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**Datasheet for the decision
of 15 February 2011**

Case Number: T 0702/09 - 3.2.08

Application Number: 95912449.6

Publication Number: 0709587

IPC: F16C 33/12

Language of the proceedings: EN

Title of invention:

Sliding bearing

Patentee:

Taiho Kogyo Co. Ltd

Opponent:

Federal-Modul Wiesbaden GmbH

Headword:

-

Relevant legal provisions:

EPC Art. 100(b)

RPBA Art. 12(2)

Relevant legal provisions (EPC 1973):

-

Keyword:

"Sufficiency of disclosure (no)"

Decisions cited:

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Catchword:

-



Case Number: T 0702/09 - 3.2.08

DECISION
of the Technical Board of Appeal 3.2.08
of 15 February 2011

Appellant: Taiho Kogyo Co., Ltd
(Patent Proprietor) 65, Midorigaoka 3-chome
Toyota-shi
Aichi 471-8671 (JP)

Representative: Paget, Hugh Charles Edward
Mewburn Ellis LLP
33 Gutter Lane
London EC2V 8AS (GB)

Respondent: Federal-Mogul Wiesbaden (GmbH)
(Opponent) Stielstrasse 11
D-65201 Wiesbaden (DE)

Representative: Fuchs
Patentanwälte
Postfach 46 60
D-65036 Wiesbaden (DE)

Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 20 January 2009
revoking European patent No. 0709587 pursuant
to Article 101(3)b) EPC.

Composition of the Board:

Chairman: T. Kriner
Members: M. Alvazzi Delfrate
S. Hoffmann
P. Acton
A. Pignatelli

Summary of Facts and Submissions

- I. By its decision posted on 20 January 2009 the opposition division revoked European patent No. 709 587 on the ground of insufficiency of disclosure (Article 100(b) EPC).
- II. The appellant (patent proprietor) lodged an appeal against this decision on 27 March 2009, paying the appeal fee on the same day. The statement setting out the grounds for appeal was filed on 27 May 2009.
- III. Oral proceedings before the board of appeal were held on 15 February 2011.

The appellant requested that the decision under appeal be set aside and that the patent be maintained in amended form according to the main request or, in the alternative, the first or second auxiliary request, all requests filed with letter of 14 January 2011.

The respondent requested that the appeal be dismissed.

- IV. Claim 1 of the main request reads as follows:

"A sliding bearing having a plurality of annular projections (1a) formed to a given height denoted by H around a sliding surface (1A) and having a roughness over the sliding surface (1A) and over the surface of the annular projections (1a) of thickness denoted by h, characterised in that the parameters H and h are related by the following inequalities:

$$h \leq 0.25 H + 0.5$$

$$2 \leq H \leq 10$$

where h and H are measured in units of μm , and the annular projections (1a) are spaced apart axially at a given pitch (P)."

The inequalities according to claim 1 of the main request which depend on h and H are also contained in claim 1 of the first and second auxiliary requests.

V. The following documents are relevant for the present decision:

D22: Mummery, L.: "Surface Texture Analysis - The Handbook"; Hommelwerke GmbH, 7730 VS-Mühlhausen, first revision 1992, pages IV-V and 10-49;

D28: Surface profiles (pages 1/3 to 3/3) measured by a Surfscorder SE-3400 and submitted by fax on 27 May 2009; and

D29: Declaration of Masao Takahashi, dated 7 January 2011.

VI. The arguments of the appellant can be summarised essentially as follows:

Declaration of Masao Takahashi (D29)

Mr. Takahashi was not only an employee of the appellant and one of the inventors of the patent in suit but also an expert in the field of the patent. Therefore, his declaration was evidence of the common general knowledge of the person skilled in the art to be considered for the issue of sufficiency of disclosure.

Since Mr. Takahashi had been consulted as a reaction to the comments in the preliminary opinion issued by the

board of appeal in preparation for the oral proceedings, his declaration could not have been filed at an earlier stage. Therefore, it had to be admitted into the proceedings.

Sufficiency of disclosure

It was true that the procedure for determining h and H described in D29 was completely different from what had been argued in the statement of grounds for appeal. However, the sufficiency of the disclosure of a patent was not to be assessed on the basis of the subjective view of the parties but on the basis of the objective common knowledge of the person skilled in the art. Therefore, the procedure described in D29 was the correct one, which would have been followed by the person skilled in the art reading the patent.

The bearing of the invention had axially spaced annular projections, whose pitch P could be identified easily by eye. On this basis the raw surface profile could be filtered by well-established techniques used for filtering out the waviness of a surface. The filtering provided a gentle waveform of amplitude H which corresponded to the annular projections. The profile of the surface roughness was obtained by subtracting this gentle waveform from the raw surface profile. The surface roughness h was then derived from said profile of the surface roughness. Since the patent had no interest in freak values or noise overshoot it was clear that h could only be an average value of the roughness. Moreover, it was apparent from Figure 2 of the patent that the parameter h used to characterise this roughness could not be represented by the standard

parameter Ra. Therefore, it could only be the standard parameter Rz (DIN).

Accordingly, it was clear for the person skilled in the art what h and H meant and how to determine these values. Therefore, the information provided by the patent in the light of the common general knowledge of the person skilled in the art was sufficient for carrying out the claimed invention. This was confirmed by D28, showing the profile of a bearing manufactured according to the invention.

VII. The arguments of the respondent can be summarised essentially as follows:

Declaration of Masao Takahashi (D29)

It was not clear whether D29 constituted new evidence or new arguments. In either case it had been submitted with letter of 14 January 2011, i.e. at a very late stage of the proceedings. This lateness had no valid reason, since the preliminary opinion of the board did not raise any new issue in respect of the appealed decision.

Moreover, the procedure for determining h and H described in D29 was completely different from that presented by the appellant in the statement setting out the grounds for appeal. This amounted to presenting a fresh case, contrary to Article 12(2) of the Rules of Procedure of the Boards of Appeal. For these reasons, D29 should not to be taken into consideration.

Sufficiency of disclosure

The patent in suit neither clearly defined what h and H meant nor disclosed how to determine them. In particular Figure 2, mentioned by the appellant, showed only a schematic representation of an idealised surface profile, while real-life bearings exhibited more irregularities, such as noise overshoots or freak values.

Nor did the common general knowledge of the person skilled in the art make clear what h and H meant and how they could be determined. Since a plurality of different parameters were available as a representation of the roughness, as could be seen in D22, it was not clear which of them should be used.

Therefore, the claimed invention was not sufficiently disclosed.

Reasons for the Decision

1. The appeal is admissible.
2. Declaration of Masao Takahashi (D29)

Mr. Takahashi is an employee of the appellant and one of the inventors of the patent in suit. Therefore he has to be regarded as an interested person, who cannot look at the disclosure of the patent in an unbiased way. Moreover, as an inventor of the claimed bearing, he cannot put himself in the position of a person skilled in the art whose only information as to how to

carry out the invention can be derived from the patent in the light of his common general knowledge. Accordingly, his declaration cannot be considered as evidence for the information that the person skilled in the art could have gathered from the patent in suit.

Nevertheless, said declaration is a statement supporting the arguments put forward by the appellant. It is true that these arguments result in a drastic change in the case of the appellant, which in the statement of grounds of appeal submitted that the claimed invention was to be carried out in a completely different way. However, in the present case said arguments, whose essence had already been put forward in the letter of 14 January 2011, cannot take the respondent by surprise. Therefore, taking them into consideration does not cause a delay in the proceedings and serves a purpose of the oral proceedings, namely to allow the parties to present arguments which have not been presented or have not been fully developed in the written proceedings.

Therefore, in the present case the board sees no reason for disregarding the arguments presented in D29.

3. Sufficiency of disclosure

3.1 According to claim 1 of the main request, H is the given height of the annular projections and h is the thickness of the roughness. Therefore, both parameters relate to the profile of the bearing's surface. The description of the patent in suit does not describe which roughness is meant and how h and H are determined. Figure 2, the sole drawing showing a sliding surface of

a bearing according to the invention and these two parameters, is merely a schematic representation of the bearing's surface profile. The profile shown is a superposition of two patterns. The first pattern, which corresponds to the annular projections, is depicted as roughly periodical and associated with the pitch P and the height H . The second pattern is also depicted as roughly periodical and associated with the thickness of the roughness h . Whilst it can be gathered from the figure that H and h are somehow associated with the peak-to-valley heights of said patterns, no information is provided as to how said values are actually to be derived from the surface profile. Moreover, the patent, being silent as to how roughness profiles less regular than the one shown in Figure 2 are to be treated, does not disclose how overshoot noise and freak values are to be weighted.

- 3.2 Nor is the person skilled in the art aware from his common general knowledge of an objective procedure for measuring said parameters. In particular, several standard ways are known in the art for deriving from a surface profile a parameter representing its roughness. Document D22 discloses for instance the standard parameters R_z (DIN), $R(\max)$, R_z (ISO), R_y , R_{3z} , $R_{3z\max}$, which, albeit all somehow associated with the peak-to-valley heights of the roughness profile, differ from each other by the way in which they are derived from the measured data (see pages 28 to 32). These standard parameters may assume, for the same surface profile, very different values. The patent does not provide any information which indicates which of these standard parameters, if any, is to be used to represent h .

3.3 The appellant submitted that the roughness profile could be obtained by filtering out the undulation of the annular projections and that, since the use of the standard parameter Ra could be excluded, Rz(DIN) was to be used to represent the roughness thickness h.

It is true that, since Figure 2 shows h as somehow associated with the peak-to-valley heights of the second pattern, the use of the standard parameter Ra, which corresponds to the average deviation of the roughness profile from the mean line, can be excluded. However, as explained above, at least a plurality of other standard parameters could be used, on the basis of the indications of the patent, to represent the roughness thickness h. Therefore this argument of the appellant is not convincing.

3.4 As to D28, this document merely shows surface profile measurements, and does not give any hint as to how the person skilled in the art reading the patent in suit might determine h and H. Hence, D28 is not suitable to prove that the invention is disclosed in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art.

3.5 The incertitude in which the reader of the patent is left is further confirmed by the fact that the appellant itself has, in its statement of grounds for appeal, submitted that h and H were to be determined in a way completely different from the procedure described in D29 and indicated as the correct one during the oral proceedings before the board.

3.6 Therefore, the person skilled in the art reading the patent does not know how to design a bearing which satisfies the inequalities according to claim 1. As a consequence, he is not in a position to produce it. Accordingly, the patent in suit does not disclose the invention according to claim 1 of the main request in a manner sufficiently clear and complete for it to be carried out by a person skilled in the art (Article 100(b) EPC).

3.7 Since claim 1 of the first and second auxiliary requests also contains the inequalities according to claim 1 of the main request and which depend on h and H , the same objection as above applies in respect of the auxiliary requests.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

V. Commare

T. Kriner