' to be reliably achieved by the skilled person. It would be evident to the skilled person that the friction characteristic claimed was basically the coefficient of friction and that this must be maintained during a period of normal use, including running and standby conditions, for the particular

system under consideration. The term 'friction characteristic' thus covered the variety of requirements of friction behaviour in the particular system under consideration i.e. a traction sheave against an elevator hoist rope, or the handrail of an escalator. Since coefficient of friction was dependent upon contact between two surfaces, yet only the jacket of the tension member was included in claim 1, the term friction characteristic was appropriate and the skilled person would know, for any system, which desired friction characteristic was intended. In order to evaluate whether the friction stabilizer had facilitated maintaining that desired friction characteristic, the skilled person would devise a comparative test, one with, the other without the additive, at conditions reflective of usual running conditions for the system and where necessary further adapting the test to simulate the intended lifespan running period. External influences, such as temperature, humidity and the presence of lubricants would be eliminated with the comparative testing as they would be the same in both. The test would be run until a difference in friction characteristic was observed between the two test samples. The expression 'facilitating' maintaining of the friction characteristic reflected the fact that the additive may not be the sole factor influencing the 'maintaining' of the friction characteristic. For any given system the skilled person would understand what the acceptable tolerance in the friction characteristic would be and would thus have no difficulty in establishing when a tested additive in a polymer material of the jacket had enabled the invention to be carried out. As the skilled person understood the claimed friction characteristic to be coefficient of friction, the evaluation of whether the desired friction characteristic had been

maintained was not subjective since an appropriate objective test of the coefficient of friction for the system would be self-evident. The skilled person would not run the comparative test for a fixed time, rather it would be run until a significant difference occurred between the two samples. As regards the breadth of claim 1, the skilled person would take the suggested polymer in para. [0021] of the patent with one or more of the additives in various weight percentages and test until a variance between the samples was measured. Setting up such a test would be self-evident for the skilled person.

Reasons for the Decision

1. Admissibility of the appeal

The Board finds that the grounds of appeal meet the requirements of Article 108 EPC in combination with Rule 99(2) EPC and the appeal is thus admissible.

1.1 In its preliminary opinion with regard to the inadmissibility objection, the Board indicated in points 1.1 to 1.5 as follows:

"1.1 Even though the grounds of appeal do not appear to comprehensively question the correctness of every aspect of the appealed decision, it seemingly does identify several alleged shortcomings therein and addresses these.

1.2 For example, on page 2, penultimate paragraph of the grounds of appeal, the appellant indicates that the opposition division was not convinced of its arguments regarding the polymer additives failing to achieve the effect claimed. It concludes that the proprietor should

have been required to prove that the claimed technical effect can be achieved. This argument is relevant for the opposition division's resulting conclusion with respect to both Article 100(b) and 100(a) EPC, such that this appears to be a first matter where the decision is considered incorrect and it has been addressed.

1.3 Or, on page 3, paragraph I.1, of the grounds of appeal, the appellant identifies that the decision poses a particular objective technical problem to be solved. However, the paragraphs from I.2 onwards all seem to stem from paragraph I.1 in their arguments, such that these do indeed all seem to be addressing, albeit arguably in a somewhat indirect manner, the Article 100(b) EPC finding of the opposition division. This appears to be a second incorrectness identified by the appellant in its grounds of appeal.

1.4 Likewise under 'novelty' - at least in respect of the subject-matter of claims 1 and 9, this has clearly been addressed in respect of D17, albeit making an initial reference to inventive step but arguing that a certain feature must be left out of the considerations to be made and thus explaining why a lack of novelty exists. This can only be directed to item 4.4.5 of the decision which concerns D17.

1.5 It is noted that admissibility of an appeal can only be assessed as a whole and the appellant appears to have questioned the correctness of the decision in at least two aspects and it has addressed these aspects in an understandable way. The appeal thus appears to be admissible."

1.2 At oral proceedings before the Board, in knowledge of the above preliminary opinion, the respondent declined to provide further arguments with respect to the admissibility of the appeal, indicating that it relied

upon its written submissions in this regard. The Board thus sees no reason to change its preliminary opinion and therefore confirms the same for the same reasons as already given in the communication.

1.3 The appeal is admissible.

2. *D22, D26, D28 - admittance*

The Board held D26 inadmissible under Article 12(4) RPBA 2007 and decided to not admit D22 and D28 into the proceedings under Article 13(1) RPBA 2020. The reasons for this are not given here due to their lack of relevance in respect of the final decision on the present appeal and due to the fact that the appellant is not adversely affected in view of the outcome of the proceedings.

3. *Article 100(b) EPC*

The Board finds the ground for opposition under Article 100(b) EPC to prejudice maintenance of the patent according to the main request.

3.1 The patent fails to disclose a test for 'facilitating maintaining a desired friction characteristic' such that the skilled person is unable to ascertain whether the invention has been carried out or not. The patent further fails to teach the skilled person, if they were to devise a test themselves, how to select appropriate test conditions, such as the time period to run the test or the temperature at which the test is carried out, in order to establish whether the condition of facilitating maintaining the 'desired friction characteristic' has been met.

- 3.1.1 According to established case law of the Boards of Appeal (see e.g. Case Law of the Boards of Appeal, 9th Edition, II.C.5.5, Parameters) when an invention is defined by way of a parameter, the invention may be considered sufficiently disclosed if the parameter can be clearly and reliably determined using objective procedures usual in the art. However in the present case, the nature of the 'desired friction characteristic' parameter itself is not even immediately evident to the skilled person; for example, in what way can the friction characteristic be seen as 'desired' and is the friction characteristic simply 'coefficient of friction'? The breadth of such definitions is found by the Board to require a test method to be provided in the patent itself to enable the skilled person to carry out the invention, or indeed to know when the invention has been carried out, let alone reliably. This is lacking in the present case.
- 3.1.2 Even if the respondent's argument that the 'desired friction characteristic' could only reasonably be understood as the 'application specific coefficient of friction of interest' were accepted (which appears doubtful as the scope of the claim is evidently broader), the skilled person would still be unable to ascertain whether they had achieved the claimed 'facilitating maintaining a desired friction characteristic'. The respondent described a comparative test as being the obvious method which the skilled person would follow, in which one assembly would include, and another would be without, the friction stabilising additive. These two assemblies would then be tested in parallel, under the same test conditions, until such a time that a difference in friction performance was noted. However, whilst this may well be

suitable, it is noted that no such method is disclosed in the patent and, even if it were to be followed, at least the following issues would result in the skilled person being unsure whether they had carried out the invention or not.

- 3.1.3 Firstly, the patent fails to provide any indication over what period of time the desired friction characteristic should be maintained. The skilled person thus has no guidance as to what period to try in order to test a sample, let alone under what further conditions such as the load to apply. The respondent's argument in this regard, that the skilled person would, from their general knowledge, run a test using typical and reasonable conditions until a significant difference was detected between the comparative samples is not accepted. Absolutely no guidance is provided in the patent as to whether the period to expect for any effect to occur would be a matter of days or even a matter of years. It is unreasonable to expect the skilled person to have to accommodate such differences in test period without the slightest indication of what might be expected and when. One can also imagine a situation where the friction characteristic is maintained over, say, 2 weeks (and would thus possibly meet the invention) but after 6 months has no longer 'maintained' the desired friction characteristic (and thus possibly no longer meets the invention). Such a situation could be imagined to occur for example simply if the friction stabilizer were distributed just in the surface of the assembly (which is not excluded by claim 1), any effect of it being lost when the surface has slightly worn. In such a situation, clearly falling within the scope of claim 1, the skilled person would not know whether they had then carried out the invention or not without guidance as to what time

period of testing had to be considered.

3.1.4 The patent also fails to provide any indication of a temperature or humidity at which a test of the friction characteristic should be carried out. The respondent's contention that any temperature effect would be eliminated due to the comparative test eliminating the impact of such influences, does not convince the Board. The physical characteristics of materials are known to be significantly different dependent on the ambient temperature and humidity at which these are measured. Lacking any indication in the patent of a temperature at which to test the comparative samples would place the skilled person in a quandary as to the test conditions they should choose in order to evaluate whether they have carried out the invention or not. The skilled person's knowledge of materials, e.g. polymeric materials, responding differently to the same temperature change would also result in their not knowing whether a test carried out at 10°C would provide the same result as one at say 50°C. The respondent's argument that the skilled person would simply know what conditions the tension member would be placed under in normal use, however ignores the fact that the claim allows any use of such a tension member such that the skilled person cannot know in advance which conditions should be tested.

3.1.5 Although the respondent also argued that it was for the appellant to show that the invention could not be carried out, and not for the respondent to prove that it could be, and while the Board accepts that this principle is generally the case, the number of variables and unknowns in any form of testing in this particular case leaves the Board in no doubt that details of a test method are indeed required if the

skilled person is to be able to carry out the invention in regard to the feature 'facilitating maintaining a desired friction characteristic'.

- 3.1.6 It is further noted that, even if the Board were to accept the respondent's suggested comparative test of the coefficient of friction as being sufficient and determinant in all cases, the skilled person still has no guidance as to when the invention would have been executed with regard to the accepted tolerance in measured coefficient of friction. For example, if both the comparative samples start by displaying substantially identical frictional behaviour, what degree of divergence in measured coefficient of friction between the samples is acceptable before the desired friction characteristic is no longer to be regarded to have been 'maintained' let alone 'facilitated' in this maintenance? Is a relative drop in coefficient of friction between the samples of 1% already outside the scope of the claim (or is this to be regarded as possible experimental error), or does this only become of relevance at (say) 5%? The respondent's suggestion that a typical elevator drive sheave / hoist rope combination would have a tolerance range of acceptable coefficients of friction before acceptable drive is lost and that this was thus the standard to consider with regard to the friction characteristic having been maintained, is however not accepted in respect of the comparative samples. The patent lacks any indication of how the 'maintaining a desired friction characteristic' is to be interpreted. Even if the respondent's contention were reasonable for a 'typical' elevator sheave / rope arrangement, the scope of claim 1 is much broader than this, including, for example the 'desired friction characteristic' of e.g. a hand on an escalator handrail or even other

applications of the exact same tension member in a different frictional environment or system. The skilled person has absolutely no guidance regarding what change in friction characteristic may be acceptable in such cases before the parameter might no longer be regarded to have been maintained.

- 3.1.7 For at least these reasons, the respondent's contention that the skilled person would devise a test using their common general knowledge allowing them to reliably carry out the invention is not persuasive.

- 3.2 Separately from the lack of a method for testing whether the invention has been reliably carried out, the patent further fails to teach the skilled person how to choose the variables in the construction of the assembly of the claimed use.
 - 3.2.1 Albeit the respondent made reference to the fact that the opposition division concluded that at least one way of putting the invention into effect had been given (see the impugned decision page 8), on closer inspection it is noted that the patent fails to provide any single fully worked example of a suitable composition of the assembly of the claimed use. For example, para. [0021] of the patent indicates the jacket of the tension member comprising thermoplastic polyurethane, yet provides no complete composition of the materials in the jacket. Possible friction stabilizer additives are disclosed in para. [0030] and [0031] with suggested weight percentages of these in the 'base polymer resin' of from 0.2% to 20%, yet not a single worked example is given indicating a specific weight percentage of a particular friction stabilising additive, let alone any specific application of same.

3.2.2 As a consequence of there not being a single worked example in the patent, and ignoring the lack of any known or described test to allow a skilled person to ascertain the claimed facilitating maintaining of a 'desired friction characteristic', the skilled person is anyway essentially faced with a not insignificant programme of research and experimentation in order to establish what jacket material composition and friction additive weight percentage might possibly reproduce the invention as defined in claim 1. Such a programme of research places an undue burden on the skilled person trying to carry out the invention, such that, also for this reason, the requirements of sufficiency of disclosure are not fulfilled.

3.2.3 The respondent's argument in this regard, that the skilled person would take the suggested polymer in para. [0021] of the patent with one or more of the additives in various weight percentages and test until a variance between the samples was measured, fails to persuade the Board that an undue experimental burden is not required of the skilled person. However self-evident the respondent alleges such an experimental programme to be, which is anyway not accepted (see point 3.2.2 above), the number of combinations of assembly compositions due to various possible polymer materials, friction stabilizer combinations and weight percentages of friction stabilizer (even if this/these were evenly distributed within the polymeric jacket by using a particular method of manufacture) clearly lead to a vast array of possible assembly compositions. This presents an undue burden on the skilled person trying to carry out the invention of claim 1.

3.2.4 Therefore for this reason too, the invention is not disclosed in a manner sufficiently clear and complete

for it to be carried out by a person skilled in the art.

3.3 Therefore the ground for opposition under Article 100(b) EPC prejudices maintenance of the patent as granted. The main request is thus not allowable.

4. *Auxiliary requests 1 to 3*

4.1 *Admittance, Article 13(1) RPBA 2020*

4.1.1 Having been filed with letter of 6 August 2020, the admittance of these requests is at the discretion of the Board. One of the requirements to be met in order to admit a request at this stage is that it *prima facie* overcomes the objections raised.

4.1.2 As regards claim 1 of auxiliary request 1, this is identical to claim 1 of the main request, such that the objections found to prejudice maintenance of the main request apply equally to claim of the present request, albeit under Article 83 EPC.

4.1.3 The respective claim 1 of auxiliary requests 2 and 3 define a weight percent limit of the friction stabilizer in the assembly. The amendments in the respective claims, however, fail to address the reasons detailed in points 3.1 to 3.2.4 above for finding the main request to not disclose the invention sufficiently clearly and completely. Therefore, at least *prima facie*, both auxiliary requests 2 and 3 fail to meet the requirement of Article 83 EPC.

4.1.4 The Board thus exercised its discretion not to admit auxiliary requests 1 to 3 into the proceedings.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.

The Registrar:

The Chairman:



M. H. A. Patin

M. Harrison

Decision electronically authenticated