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**Datasheet for the decision
of 7 November 2023**

Case Number: T 0851/20 - 3.2.06

Application Number: 14189698.5

Publication Number: 3012217

IPC: B66B5/00

Language of the proceedings: EN

Title of invention:
Safety system for elevator

Patent Proprietor:
KONE Corporation

Opponent:
INVENTIO AG

Headword:

Relevant legal provisions:
EPC Art. 54, 123(2)
RPBA 2020 Art. 12(3), 12(5)

Keyword:

Novelty - Main request, auxiliary request 2 - (no)
Reply to statement of grounds of appeal - reasons set out
clearly and concisely - auxiliary request 4 - (no)
Amendments - added subject-matter - auxiliary request 5 -
(yes)

Decisions cited:

Catchword:



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Case Number: T 0851/20 - 3.2.06

D E C I S I O N
of Technical Board of Appeal 3.2.06
of 7 November 2023

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
19 February 2020 concerning maintenance of the
European Patent No. 3012217 in amended form.**

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 interlocutory decision of the opposition division in which it found that European patent No. 3 012 217 in an amended form met the requirements of the EPC.
- II. The appellant requested that the decision under appeal be set aside and the patent be revoked. Furthermore, it requested reimbursement of the appeal fee.
- III. In its reply to the statement of grounds of appeal, the respondent (patent proprietor) requested that the appeal be dismissed (main request), auxiliarily that the patent be maintained according to one of auxiliary requests 1 to 6 mentioned in its reply.
- IV. The following documents are relevant to the present decision:

D3 JP-A-H09 278307
D3Tm Translation of D3 into English
- V. The Board issued a summons to oral proceedings and a subsequent communication containing its provisional opinion, in which it indicated *inter alia* that the subject-matter of claim 1 of the main request and that of auxiliary requests 1 and 2 appeared to lack novelty over D3. It further indicated that the subject-matter of claim 1 of auxiliary requests 3, 5 and 6 seemed not to meet the requirement of Article 123(2) EPC and that auxiliary request 4 appeared to lack substantiation. It furthermore indicated that reimbursement of the appeal fee seemed unlikely to be ordered.

VI. Oral proceedings were held before the Board on 7 November 2023, during which the appellant withdrew its request for reimbursement of the appeal fee and the respondent withdrew auxiliary requests 1, 3 and 6. At the close of the oral proceedings, the parties' requests 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 dismissed (main request), auxiliarily that the patent be maintained according to one of auxiliary requests 2, 4 and 5 as mentioned in the reply to the statement of grounds of appeal.

VII. Claim 1 of the main request reads as follows (including feature annotation as used by the opposition division in its decision):

"M1.1 A safety system of an elevator (100), comprising:

M1.2 a first switch (111) configured to detect a first position of a safety device (103) of an elevator;

M1.3 a second switch (112) configured to detect a second position of the safety device;

M1.4 a controller (200) configured to monitor a change of a state of the first switch and a change of a state of the second switch, characterized by

M1.5 the controller is further configured to monitor an order of the changes of the states,

M1.6 wherein the order is desired or non-desired."

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

"wherein the controller is configured to enter or maintain the elevator within a maintenance mode, if any change of the state is inappropriate."

The wording of claim 1 of auxiliary request 4 is not relevant to the decision taken on the request.

Claim 1 of auxiliary request 5 reads as follows:

"A safety system of an elevator (100), comprising:
a first switch (111) configured to detect a first position of a safety device (103) of an elevator, wherein the first switch is configured to verify that the safety device is retracted;
a second switch (112) configured to detect a second position of the safety device, wherein the second switch is configured to verify that the safety device is extended;
a controller (200) configured to monitor a change of a state of the first switch and a change of a state of the second switch,
characterized by
the controller is further configured to monitor an order of the changes of the states,
wherein the order is desired or non-desired;
wherein the order is desired only if the status of the first switch is at off position when entering a maintenance mode (301); and
wherein the order is desired only if the status of the second switch is at off position when entering a normal mode (300)."

VIII. The appellant's arguments relevant to the present decision may be summarised as follows:

Main request

The subject-matter of claim 1 lacked novelty over D3. Paras. [0030] and [0031] of D3 disclosed a clear order for the switches 10A and 10B to change their states. This order was monitored by the controller which enabled either a governor rope break or rope extension to be identified. Similarly, in the case of contraction of the governor rope, paras. [0033] and [0034] disclosed activation of switch 10B prior to switch 10A i.e. the reverse order to when the governor rope extended or broke. The respondent was reading many limitations into claim 1 based on the description, but claim 1 was not limited in this way and had a much broader scope.

Auxiliary request 5

The subject-matter of claim 1 failed to meet the requirement of Article 123(2) EPC. There was no disclosure of an order being desired in relation to the status of the first or second switches.

- IX. The respondent's arguments relevant to the present decision may be summarised as follows:

Main request

The subject-matter of claim 1 was novel over D3, since D3 failed to disclose a controller configured to monitor an order of changes of the states of the switches. D3 solely determined the time lapse between the changes of states of the switches 10A and 10B (see e.g. para. [0011]). Rather than the order of switching being found to be 'desired' or 'non-desired' as claimed, in D3 only a conclusion regarding the timing

between changes of states of the switches being desired or non-desired was reached. No meaningful chronological order of the switch operation was recognised in D3. Contrary to the patent, the arrangement known from D3 would not allow malfunctioning switches to be recognised or over-switched conditions to be detected. As for the switch operation in D3 relating to contraction of the governor rope, there was no unambiguous disclosure of 10B being activated before 10A.

Auxiliary request 2

D3 failed to disclose a 'maintenance mode' in which the controller enabled continued operation of the elevator for maintenance purposes. This was the skilled person's understanding of the expression 'maintenance mode'.

Auxiliary request 4

Claim 1 of auxiliary request 4 had removed those features found to offend Articles 84 and 123(2) EPC in auxiliary request 3. It was thus immediately clear how the arguments in support of inventive step for claim 1 in auxiliary request 3 were relevant to claim 1 of auxiliary request 4, without these having to be stated.

Auxiliary request 5

The features added to claim 1 found basis on page 4, lines 9 to 10; page 5, lines 11 to 13; Fig. 5, steps 402 and 405; page 7, lines 31 to 35 and page 8, lines 14 to 16. There was no need to include the features to the safety device 103 in claim 1 since these were not necessary for the claimed invention.

Reasons for the Decision

1. *Main request*

Novelty

1.1 The subject-matter of claim 1 lacks novelty over D3.

1.2 D3 discloses a safety system of an elevator (see para. [0001]; Fig. 1), comprising:
a first switch (10A) configured to detect a first position of a safety device (tension pulley weight 8 as part of the governor assembly) of an elevator;
a second switch (10B) configured to detect a second position of the safety device (8);
a controller (13) configured to monitor (see paras. [0028] and [0029]) a change of a state of the first switch (10A) and a change of a state of the second switch (10B),
wherein
the controller (13) is further configured to monitor an order of the changes of the states (see e.g. paras. [0028] and [0029]),
wherein the order is desired (switch 10B activation after 10A with a time difference e.g. greater than 10s) or non-desired (switch 10B with an activation time after 10A with a time difference of e.g. less than 10s).

1.3 As regards the order being 'desired' or 'non-desired', the Board finds this to be nothing more than a 'label' attached to an order of the changes in switch state. The patent as a whole fails to define how a desired order of changes differs from a non-desired one such that no technical relevance and no claim limitation can

be associated with these labels. In the analysis of claim 1 in point 1.2 above, therefore, the activation time difference in the activation order of switches 10A and 10B of D3 greater than 10 seconds is nominally designated a 'desired order', a time difference less than 10 seconds a 'non-desired order'.

1.4 Similarly, the respondent's contention that D3 fails to identify whether a change of state is desired or non-desired does not justify recognition of novel subject-matter in claim 1. With the claimed terms 'desired' or 'non-desired' being nothing but labels without any technical relevance to the particular switching order monitored, the presence of these terms in claim 1 has no impact upon the existence of novel subject-matter.

1.5 The respondent's contention that determination of the time lapse between the changes of states of the switches 10A and 10B of D3 cannot be equated with the claimed monitoring of an order of changes of the states of the switches is not accepted. The respondent interprets to 'monitor an order of the changes of states' of the switches to imply monitoring of a difference in the switching order occurring i.e. the state of the first switch changing before that of the second switch being different to the state of the second switch changing before that of the first. As argued by the appellant, the wording of claim 1 however offers a much broader interpretation than this, which does not require monitoring a difference in the order of switch state changes but merely monitoring the order of the switch state changes, as will be explained further below.

1.5.1 Considering the pulley weight 8 of the governor rope 5 of D3 (see Fig. 1), when the governor rope extends over

time, the weight 8 will descend causing the first switch 10A to activate as the switch 'comes off' the cam 9 (see para. [0027]). This is registered by the controller 13 and a timer is started in order to measure the time which elapses before the weight 8 descends far enough for the second switch 10B to activate as it also 'comes off' the cam 9 (see para. [0027]). As soon as the timer is started, the controller 13 is waiting for the second switch 10B to activate and is thus 'monitoring an order of the changes of the states' of the switches. Even before the second switch 10B activates, the controller 13 is already monitoring the order of switch activation, having started the timer after activation of the first switch and actively awaiting activation of the second switch. The feature that 'the controller is configured to monitor an order of the changes of the states' is thus disclosed in D3.

- 1.5.2 Even if claim 1 were seen to more narrowly define monitoring of a difference in the order of switch state changes, this is also disclosed in D3. In addition to switch 10A being activated first followed by switch 10B discussed in point 1.5.1 above, paragraphs [0033] and [0034] of D3 disclose the reverse order of switching i.e. switch 10B being activated ('remaining off') followed by switch 10A subsequently being activated ('remaining off') in the event of the pulley weight 8 moving upwardly. The disclosure in these paragraphs notably goes beyond that in para. [0022], which the respondent held not to unambiguously disclose this reverse order of switching. Reference to Figure 1 also confirmed that this order of switching was not only stated in the description as being different, but followed entirely logically from the movement of the cam (9) attached to the weight (8) with respect to the

switches 10A and 10B.

1.6 The respondent's argument that D3 fails to disclose that the changes of the states are monitored (i.e. plural) rather just a change of state (i.e. singular) is not accepted. As indicated in point 1.5.1 above, the controller 13 of D3 registers when switch 10A is activated (a first change of state) and thereafter awaits switch 10B activating (a second change of state). Even if this second change of state were not to occur, e.g. due to the elevator being taken out of service for changing/adjusting of the governor rope, the controller is nevertheless 'configured to monitor an order of the changes of the states' of the switches.

1.7 As to the respondent's contention that no meaningful chronological order of switch operation was recognised in D3, the Board notes that no meaningful order of switch operation is defined in claim 1 either. Regarding claim 1, as indicated in point 1.3 above, the terms 'desired' and 'non-desired' are not disclosed to have a technical relevance and are thus simply labels attached to any one order of switching. Consequently no 'meaningful chronological order of switch operation' can be attributed to the safety system of claim 1. It thus follows that no differentiation of claim 1 over D3 can be attributed to the order of switching being desired or non-desired.

1.8 The respondent's argument that the elevator safety arrangement known from D3 would not allow malfunctioning switches to be recognised or over-switched conditions to be detected is not denied, yet this has no relevance due to the scope of claim 1. Even if the description of the patent in suit discloses such advantages of the invention (see para. [0010]), no

features requiring recognition of such switch behaviour are included in claim 1. It thus follows that claim 1 has no features necessarily resulting in this ability of detecting malfunctioning switches, such that this alleged function does not differentiate claim 1 over the disclosure of D3.

1.9 In summary, therefore, the subject-matter of claim 1 lacks novelty over D3 (Article 54 EPC). The main request is consequently not allowable.

2. *Auxiliary request 2*

Novelty

2.1 Relative to claim 1 of the main request, claim 1 of auxiliary request 2 further defines that the controller is configured to enter or maintain the elevator within a maintenance mode, if any change of the state is inappropriate (these features being taken from granted claim 2).

2.2 As regards the feature 'a change of state being inappropriate', no argument was made by the respondent that this was not disclosed in D3. Indeed, the terminology applies to any of the states in D3 described above (guide rope breaking or guide rope extending or contracting too much) where the elevator is e.g. stopped.

2.3 The respondent argued that the 'maintenance mode' for an elevator would be understood by a skilled person as a mode allowing continued operation in a manner safe for maintenance to be carried out.

Such a definition of a 'maintenance mode' is, however, not included in claim 1. Giving claim 1 its broadest, technically reasonable interpretation, a maintenance mode can be understood to be any operational mode of the elevator in which maintenance can be carried out. This logically includes complete shut-down of elevator operation in order to carry out any maintenance work. In the event of the governor rope 5 breaking in D3 (see para. [0030]), the emergency stop device 12 is activated bringing the car to an emergency stop. This corresponds to the claimed action of the controller entering a maintenance mode (i.e. because in that mode, maintenance is needed).

2.4 The skilled person's understanding of a 'maintenance mode' may in certain cases be as indicated by the respondent. Nonetheless, with claim 1 simply including reference to a maintenance mode absent any indication of the intended limits of some form of possible operation in that mode, the Board interprets the mode in its broadest, technically reasonable manner, which indeed includes complete termination of elevator operation e.g. in order to enable governor rope repair or replacement, which is undoubtably a maintenance activity.

2.5 The subject-matter of claim 1 thus lacks novelty over D3 (Article 54 EPC). Auxiliary request 2 is consequently not allowable.

3. *Auxiliary request 4*

Admittance

3.1 According to Article 12(3) RPBA 2020, the reply to the statement of grounds of appeal shall set out clearly

and concisely the reasons why it is requested that the decision under appeal be reversed, amended or upheld and should specify expressly all the requests, facts, objections, arguments and evidence relied on.

- 3.2 With its reply to the statement of grounds of appeal, the respondent solely indicated the alleged basis for the subject-matter of claim 1 of this request (albeit in granted claims), but failed to provide any arguments as to why the request should be allowable (for example, there were no arguments in support of novelty or inventive step). In its preliminary opinion under Article 15(1) RPBA 2020, the Board indicated that the request would likely not be admitted due to it being unsubstantiated.
- 3.3 During the oral proceedings before the Board, the respondent argued that it was immediately clear how the arguments in support of inventive step for claim 1 of auxiliary request 3 were also relevant to claim 1 of auxiliary request 4. Consequently also claim 1 of auxiliary request 4 was substantiated.
- 3.3.1 The Board does not accept this because claim 1 of auxiliary request 3 (withdrawn at oral proceedings) defined 'elevator mode and switch status checks'. The arguments in support of an inventive step in this claim relied to a large extent on these features.
- 3.3.2 Since claim 1 of auxiliary request 4 omitted these features, there was not inconsiderable ambiguity as to which arguments in support of claim 1 of auxiliary request 3 also applied to claim 1 of auxiliary request 4. The requirement of Article 12(3) RPBA 2020 to specify expressly all facts, arguments and evidence relied on was thus not met, nor was it immediately

apparent what arguments regarding auxiliary request 3 would then be relevant for auxiliary request 4.

3.4 Accordingly the Board decided not to admit auxiliary request 4 into the proceedings (Article 12(5) RPBA 2020).

4. *Auxiliary request 5*

Article 123(2) EPC

4.1 In its preliminary opinion given in the communication issued under Article 15(1) RPBA 2020, the Board indicated that the feature directed to a 'desired' order of the changes of the states of the switches seemed to lack basis in the application as filed.

4.2 In response during the oral proceedings, the respondent referred to page 4, lines 9 to 10; page 5, lines 11 to 13; Fig. 5, steps 402 and 405; page 7, lines 31 to 35 and page 8, lines 14 to 16. However, in all of these passages of the application as filed, no reference to a 'desired' order as claimed can be found. In addition, and merely as one example, in the respondent's reference to page 8 of the application as filed upon which it relied, further features of the safety device are included (e.g. the position of the safety device 103) which have not been taken-up into the amended claim 1.

4.3 The respondent's argument that there was no need to include the features on page 9 concerning the safety device 103 in claim 1 (since these were not necessary for the claimed invention) is not accepted. Page 8, lines 14 to 16 discloses detail of step 405 of the flow chart of Fig. 5; this includes not only the [second]

switch 112 being in the off position (which has been taken-up into claim 1) but additionally that the safety device must move away from the fully extended position. This is disclosed in functional combination with the second switch being in the off position. Consequently, the omission from claim 1 of this feature of the safety device additionally results in the claimed subject-matter extending beyond the content of the application as originally filed.

- 4.4 At least for these two reasons, the subject-matter of claim 1 thus fails to meet the requirement of Article 123(2) EPC. Auxiliary request 5 is consequently not allowable.

5. Absent any set of claims which would meet the requirements of the EPC, the appellant's request for revocation must be followed.

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:



D. Grundner

M. Harrison

Decision electronically authenticated