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**Datasheet for the decision  
of 15 November 2016**

**Case Number:** T 2642/11 - 3.2.06

**Application Number:** 01958428.3

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**IPC:** B66B5/04, B66B7/02, B66B7/06

**Language of the proceedings:** EN

**Title of invention:**  
GOVERNOR AND ELEVATOR

**Patent Proprietor:**  
MITSUBISHI DENKI KABUSHIKI KAISHA

**Opponent:**  
Otis Elevator Company

**Headword:**

**Relevant legal provisions:**  
EPC Art. 100(a), 54, 56

**Keyword:**  
Novelty - (yes)  
Inventive step - (yes)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**  
**Boards of Appeal**  
**Chambres de recours**

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Case Number: T 2642/11 - 3.2.06

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.06**  
**of 15 November 2016**

**Appellant:** MITSUBISHI DENKI KABUSHIKI KAISHA  
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**Decision under appeal:** **Decision of the Opposition Division of the  
European Patent Office posted on 25 October 2011  
revoking European patent No. 1419987 pursuant to  
Article 101(3) (b) EPC.**

**Composition of the Board:**

**Chairman** M. Harrison  
**Members:** T. Rosenblatt  
E. Kossonakou

## **Summary of Facts and Submissions**

- I. The appellant (patent proprietor) filed an appeal against the decision of the opposition division to revoke European patent No. 1 419 987.
- II. In a communication sent in preparation for the oral proceedings, the Board informed the parties of its preliminary opinion in the case.
- III. Oral proceedings were held before the Board on 15 November 2016.
- IV. The appellant requested that the decision under appeal be set aside and that the patent be maintained as granted.

The respondent (opponent) requested that the appeal be dismissed.

- V. The evidence relied upon by the parties is the following:

D1: EP-A-0 849 209,  
D2: JP-2001/187678A,  
D3: EP-A-0 985 623,  
D5: EP-A-0 990 615,  
D6: EP-A-0 995 712,  
D8: JP 2000/72353A.

- VI. Claim 1 of the patent as granted reads:

"An elevator system comprising:  
a governor (4) for detecting variations in the speed of  
a passenger car;

a plurality of car guide rails (2) for guiding the passenger car ascending or descending within a hoistway; and  
a car side cable anchor member (3) retained by one of the plurality of car guide rails (2) and supporting one end of a pull cable (21) for suspending the passenger car;  
characterised in that the elevator system comprises:  
a support plate (5) provided on the guide rail (2) integrally with the car side anchor member (3) and supporting the governor (4) on the guide rail."

Claim 4 of the patent as granted reads:

"An elevator system comprising:  
a governor (4) for detecting variations in the speed of a counterweight (12);  
a plurality of counterweight guide rails (2) for guiding the counterweight ascending or descending within a hoistway; and  
a weight-side cable anchor member (3) retained by one of the plurality of counterweight guide rails (2) and supporting one end of a pull cable (21) for suspending the counterweight (12);  
characterised in that the elevator system comprises :  
a support plate (5) provided on the guide rail (2) integrally with the weight-side cable anchor member (3) and supporting the governor (4) on the guide rail."

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

*Novelty*

The rope supporting apparatus according to D6 comprised *inter alia* also the guide rail 31 or, according to the

embodiment of Figure 6, an additional support member 51. The mounting arm mentioned in paragraph 41 could be installed on any of the components of the rope supporting apparatus of D6 and not necessarily integrally with the column-like body 33 supporting the rope end fixing member 37. Also the reference to a general "mounting arm" in paragraph 41 would not constitute a disclosure for the more specific feature "support plate" which implied a thin and flat structure, extending vertically along the guide rail.

For equivalent reasons, the subject-matter of claim 4 was also novel.

*Inventive step*

The two features in the characterising portion of claim 1 not known from D6 would solve the objective problem of increasing efficiency in the manufacturing of the elevator system and in the handling of its components. Following the teaching of paragraph 41 of D6, which anyway would apply only to the embodiment discussed in the immediately preceding sections and not to the other embodiments of a rope supporting apparatus discussed before that, the skilled person would not obviously find the solution according to claim 1. The skilled person was faced with different non-obvious options to install the mounting arm in the apparatus. The prior art consistently taught the skilled person to install the governor on the guide rail; mounting as in the claim solved the problem of a rationalisation of parts.

For similar reasons the subject-matter of granted claim 4 also had to be considered to involve an inventive step.

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

*Novelty*

The "rope supporting apparatus" of D6 comprised all components which were not the guide rail but which contributed to support the rope on the guide rail. This was apparent from paragraph 10 and from claim 1 of D6. The support member 51 did not actually support the rope on the guide rail and thus also was not a feature of the rope supporting apparatus. The mounting arm of a governor mentioned in paragraph 41 of D6 could thus only be installed in the rope supporting apparatus on the column-like body 33 supporting the rope end fixing member 37. Due to the space requirements for the installation of the rope supporting apparatus in an elevator system, a governor's mounting arm had to be of shallow and therefore plate-like structure.

*Inventive step*

Either D3 or D6 could both be taken as the closest prior art. Starting for example from D6, in particular the embodiment in Figure 1, the two differentiating features did not contribute to solving a single technical problem.

The structure of the governor support was unrelated to the place where it would be installed in the rope supporting apparatus. The problem solved by the feature "support plate" could thus be seen as being "how to suitably construct a mounting arm". The solution was obvious to the skilled person; a "support plate" for supporting the governor was known in the prior art,

e.g. from D8, as also acknowledged in the patent in paragraphs 4 to 6.

Concerning the second feature, "integrally with the car side anchor member", it did not solve the problems mentioned in the patent. Instead the problem could only be seen in finding an appropriate place to install the governor's mounting arm in the rope supporting apparatus. Following the indication in paragraph 41 of installing the governor's mounting arm in the rope supporting apparatus, i.e. on those components supporting the ropes' ends, the skilled person had only two obvious options to do so in the embodiment of Figure 1, namely either on the guide rail or on the column-like support body 33. Moreover, it was common sense and known from the prior art, as exemplified by D2, Figure 3, and D1, Figure 4, to support elements performing two different functions on an integral component already present in an installation, here simply supporting the governor and the rope ends on a common support structure.

## **Reasons for the Decision**

### *Article 100(a) and 54 EPC*

1. It is undisputed between the parties that the features in the preamble of claim 1 are disclosed in D6. The Board agrees.

In regard to the features of the characterising portion, the appellant argued that D6 failed to disclose a support "plate" supporting the governor on the guide rail. Also the mounting arm mentioned in paragraph 41 of D6, even if it were to be seen as being a support plate in accordance with claim 1, would not



necessarily have to be provided integrally with the car side anchor member shown in D6.

The Board accepts the arguments of the appellant for the following reasons.

1.1 The feature "support plate"

1.1.1 The expression "support plate" used in claim 1 of the patent in suit has to be given a broad interpretation, going beyond and not limited to a single plate constituted by a thin and flat (metal) sheet, extending in a vertical direction along the guide rail. According to the embodiments disclosed in the patent, a support plate may be of L- or T-shaped configuration formed of plates extending vertically along the guide rail and perpendicular to it, i.e. horizontally.

1.1.2 It is an accepted principle in the case law of the Boards of Appeal that a generic term or disclosure does not anticipate a more specific feature. The respondent did not indicate any reason for finding the contrary and the Board also cannot find any reason to deviate from this principle.

1.1.3 The reference in paragraph 41 of D6 to a "mounting arm" supporting the governor cannot be considered to anticipate the more specific feature of the claim.

The mounting arm (mentioned only once in D6) is not further specified or illustrated. Even if space constraints in such elevator systems are taken into account, these do not necessarily imply a relatively thin and long shape, as argued by the respondent. The expression "mounting arm" is far more general and covers, for example, solid beams. Such beams would

however not necessarily have to be long and thin. A short thick beam would not be considered by a skilled person to be a "support plate" as it is in no sense plate-like.

1.2 The feature "integrally with"

1.2.1 In regard to the feature "integrally with" defined in the characterising portion of claim 1, the appellant argues that this expression excluded embodiments in which two components were mounted to each other via a third separate component between them. It rather designated arrangements in which the governor's support plate and the cable anchor member are directly joined to each other. This argument was not contested by the respondent and the Board also does not see any reason not to follow this meaning.

1.2.2 The Board can also accept the argument of the appellant that the "rope supporting apparatus" in D6 could comprise more features than only the column-like body 33 and the rope end fixing member 37. The disclosure in paragraph 41 of D6 in regard to the location of installation of a governor's mounting arm in the apparatus of D6 is thus not unambiguously limited to an installation exclusively on either of these two members. It is thus not directly and unambiguously derivable from D6 that the mounting arm is provided "integrally with", in the above sense, either of these two members in such a way that it would correspond to the cable anchor member of claim 1 of the patent in suit.

1.2.3 The respondent's counter arguments in this respect are not convincing for the following reason.

Paragraph 10, referred to by the respondent to support its argument that the guide rail was not a feature of the rope supporting apparatus, defines the object underlying the invention of D6. It states that the apparatus shall be able to reduce any bending moment applied to a guide rail. The Board cannot find anything in this statement which would exclude the guide rail as being a feature of the apparatus. Also, the wording in the following paragraph 11, corresponding essentially to the wording of claim 1, is at least ambiguous in this respect. These cited statements can anyway not be understood to limit the rope supporting apparatus to only those features actually supporting the rope on the guide rail. All descriptions of the embodiments, illustrated by the Figures and showing a number of additional features than only features 33 and 37, are consistently introduced by "Fig. [X] is a [front/cross-sectional/...] view showing a rope supporting apparatus for an elevator in accordance with this embodiment of the invention". This would be understood by the skilled person in the sense that the features shown there, supporting the load of the rope and contributing to the reduction of the bending moment, are features of the rope supporting apparatus. Moreover, as also pointed out in the Board's communication in preparation for the oral proceedings, the embodiment of Figure 4 discloses a particular arrangement of oblong holes in the guide rail, which would not be found in conventional guide rails, to selectively distribute the load in different directions. Even the guide rail would thus logically be seen as part of the rope supporting apparatus. Similarly, and as discussed in the oral proceedings before the Board, embodiment 4 of D6 (see Figure 6) discloses a further support member 51, separate from the column-like body 33, fixed to the guide rail, for

supporting the load from body 33 and thereby from the rope, in a direction parallel to the rail.

Accordingly, paragraph 41 of D6 does not directly and unambiguously teach the skilled person to install the governor's mounting arm in the rope supporting apparatus on either the column-like body 33 or the rope end fixing member 37.

- 1.3 The Board thus concludes that the subject-matter of claim 1 is novel over D6.
  
2. The respondent did not provide any further argument against the novelty of the subject-matter of claim 4 of the patent. The Board concludes that for similar reasons as set out above, the subject-matter of claim 4 is novel over D6, noting further that D6 does not disclose any information about the counterweight guide rails or any relationship of the velocity regulator (governor) thereto (see paragraph [0041]).
  
3. The respondent did not raise any other objections under Article 54 EPC in view of the other prior art on file.
  
4. The Board thus finds that the opposition ground under Article 100(a) in combination with Article 54 EPC does not prejudice maintenance of the patent.

*Article 100(a) and 56 EPC*

5. For examining whether the subject-matter of claim 1 involves an inventive step the problem-solution approach will be used.
  
- 5.1 Starting from D6 as the closest prior art for considering inventive step in regard to the subject-

matter of claim 1, and based on the previously identified differentiating features, i.e. "support plate" and "integrally with", an objective technical problem has to be formulated.

5.2 The problem indicated in paragraph 10 of the patent is not an objective problem. Since according to dependent claim 3 the support plate can be provided integrally with the cable anchor member by joining both components with nuts and bolts, neither the number of components nor the number of assembly processes nor costs incurred are necessarily reduced. Therefore an objective problem has to be formulated based on the technical effects achieved by these features, not on effects which might be achieved only in certain cases when other limitations are also present.

5.3 The Board can accept the respondent's argument that the two features, "support plate" and "integrally with", do not contribute to solving a single technical problem.

Rather, the particular shape of means on which the governor is supported, be it of beam-like, plate-like or any other shape, is unrelated to the way in which it is installed in relation to the cable anchor members or the guide rails of the elevator system.

5.4 Concerning the problem formulated by the respondent in view of the feature "integrally with", to provide an appropriate place to install the governor's mounting arm in the rope supporting apparatus, the Board is not convinced that this is an objective problem either. The appellant argued that the installation of the support plate integral with the anchor member allowed to use already present components of the apparatus without having to introduce further components, making

manufacture and handling of the elevator system components thereby more efficient. Despite not being convinced that manufacture and handling necessarily become more efficient, the Board considers however that the feature "integrally with" implies that additional components interposed between the anchor member and the support plate are necessarily obviated, so that an objective problem cannot be simply about finding an appropriate place for the installation of the governor's support (as argued by the respondent).

Also the problem formulated by the respondent in the context of its objection starting from D3 as closest prior art and based essentially on the same differentiating feature, to simplify the mounting of a governor and an adjacent cable anchor member to a common guide rail, is not an objective one, at least for the reason that a simplification is not necessarily achieved.

- 5.5 The Board finds that an objective problem can be seen in how to install the governor's support or mounting arm in the rope supporting apparatus of D6 making use of available parts which were already to be used. The respondent did not contest that available parts were indeed made use of as a result of the feature "integrally with" and thus that the problem was objective.
- 5.6 Rather, the respondent argued that the skilled person, if faced with this problem, had only two options if for example the first embodiment of D6, illustrated by Figure 1, were considered. Either the skilled person would install the mounting arm on the guide rail or the skilled person would choose the column-like body, both possibilities being obvious, the second simply being

the solution defined in claim 1 of the patent in suit. The Board is not convinced by the respondent's argument for essentially two reasons.

5.6.1 Even when taking the case of the simplest embodiment disclosed in D6, the skilled person has further options. As has been stated before in the discussion in regard to the requirement of novelty (see points 1.2.2 and 1.2.3 above), the rope supporting apparatus cannot be considered to consist only of the column-like body 33 and the rope end fixing member 37. Rather, according to the description of the embodiments, and also claim 1 which states only which elements are comprised in the supporting apparatus (i.e. a non-exclusive listing of elements), the skilled person would have understood that it comprised *inter alia* the features shown in the Figures supporting the load of the rope and contributing to the reduction of the bending moment on the guide rail. For example, in the embodiment of Figure 1, also the rail brackets 32 contribute to this and represent therefore an option to install the governor's mounting arm in the illustrated rope supporting apparatus.

5.6.2 Additionally, the respondent did not indicate by which pointer the skilled person would have been guided to choose the column-like body 33 as the installation site. The Board cannot see any pointer other than hindsight which could have done so. The prior art on file, as pointed out by the appellant, suggests a solution going in a different direction, namely the installation of the governor either on the guide rail (D1, D3, D5, D8) or at some other site (D2). In regard to D1, Figures 1 and 4, where a governor is schematically illustrated as having been installed at the same place together with the rope anchor or rope

hitch on top of the guide rail, the description is entirely silent in respect of whether these are intentionally shown as provided on a common member. The passage in column 3, lines 54 to column 4, line 4, discloses that the "beam 64 is used to conventionally mount the governor". Thus, the schematically shown governor mounting can only be seen in this context. D1 thus does not provide a clear teaching to install the governor on a support plate integral with the cable anchor member. D2, paragraph 15 of the English translation, discloses that the governor is supported "at the bottom of the hoistway". Hence according to D2, the governor is not installed together with the rope end hanger shown in Figure 3 on a common component; exactly how the governor is arranged cannot be unambiguously deduced.

- 5.7 The Board thus concludes that it would not be obvious for the skilled person, faced with the above objective problem, and faced with the prior art cited by the respondent, to install the governor's mounting arm, or support plate, integrally with the car side cable anchor member.
- 5.8 Although the respondent elected not to provide oral submissions on inventive step when starting from D3, the conclusion of the Board would not be different if D3 were to have been chosen as the closest prior art for considering inventive step. D3 also does not disclose the feature "integrally with". The problem-solution approach in regard to the obviousness of this feature would thus have followed the same lines of argument as above. The respondent also did not argue that the conclusion would be different.



5.9 Since already for the foregoing reasons, the subject-matter of claim 1 is considered as involving an inventive step (Article 56 EPC), it is not necessary to consider further whether or not the particular claimed shape of the governor's support means would be obvious to a skilled person.

6. For equivalent reasons, also the subject-matter of granted claim 4 of the patent in suit is considered as involving an inventive step (Article 56 EPC). The respondent also did not argue that the conclusion reached on the subject-matter of claim 1 would be different when considering claim 4.

7. The Board concludes that the ground of opposition under Article 100(a) EPC in combination with Article 56 EPC does not prejudice maintenance of the patent. The patent has therefore to be maintained as granted.

**Order**

**For these reasons it is decided that:**

1. The decision under appeal is set aside.
2. The patent is maintained as granted.

The Registrar:

The Chairman:



L. Malécot-Grob

M. Harrison

Decision electronically authenticated