

Internal distribution code:

- (A) [-] Publication in OJ
(B) [-] To Chairmen and Members
(C) [-] To Chairmen
(D) [X] No distribution

**Datasheet for the decision
of 11 May 2017**

Case Number: T 0388/13 - 3.2.06

Application Number: 00980037.6

Publication Number: 1357076

IPC: B66B11/08

Language of the proceedings: EN

Title of invention:
HOIST FOR ELEVATOR

Patent Proprietor:
MITSUBISHI DENKI KABUSHIKI KAISHA

Opponent:
Otis Elevator Company

Headword:

Relevant legal provisions:
EPC 1973 Art. 54, 111(1)

Keyword:
Late-filed document - admitted (yes)
Remittal to the department of first instance - (yes)

Decisions cited:

Catchword:



Beschwerdekammern
Boards of Appeal
Chambres de recours

European Patent Office
D-80298 MUNICH
GERMANY
Tel. +49 (0) 89 2399-0
Fax +49 (0) 89 2399-4465

Case Number: T 0388/13 - 3.2.06

D E C I S I O N
of Technical Board of Appeal 3.2.06
of 11 May 2017

Appellant: Otis Elevator Company
(Opponent) 10 Farm Springs Road
Farmington CT 06032 (US)

Representative: Leckey, David Herbert
Dehns
St Bride's House
10 Salisbury Square
London EC4Y 8JD (GB)

Respondent: MITSUBISHI DENKI KABUSHIKI KAISHA
(Patent Proprietor) 7-3, Marunouchi 2-chome
Chiyoda-ku
Tokyo 100-8310 (JP)

Representative: Hoffmann Eitle
Patent- und Rechtsanwälte PartmbB
Arabellastraße 30
81925 München (DE)

Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 5 December 2012
rejecting the opposition filed against European
patent No. 1357076 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. 1 357 076. It requested that the decision be set aside and the patent be revoked.
- II. In its letter of response, the respondent (patentee) requested that the appeal be dismissed, in the alternative that the patent be maintained according to auxiliary request 1 or 2.
- III. The following documents, referred to by the appellant in its arguments, are relevant to the present decision:
- D1 JP-09-142761, and its translation into English
D7 Designfax article: Flat-Belt, Gearless Motion Technology Give Elevators New Lift; 1 March 2000
D8 Otis Elevator News release; 2 February 2000
- IV. The Board issued a summons to oral proceedings and a subsequent communication containing its provisional opinion in which it indicated *inter alia* that, should the technical content of D7 prove highly relevant for the question of inventive step, remittal to the department of first instance may be appropriate.
- V. Oral proceedings were held before the Board on 11 May 2017, during which the appellant presented an original copy of D7 for inspection.
- VI. The final requests of the parties were as follows:
- The appellant (opponent) requested that the decision under appeal be set aside and that the European patent

be revoked.

The respondent (patent proprietor) requested that the appeal be dismissed, auxiliarily that the patent be maintained in amended form according to the 'main request a' filed with letter dated 21 April 2017 or according to one of auxiliary requests 1 or 2 filed with letter dated 12 August 2013. Furthermore it requested that documents D7 and D8 not be admitted into the proceedings.

VII. Claim 1 of the main request reads as follows (with feature annotation (a) to (k) as added by the opposition division):

- (a) "An elevator hoisting machine comprising:
- (b) a bearing mount (32) having a through opening;
- (c) a rotating shaft (34) rotatably supported in and extending through said through opening of said bearing mount (32),
- (d) rotation of said rotating shaft (34) raising and lowering an elevator car by means of a main rope (7);
- (e) a drive motor (35) for rotating said rotating shaft (34, 46)
- (f) a braking device (11) for braking said rotation of said rotating shaft (34),
- (g) a main rope winding portion (34a) provided with a rope groove (34b) into which said main rope (7) is inserted formed integrally on said rotating shaft (34) and,
- (h) a rotor (38, 50) of said drive motor (35) mounted to said rotating shaft (34), said rotating shaft (34) being driven directly by said drive motor (35);
- (i) characterized in that an intermediate portion of said rotating shaft (34) is supported by said bearing mount (32),

(j) said main rope winding portion (34a) being formed at a first end portion of said rotating shaft (34), (k) and said rotor (38) being mounted to said rotating shaft (34) on an opposite side of said bearing mount (32) from said main rope winding portion (34a)."

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

With respect to the novel features of claim 1 compared to D1, this was differentiated over D1 solely through feature (g). D1 unambiguously disclosed feature (j), in particular with reference to Fig. 1. In claiming an end portion of the rotating shaft, the language of the claim itself was important, not an interpretation of this feature by way of the description of a single embodiment. It was unclear where the end portion ended. In referring to the rope winding portion being formed at a first end portion of the rotating shaft, this did not exclude a bearing also being located at the end portion.

Regarding the admittance of D7, this had been filed at the first opportunity in appeal. As regards the inventive step attacks during the opposition proceedings, the appellant's contention that forming the rope winding portion integrally on the shaft was obvious to the skilled person, this had been consistently present throughout the opposition and was now simply supported through a document regarded to be clearly published before the priority date. No change of case had been made. The website link to D7 was filed as evidence of the existence of the document, but was not in itself the prior art document. The Free Library thus played an archiving role. D7 was also highly relevant, *prima facie* disclosing a sheave formed integrally with the shaft. There was no difference

between the claimed rope winding portion and the traction sheave of D7: both devices served the same functions and the different labelling used was synonymous.

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

Regarding the novel features of claim 1, D1 failed to disclose both features (g) and (j) of claim 1. Regarding feature (j), D1 had a bearing located at the first end portion of the rotating shaft (see Fig. 1) such that the sheaves could not be formed at this first end portion. The end portion of the shaft included the very end of the shaft such that any rope winding portion located at such a first end portion had to be on that portion of the shaft which extended to the very end of the shaft. The claim should be read in the light of the description rather than solely based on the linguistic elements of the claim; a mind willing to understand would then not construe the claim as broadly as possible but in the light of the teaching of the patent as a whole.

Regarding the filing of D7 only on appeal, this was a new case and if admitted would be at the expense of fairness towards the proprietor. D7 was also a document fully in the hands of the appellant since it concerned an Otis news item. D7 had also been filed in various different versions: firstly simply a Free Library website link; then a poor copy of a brochure; finally at oral proceedings the actual brochure. This did not reflect adequate procedural care. The html website link was also not available in the year 2000 and so could not possibly be prior art.

D7 lacked technical relevance. D7 should be read without hindsight knowledge of the claimed invention. The claimed main rope winding portion was not a sheave, the disadvantages of sheaves being indicated in [0006] of the patent; D7 failed to disclose a rope groove formed integrally on the shaft. D7 was also to be understood from context as referring to the sheave being driven directly from the motor without a gearbox therebetween, rather than an integral forming of the sheave on the shaft.

Reasons for the Decision

1. Inventive step - Article 56 EPC 1973

D1 fails to to disclose the part of feature (g) of claim 1 relating to a main rope winding portion being formed integrally on the rotating shaft. That D1 fails to disclose this feature is accepted by both parties.

1.1 The only feature of claim 1 for which a disclosure in D1 is contentious between the parties is feature (j), the main rope winding portion being formed at a first end portion of said rotating shaft, this hingeing upon how the feature 'first end portion of said rotating shaft' is to be understood.

1.2 In this respect, the Board notes that the patent is silent as to how far the end portion of the rotating shaft extends away from the very end of the shaft, such that its extension is left to the interpretation of the skilled person. The first end portion of the rotating shaft is discussed in paragraph [0021], the second end portion in paragraph [0022], although both without

providing any indication as to their extent away from the very ends of the shaft. Fig. 2 also offers no clear indication of the extent of the first end portion from the end of the shaft. It is also noted that feature (i) of claim 1 and paragraph [0020] of the patent identifies an intermediate portion of the rotating shaft and that this is rotatably supported by the bearing 33 which is itself supported in a bearing mount 32. In summary, therefore, the patent explicitly discloses the rotating shaft comprising a first end portion, a second end portion and an intermediate portion which is supported by the bearing. Lacking disclosure of any other portions comprised in the rotating shaft, one technically reasonable interpretation of the rotating shaft portions' arrangement is that the first end portion of the rotating shaft extends from the very end of the shaft to the position where the intermediate portion of the shaft starts, this intermediate portion being that part of the rotating shaft supported by the bearing 33. The second end portion analogously extends from the intermediate portion in the opposite direction to the first end portion.

- 1.3 With this understanding of how far the claimed first end portion extends along the rotating shaft, Fig. 1 of D1 unambiguously discloses feature (j), that the main rope winding portion is formed at a first end portion of the rotating shaft. This is evident from Fig. 1 of D1 and when using the above interpretation of how the shaft portions are to be understood: the intermediate portion of the rotating shaft must be that portion positioned in the bearing located between the sheaves 16 and the synchronous motor 13; and the first end portion of the shaft is, analogously to the understanding from the patent, everything to the right

(in Fig. 1) of this bearing position. It thus follows that the sheave or sheaves 16 of D1 (corresponding to the rope winding portion of the patent) are formed at a first end portion of the rotating shaft 15.

- 1.4 The respondent's argument, that D1 had a bearing located at the first end portion of the rotating shaft such that the sheave could not be formed at this first end portion is not accepted. Claim 1 of the patent does not exclude the presence of a bearing in addition to the rope winding portion at the first end portion of the shaft, such that the presence of a bearing does not prohibit the rope winding portion from being located at the first end portion. Indeed, as found in point 1.1.3 above, the first end portion extends from the very end of the shaft to the intermediate portion of the shaft, the sheaves 16 thus clearly being located in this first end portion of the rotating shaft of D1.

- 1.5 The respondent's argument that the rope winding portion located at a first end portion of the rotating shaft had to be on that portion of the shaft which extended to the very end is accepted, but this does not mean that the rope winding portion, being formed in the end portion of the shaft, has itself to extend to the very end of the shaft; rather the rope winding portion has to be located somewhere within the extent of the end portion of the rotating shaft, this end portion extending from its end to the intermediate portion of the shaft which, in Fig. 1 of D1, is to the location of the bearing between the sheave or sheaves 16 and the motor 13.

- 1.6 The respondent's contention that the claim should be construed in the light of the description and the embodiment included therein, is not persuasive in

changing the interpretation of the extent of the first end portion. The language of the claim itself defines the scope of protection and is given the broadest reasonable technical interpretation. Nothing else has been done in the interpretation of claim 1 of the patent in which, as found in point 1.1.3 above and even considering paragraphs [0020] to [0022] of the patent, the first end portion of the rotating shaft is found to extend to the intermediate portion of the shaft. Such an interpretation is supported by the patent description, indeed also by the embodiment of Fig. 2. Such an interpretation, when applied to D1, does however result in the sheave or sheaves 16 being located at a first end portion of the rotating shaft 15 of D1, such that feature (j) is considered to be known.

1.7 In summary therefore, and contrary to the finding of the opposition division, the subject-matter of claim 1 differs over D1 by virtue of feature (g) only.

2. *Admittance of D7*

The appellant's objection to the subject-matter of claim 1 involving an inventive step starts from D1 and combines this with the teaching of D7 in light of the problem to be solved. D7 had not been present before the opposition division, having been cited for the first time with the statement of grounds of appeal. The respondent objected to the admittance of D7, suggesting that it could and should already have been filed before the opposition division.

2.1 With regard to whether D7 should be admitted, the following matters were of particular importance for the Board in the present case:

- (a) Did the course of events before the opposition division justify its filing in the appeal for the first time?
- (b) Is D7 prior art?
- (c) Did the appellant exercise adequate procedural care when filing D7? and
- (d) Is the technical content of D7 so relevant that it would *prima facie* be likely to prejudice the maintenance of the patent?

2.2 Events before the opposition division

2.2.1 Throughout the opposition proceedings, it is evident that the appellant had argued the integral forming of the rope winding portion on the rotating shaft did not involve an inventive step for the skilled person. With the opposition division having provisionally considered the objection unconvincing on the basis of D5, the appellant had argued on the basis of D6 which, at oral proceedings, was not admitted into the opposition proceedings since proof of its publication was found to be lacking (both documents D5 and D6 are notably not on file before the Board). The very same objections and arguments were now presented with the grounds of appeal, albeit on the basis of an alternative document, D7. It can be accepted that the appellant has thus not willfully sought to change its case from opposition to appeal, but has simply supported its consistent allegation of the feature being known with new evidence, since that on file before the opposition division had not been successful / was not admitted.

2.2.2 The respondent's contention that D7 was a document emanating from the opponent itself and should thus have been filed by the opponent during the opposition proceedings is not accepted. Whilst D7 clearly concerns

a development involving the opponent, its publication in the brochure Designfax was evidently publicly available as evidenced by the ISSN number attributed to it, which identifies it as being a serial publication. The document was thus not solely available in-house within the appellant company (Otis Elevator Company), rather the brochure was publicly available at the issue date of 1 March 2000. Whilst it could possibly have been filed before the opposition division, had its existence been known, the appellant evidently thought the documents on file, for example D6, in support of its case to be sufficient; only upon receiving a conclusion at oral proceedings that D6 was not admitted, despite bearing a date of 1990, did the appellant first learn otherwise. The circumstances of the case before the opposition division thus exceptionally justify the filing of D7 at this late stage.

2.2.3 In respect of the respondent's argument regarding fairness, the Board does not find the admittance of D7 as being at the expense of fairness to it. The objections and arguments questioning the presence of an inventive step remain those raised before the opposition division, albeit now with regard to a new document. With the arguments being limited to the issues already raised before the opposition division, the complexity of the new document is relatively low; if necessary the respondent was also in a position to request remittal of the case to allow it time for counter-arguments to be fully developed (which it ultimately did - see item 3.2 below).

2.3 D7 as prior art

2.3.1 Regarding the respondent's argument that the html website link to D7 would clearly not have been available in the year 2000, this was not persuasive to find D7 not to be part of the state of the art under Article 54(2) EPC 1973. The Free Library website link was presented as evidence that the Designfax brochure itself was published on 1 March 2000; the website itself was not the document to be considered as prior art. The Free Library (thefreelibrary.com) has, since 2003, not only included contemporary articles, but has expanded to provide an archive resource including articles relating to industry published prior to 2003. The referenced link to D7 was thus an archive reference, yet provided reliable evidence of the existence of D7 at its publication date of 1 March 2000. It is furthermore noted that, in the last paragraph of the article itself, it states that the elevator system of D7 'will be launched in European markets this spring, in Asia later this year and it will be available worldwide in 2001.' Thus, this information in the article itself supports the publication date of early 2000. Moreover, through the appellant presenting the original Designfax brochure for inspection at oral proceedings in which the publication date of 1 March 2000 is indicated, and the respondent not querying its authenticity, there is no sound reason to doubt the publication date of D7.

2.3.2 The Board thus concludes that D7 is prior art under Article 54(2) EPC 1973.

2.4 Procedural care on filing of D7

2.4.1 As for the respondent's contention that the appellant had not exercised adequate procedural care in not filing the Designfax brochure immediately, this is also

not accepted. The appellant had with its grounds of appeal filed evidence, through the Free Library website, of the publication on 1 March 2000 of D7. With the respondent having questioned the validity of this evidence, the appellant had then filed copies of the relevant pages of D7 shortly before oral proceedings before the Board and finally brought the original to the oral proceedings for inspection. The appellant's behaviour thus can be understood in the present case as consistent, filing what it saw as adequate evidence and responding to any specific objections raised by the respondent at each juncture.

2.5 Technical relevance

2.5.1 With the appellant's inventive step attack starting from D1, the sole differentiating feature of claim 1 over D1 is that the rope winding portion is formed integrally on said rotating shaft. The disclosure of D7 is highly relevant in this regard since, irrespective of the objective technical problem posed (an issue on which no conclusion has been reached by the Board, yet 'how to simplify the construction of the hoisting machine' is one possibility put forward by the appellant which may indeed be an appropriate objective problem), D7 discloses that integrating a traction sheave with a motor shaft in the context of elevators was known in the year 2000. D7 thus, on a *prima facie* basis, appears to provide a hint as to how to modify D1 and reach the claimed subject-matter.

2.5.2 The respondent's argument, that D7 did not disclose an integral forming of the sheave on the rotating shaft for the skilled person without hindsight knowledge of the invention, is not accepted. D7 explicitly states that 'the traction sheave is now an integral part of

the motor shaft' in the context of a drive system of an elevator. It even continues to state '...not a separate component...'. The skilled person thus sees this as *prima facie* disclosing just that: a sheave formed integrally with a motor shaft even without knowledge of the claimed invention. This disclosure further relating to the sheave and its drive shaft in an elevator system thus is highly relevant for the consideration of inventive step in claim 1.

- 2.5.3 The respondent's contention that the claimed rope winding portion was not a drive sheave is also not accepted. A drive sheave (or traction sheave) in the context of elevators is that part which transfers the rotation of the motor shaft to the drive elements moving the elevator car. This is also precisely the function carried out by the claimed rope winding portion. The Board thus sees, as also argued by the appellant, the terms 'drive (or traction) sheave' and 'rope winding portion' in the context of elevator drive systems as being synonymous. The respondent's reference to paragraph [0006] of the patent in support of its argument does not change the Board's view since this paragraph simply discloses that when reducing the size of a drive sheave a lower practical limit in wall thickness is reached before manufacture and fitting of the sheave to the shaft become difficult. This paragraph in no way limits the understanding of a sheave to an item separate from the drive shaft, even if this might be the most common construction. It is further noted that paragraph [0016] of the patent indicates the claimed main rope winding portion as being formed integrally on the shaft 'without using a separate drive sheave', wording which technically suggests precisely the same arrangement as disclosed in paragraph 3 of D7, in which the traction sheave is an

integral part of the motor shaft not a separate component.

2.5.4 The respondent's argument that D7 failed to disclose a rope groove formed integrally on the shaft is not decisive for the question of whether D7 is technically relevant. It is accepted that D7 does not disclose a rope groove since its drive elements are coated steel belts rather than ropes; it thus fails to disclose a rope groove but does disclose a sheave suitable for driving a belt. This sheave of D7 is moreover disclosed to be an integral part of the motor shaft, not a separate component. Of importance for the skilled person wishing to solve the objective technical problem (see point 2.5.1 above) is therefore the disclosure in D7, of integrating the belt traction sheave into the motor shaft, eliminating the need for a separate traction sheave component. The integration of the traction sheave into the shaft alone provides the high technical relevance of D7, justifying its admittance into the proceedings.

2.5.5 The respondent's argument that the context of the disclosure in D7 of the sheave being an integral part of the motor shaft pointed solely to a direct drive without a gearbox is not convincing. Paragraph 3 of D7 discloses the integral nature of the traction sheave and the motor shaft in the context of it not being a separate component as in traditional elevators. This makes it unequivocal that the traction sheave is formed integrally with the motor shaft such that it is a one-piece construction. Even if D7 also discloses a compact, gearless drive for the elevator, this does not alter the fact that D7 unambiguously discloses the traction sheave being an integral part of the motor

shaft, and not a separate component.

2.5.6 In summary, therefore, D7 discloses a traction sheave as an integral part of the motor shaft which, at least on a *prima facie* basis, appears highly relevant with respect for consideration of inventive step of the subject-matter of claim 1.

2.6 This, in combination with the exceptional circumstances before the opposition division resulting in the filing of D7, brings the Board to exercise its discretion in admitting D7 to the proceedings.

3. *Remittal according to Article 111(1) EPC 1973*

3.1 According to Article 111(1) EPC 1973, when deciding on an appeal, the Board may either exercise any power within the competence of the department which was responsible for the decision appealed or remit the case to that department for further prosecution.

3.2 In the exercise of such discretion in the present case, an important aspect is that the opposition division did not examine the issue of inventive step of the subject-matter of claim 1 with respect to D7. If the Board itself were to carry out the examination as to patentability, the parties would lose the opportunity of having an examination of the claimed subject-matter before two instances. Also, at present, the parties have not yet had the opportunity to develop their arguments with respect to the question of inventive step with regard to the subject-matter of claim 1. With remittal having been requested by the respondent, and the appellant having no objection thereto, the Board avails itself of its power under Article 111(1) EPC 1973 to remit the case back to the department of first

instance for further prosecution.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the department of first instance for further prosecution.

The Registrar:

The Chairman:



M. H. A. Patin

M. Harrison

Decision electronically authenticated