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**Datasheet for the decision
of 19 February 2019**

Case Number: T 0691/14 - 3.2.06

Application Number: 06014916.8

Publication Number: 1707528

IPC: B66B11/08

Language of the proceedings: EN

Title of invention:
Elevator hoisting machine

Patent Proprietor:
MITSUBISHI DENKI KABUSHIKI KAISHA

Opponent:
Otis Elevator Company

Headword:

Relevant legal provisions:
EPC Art. 114(2), 54(2), 56

Keyword:
Late-filed document - no reason to overturn discretion of
opposition division - admitted (yes)
Inventive step - (no)

Decisions cited:

G 0007/93

Catchword:



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Case Number: T 0691/14 - 3.2.06

D E C I S I O N
of Technical Board of Appeal 3.2.06
of 19 February 2019

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Decision under appeal: **Interlocutory decision of the Opposition**
Division of the European Patent Office posted on
24 January 2014 concerning maintenance of the
European Patent No. 1707528 in amended form.

Composition of the Board:

Chairman M. Harrison
Members: P. Cipriano
W. Ungler

Summary of Facts and Submissions

- I. An appeal was filed by the appellant (patent proprietor) against the interlocutory decision of the opposition division in which it found that European patent No. 1 707 528 in an amended form met the requirements of the EPC.
- II. The appellant requested with its grounds of appeal that the interlocutory decision be set aside and the opposition be rejected.
- III. The respondent (opponent) requested that the appeal be dismissed.
- IV. The following documents, referred to by the appellant in its grounds of appeal, are relevant to the present decision:
 - E4 JP 09 142761 A
 - E4a English translation of E4
 - E7 Designfax article "Flat Belt, Gearless Motion Technology Gives Elevators new lift", 1 March 2000
 - E10a-E10f printouts of the path of the linked web pages leading to the Designfax article E7 on the Designfax website
- V. The Board issued a summons to oral proceedings and a communication containing its provisional opinion, in which it indicated *inter alia* that there seemed to be no reason to reverse the discretionary decision of the opposition division to admit E7 into the proceedings

and that the subject-matter of claim 1 did not seem to involve an inventive step.

VI. Oral proceedings were held before the Board on 19 February 2019, during which the appellant presented an original copy of E7 for inspection.

The appellant requested that the decision under appeal be set aside and the patent be maintained as granted.

The respondent requested that the appeal be dismissed.

VII. Claim 1 of the patent as granted reads as follows:

"An elevator hoisting machine comprising:

a bearing mount (2, 3, 32, 42, 43);

a rotating shaft (6, 34, 46) rotatably supported in said bearing mount (2, 3, 32, 42, 43), rotation of said rotating shaft (6,34,46) raising and lowering an elevator car by means of a main rope (7);

a drive motor (8,35,47) for rotating said rotating shaft (6, 34, 46);

a braking device (11) for braking said rotation of said rotating shaft (6, 34, 46); and a main rope winding portion (6a, 34a, 46a) provided with a rope groove (6b, 34b, 46b) into which said main rope (7) is inserted; characterized in that:

said main rope winding portion (6a, 34a, 46a) is formed integrally on said rotating shaft (6, 34, 46)."

VIII. The arguments of the appellant may be summarised as follows:

Admittance of E7 and E10

E7 should not have been admitted into the proceedings by the opposition division and that the decision from the opposition division should be overturned.

It was not established that E7 was available to the public at the relevant date (11 December 2000). E7 was a printed page from the web based service TheFreeLibrary that started to operate only in 2003.

It was also not clear to what extent such article, if it existed at all, corresponded to what was presented on the original web page of Designfax, e.g. some paragraphs could have been added at a later time. The alleged source (Designfax) was launched as an exclusive eMagazine only in October 2005 following 25 years in print and therefore it cannot be the source of a web page that was already retrievable in December 2000.

In addition, E7 was not relevant. The sentence on paragraph 3 of E7 still made an explicit reference to a traction sheave per se and "integral part of the traction shaft" should be understood as meaning that the traction sheave was directly driven by the motor shaft and nothing else. Thus, the feature of claim 1 "said main rope winding portion (6a, 34a, 46a) is formed integrally on said rotating shaft (6, 34, 46)" was not disclosed in E7.

Printouts E10a to E10f should also not be admitted into the proceedings, since they were simply a set of web pages printed in 2014 that also did not prove that E7 was prior art.

Inventive step

The subject-matter of claim 1 involved inventive step.

E4 disclosed all the features of claim 1 with the exception of feature "said main rope winding portion (6a, 34a, 46a) is formed integrally on said rotating shaft (6, 34, 46)".

The objective technical problem to be solved was to facilitate assembly of the elevator hoisting machine as paragraph [0020] of the patent also attested.

The construction of the elevator in E4 would not be made easier by making the sheave integral with the shaft, since the shaft was supported between two bearings and a shaft according to the invention could not be moved through the bearings of E4.

E7 also did not disclose the missing feature, i.e. a sheave integral with the shaft. The first sentence of the third paragraph of E7 did not unambiguously disclose from what the component (i.e. shaft) was separate; this could be understood as the shaft not being a separate component from the compact gearless drive defined in the first and second paragraphs of E7.

Further, the claimed rope winding portion was not a traction sheave as defined in E7.

The same applies to the expression "integral part of" in E7, which did not mean the same as the claimed "formed integrally on".

Even if E7 disclosed a sheave integral with a shaft, the skilled person would not contemplate using the teaching of E7, since the machine of E7 was in a

roomless elevator drive whilst the drive in E4 was for a machine room system.

IX. The arguments of the respondent may be summarised as follows:

Admittance of E7 and E10

The decision of the opposition division to admit E7 into the proceedings should not be overturned.

E7 was available to the public prior to 11 December 2000. Designfax may have been exclusively available from October 2005 onwards but there was no reason to believe that it was not available online before or that Designfax could not have created an online archive of its past print publications.

TheFreeLibrary service was a recognised web archive service and the appellant had not put forward any credible evidence that any article dated prior to the foundation of TheFreeLibrary in 2003 cannot be regarded as a *bona fide* article. As the appellant had pointed out, Designfax was launched as an exclusive online publication only in 2005 after 25 years in print. There was however, no credible reason why Designfax would not have archived its pre 2005 publications for public access, for example via such services as TheFreeLibrary.

The feature "said main rope winding portion (6a, 34a, 46a) is formed integrally on said rotating shaft (6, 34, 46)" of claim 1 was disclosed in E7, third paragraph. It would, therefore, be combined with E4.

E10a-E10f should also be admitted. They were filed as a response to the argument in the appeal grounds that it was not clear if, and to what extent, the web page of TheFreeLibrary corresponded to the original article from Desginfax. They showed how to retrieve E7 directly from the web site of Designfax using the web service TheFreeLibrary and showed that the content of the web pages obtained through both sites matched.

Inventive step

The subject-matter of claim 1 did not involve an inventive step.

E4 disclosed all the features of claim 1 with the exception of the feature "said main rope winding portion (6a, 34a, 46a) is formed integrally on said rotating shaft (6, 34, 46)".

The objective technical problem was to provide a more compact elevator system as paragraph [0006] of the patent also implied.

E7 taught that making the sheave integral with the shaft led to a more compact system. The skilled person would thus make the drive sheave integral with shaft in E4 and arrive at the subject-matter of claim 1 without the exercise of inventive step.

Even if the objective problem was to reduce the number of parts, E7 disclosed that by making the traction sheave integral with the motor shaft, the sheave would not be a separate component like in traditional elevators and thus gave the skilled person a clear incentive to make the sheave and the shaft of the elevator hoisting machine of E4 integral and arrive at

the subject-matter of claim 1 without involving an inventive step.

E7 disclosed the missing feature. The traction sheave translated the rotational movement of the motor to the hoisting ropes by virtue of friction or traction between the sheave and the rope and thus fulfilled the same function and corresponded therefore to the claimed main rope winding portion. As is shown for example in E4, the sheave was previously a separate component which was suitably mounted to the drive shaft of the motor. This was the common general knowledge of the skilled person.

Thus, when the skilled person read the phrase " The traction sheave is now an integral part of the motor shaft... not a separate component as in traditional elevators" in E7, they recognized immediately that the rope winding portion, i.e. the part which engaged and drove the ropes, had been made one with the drive motor, and was not a separate component.

The skilled person was therefore not reading E7 with impermissible hindsight of the patent, but rather objectively with the benefit of their common general knowledge of the elevator art.

Reasons for the Decision

1. Admittance of E7 and E10

- 1.1 E7 was filed with letter dated 5 February 2013, one month before the oral proceedings before the opposition

division, during which it was concluded that E7 formed part of the prior art and was *prima facie* highly relevant. It was thus admitted into the proceedings.

1.2 The appellant requested the Board overturn the decision admitting E7 into the proceedings.

1.3 The Board should only overrule the way in which the department of first instance has exercised its discretion under Article 114(2) EPC, if it concludes that the department of first instance has done so without taking into account the right principles or has exercised its discretion in an unreasonable way (see also point 1.5 below).

1.4 As can be seen on page 6, fourth to sixth paragraphs, of the contested decision, the opposition division examined whether E7 belonged to the state of the art at the filing date of the contested patent and whether the content of E7 was relevant. The Board finds that the opposition division did so in a reasoned way by considering the information available and concluding that it was available at least in print in 2000 and that *prima facie* it dealt with the disclosed missing feature in claim 1.

1.5 In addition, the opposition division then went on to find that the subject-matter of claim 1 as granted lacked an inventive step when considering the combination of E4 with the teaching of E7, thus basing its findings on the admitted document, and rendering E7 inevitably relevant. The Board also finds that, in reviewing the way in which the discretion was exercised, it is not the function of a Board of Appeal to review all the facts and circumstances of the case as if it were in the place of the first instance

department, in order to decide whether or not it would have exercised such discretion in the same way as the first instance department (see e.g. G 7/93, reasons 2.6).

The Board thus finds that the opposition division exercised its discretion correctly.

1.6 Contrary to the argument of the appellant, it is immaterial for the question of admittance of E7 whether the opposition arrived at the correct conclusion, i.e. whether E7 does in fact belong to the state of the art or whether it does disclose the missing feature. The Board thus finds no reason to overturn the discretionary decision to admit E7.

1.7 Regarding the question of whether E7 is indeed prior art under Article 54(2) EPC, it is noted first that the website TheFreeLibrary has only been online since 2003. Nevertheless the Board concludes that it contains reliable information on earlier publications. Whilst the TheFreeLibrary html web page *per se* was not available before the filing date of the application leading to the contested patent, the Board has no doubt that the library contains a true back scanned version of the article from the publication Designfax dated 1 March 2000 that is available in the online archive of the Designfax publication. Further evidence of this was also provided by the respondent (see e.g. points 1.9 and 1.10 below). No evidence putting this conclusion into doubt was provided by the appellant.

1.8 Documents E10a to E10f are a legitimate response filed by the respondent to show that, contrary to an argument of the appellant in the appeal grounds, the original web page from the Designfax archive on its website

corresponds to the article in the TheFreeLibrary and may be directly accessed without resorting to TheFreeLibrary website.

The Board therefore admitted E10a to E10f into the proceedings.

1.9 Further, at the oral proceedings before the Board and as announced in advance, the respondent produced an original printed publication of the Designfax magazine from March 2000 that shows the very same article displayed in E7 and E10f. This publication was also inspected by the appellant and the Board at the oral proceedings.

1.10 From the multiple editions of the article presented in E7, E10f and as a hard copy, it is also clear that the article refers to the title and the five paragraphs below it and that, contrary to the argument of the proprietor, none of these paragraphs could feasibly have been added at a later time.

1.11 E7 is thus found to be prior art under Article 54(2) EPC.

2. Inventive step

2.1 The respondent argued that the subject-matter of claim 1 lacked an inventive step when starting from E4 and combining this with the teaching of E7.

2.2 It was not disputed that E4 discloses all the features of claim 1 with the exception of the feature

"said main rope winding portion (6a, 34a, 46a) is formed integrally on said rotating shaft (6, 34, 46)"

The Board also sees no reason to find otherwise.

- 2.3 In accordance with paragraph [0020] of the contested patent, the objective technical problem may be considered to be a reduction in the number of parts of an elevator hoisting machine.

The argument of the appellant that the objective problem was to facilitate assembly of the elevator hoisting machine is not accepted by the Board. The contested patent discloses three embodiments of elevator hoisting machines according to the claimed invention, each one having a different arrangement of the rope winding portion, drive motor and braking device placed along the shaft and between the bearing mount(s). These basic arrangements however do not differ from the ones in E4 - see e.g. Figures 1 and 3 of E4 - which disclose bearing arrangements with essentially the same disposition as the embodiments of Figures 4 and 1 of the contested patent, respectively. For example, when looking at the embodiment of Figure 1 in the contested patent, a whole bearing support has to be removed for the shaft to be inserted while in the arrangements of E4 this is not necessarily the case, and the shaft may be installed through the two bearings. Thus, making the main rope winding portion integral with the shaft does not result in a new arrangement of elements.

- 2.4 The argument of the appellant that the skilled person would not contemplate turning to E7 since the machine of E7 was for a roomless elevator drive whilst the drive in E4 was more suitable for a machine room, is not accepted by the Board. None of the features of the invention according to claim 1 defines any limitation

or required suitability to a particular type of location of the elevator hoisting machine. In addition, the first and second paragraphs of E7 disclose a "compact gearless drive", wherein the sheave is "directly driven by the high torque of a small permanent magnet motor". This is the same construction as in E4, Figure 1, where an electric motor (rotor 23 - stator 24, 25, 26 - see e.g. E4a, paragraph [0016]) is also directly mounted on the shaft. The skilled person would thus consider E4 and E7 to be hoisting machines with the same type of construction and would indeed contemplate turning to E7 when looking for a solution.

- 2.5 The first sentence of the third paragraph in E7 states that "the traction sheave is an integral part of the motor shaft, [...] not a separate component as in traditional elevators". The skilled person reading this sentence understands that the sheave not being a separate component but an integral part of the motor shaft in E7 unequivocally implies that the sheave is integrally formed on said rotating shaft (as also claimed). E7 therefore discloses the feature of claim 1 missing from E4.

The skilled person looking to reduce the number of parts in an elevator hoisting machine according to E4 and reading this passage of E7, would thus be prompted to turn the sheave 16 and the axis 15 of E4 (see E4a, e.g. paragraph 0014) into a single component by making the sheave 16 integral with the axis 15 and thus arrive at the subject-matter of claim 1 in an obvious manner.

- 2.6 The appellant's argument that the claimed rope winding portion was not a traction sheave as defined in E7 is not persuasive. The traction sheave in E7 converts the driving torque of the shaft into traction force to hold

and lift the lifting member and thus fulfils the same function as the claimed main rope winding portion. The rope winding portion thus functionally corresponds to a sheave that transmits traction force, regardless whether it is through a belt or a rope.

2.7 The appellant's argument that the expression "integral part of" in E7 did not mean the same as the claimed "formed integrally on" is also not accepted by the Board. E7 explains that "integral part of" should be understood as not being a separate component. However, this is in line with the claimed "formed integrally on". As explained in paragraph [0013] of the patent, forging a main rope winding portion during manufacture of the rotating shaft creates a main rope winding portion formed integrally on the rotating shaft and this amounts also to the main rope winding portion not being a separate component from the shaft and thus an integral part of the shaft as defined in E7.

2.8 The appellant further argued that the first sentence of the third paragraph of E7 did not unambiguously disclose from what the component (i.e. shaft) was separate and that this could, without the benefit of hindsight, be understood as the shaft not being a separate component from the compact gearless drive defined in the first and second paragraphs of E7. The Board also does not accept this argument. As explained above in point 2.5, the first part of the first sentence of the third paragraph in E7 links the sheave and the motor shaft and thus it would be incongruent to consider that the separate component in the second part of the sentence refers to a different object which is not explicitly mentioned.

2.9 For the above reasons, the subject-matter of claim 1 of the main request does not involve an inventive step (Article 56 EPC) when starting from E4 and given the technical problem to be solved, when considering the teaching of E7. The ground of opposition under Article 100(a) EPC is thus prejudicial to maintenance of the patent as granted.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



M. H. A. Patin

M. Harrison

Decision electronically authenticated