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Datasheet for the decision of 28 February 2008

Case Number: T 1317/05 - 3.5.02

Application Number: 99952605.6

Publication Number: 1123571

IPC: H02B 13/035

Language of the proceedings: EN

Title of invention:
Gas-insulated switchgear device

Patentee:
ABB Service Srl

Opponent:
Areva T&D SA

Headword:
-

Relevant legal provisions:
EPC Art. 56

Relevant legal provisions (EPC 1973):
-

Keyword:
"Inventive step - main request (no)"
"Late-filed request not admitted"

Decisions cited:
G 0009/91, T 0840/93

Catchword:
See points 3.1 to 3.5 of the reasons

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 1317/05 - 3.5.02

D E C I S I O N
of the Technical Board of Appeal 3.5.02
of 28 February 2008

Appellant: (Patent Proprietor)
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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted 10 August 2005 revoking European patent No. 1123571 pursuant to Article 102(1) EPC.**

Composition of the Board:

Chairman: M. Ruggiu
Members: M. Rognoni
E. Lachacinski

Summary of Facts and Submissions

I. The patentee (appellant) appealed against the decision of the opposition division revoking European Patent No. 1 123 571.

II. In the decision under appeal, the opposition division held, *inter alia*, that the subject-matter of claim 1 of the patent in suit did not involve an inventive step within the meaning of Article 56 EPC having regard to the following documents:

O1: EP-A-0 735 637,
O2: WO-A-96/36 982.

III. With the statement of grounds of appeal dated 12 December 2005, the appellant filed two sets of claims by way of first and second auxiliary requests.

IV. Oral proceedings before the Board were held on 28 February 2008.

V. In the oral proceedings, the appellant withdrew the first auxiliary request and amended claim 1 of the second auxiliary request.

VI. The appellant (patentee) requested that the decision under appeal be set aside and that the patent be maintained unamended, or auxiliarily that the patent be maintained in amended form on the basis of claim 1 of the first auxiliary request filed during the oral proceedings and claims 2 to 16 of the second auxiliary request filed with the letter dated 12 December 2005.

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

VII. Claim 1 of the patent as granted (main request) reads as follows:

"A high- and medium-voltage gas-insulated switchgear device, characterized in that it comprises a casing (4) which contains:

- at least an interruption unit (7) having at least one fixed contact (10) and one moving contact (9) which can couple each other, and first actuation means which are operatively connected to the moving contact (9);
- at least a disconnection unit (24) electrically connected to the interruption unit (7), said disconnection unit (24) having at least one fixed contact (32) and one moving contact (27) which can couple each other, and second actuation means which are operatively connected to the moving contact;

and in that at least one of said actuation means comprises a motor with position control."

Claim 1 according to the first auxiliary request reads as follows:

"A high- and medium-voltage gas-insulated switchgear device, characterized in that it comprises a casing (4) which contains:
- at least an interruption unit (7) having at least one fixed contact (10) and one moving contact (9) which can couple each other, and first actuation means which are

operatively connected to the moving contact (9), said interruption unit (7) comprising a sealed chamber (70) and being extractable with respect to the remaining part of the switchgear device;
- at least a disconnection unit (24) electrically connected to the interruption unit (7), said disconnection unit (24) having at least one fixed contact (32) and one moving contact (27) which can couple each other, and second actuation means which are operatively connected to the moving contact;
and in that said first actuation means comprise a rotary servomotor with position control (15)."

The main and first auxiliary requests comprise further independent claims which, however, are not relevant to the present decision.

VIII. The arguments of the appellant relevant to the present decision can be summarised as follows:

Claim 1 of the contested patent (main request) related to a high- and medium-voltage gas-insulated switchgear device in which a position control motor, *i.e.* a motor with intrinsic control of the position, was used to actuate the interruption unit and/or the disconnection unit. Though O1 showed a gas-insulated switchgear device comprising interruption and disconnection units, it did not specify the kind of actuators used for driving the moving contacts. Hence, the subject-matter of claim 1 of the contested patent differed from the switchgear device known from O1 in that at least one of the actuation means comprised a motor with position control.

The actuator driving the moving contact of the current interrupter known from O2 was not a motor with position control but a linear actuator based on a voice coil and provided with a feedback system. In fact, O2 stressed that motors as actuators were relatively slow and had poor response time. For this reason, they were not normally employed to directly drive the contacts of an interrupter. Thus, apart from not disclosing the use of a position control motor to actuate the contacts of an interruption or disconnection unit, O2 actually taught away from the present invention which essentially relied on a motor with position control.

However, even if the voice coil shown in O2 was regarded as a kind of linear motor, the person skilled in the art would not have thought of applying the actuator shown in O2 to a switchgear device according to O1 because the teachings of these two documents were essentially incompatible. In fact, the embodiments shown in Figures 5 to 8 of O1 involved the use of a rotary actuator and thus clearly excluded the possibility of driving the moving contact by means of a linear actuator.

The subject-matter of claim 1 of the contested patent involved therefore an inventive step over the combination of O1 and O2 (Article 56 EPC).

The first auxiliary request filed in the oral proceedings differed from the second auxiliary request submitted with the statement of grounds of appeal only in that the word "casing (4)" in claim 1 was replaced by "chamber (70)". This amendment, which was clearly supported by the description and the figures of the application documents, was merely directed to removing an evident error in the

language of the claim. Thus, this amendment should be allowed and, despite its late filing, the first auxiliary request should be admitted into the appeal proceedings.

IX. The arguments of the respondent relevant to the present decision can be summarised as follows:

As indicated in the decision under appeal and not contested by the appellant, the subject-matter of claim 1 of the patent in suit differed from the switchgear device known from document O1 only in that at least one of the actuation means comprised a motor with position control.

Document O2 related to a switchgear device which included a casing containing at least a fixed contact, a movable contact and, in particular, a motor with position control for driving the movable contact. In fact, a voice coil with position feedback shown in O2 was a motor in the usual meaning of the word. Furthermore, the essential teaching of O2, which consisted in controlling the movement of the actuator on the basis of a comparison of the actuator's movement with a desired motion profile, was not limited to the use of a voice coil as an actuator but clearly covered other alternative motors.

In summary, a person skilled in the art looking for actuation means for the movable contact of a switchgear device according to O1 would have considered O2 as relevant and would have realized that it was advantageous to apply to the known device the teaching of O2 relating to the use of a motor with position control. In so doing, the skilled person would have arrived at the claimed invention without involving any inventive activity.

The first auxiliary request should not be admitted into the appeal proceedings as late-filed and furthermore because its admission would raise a number of new issues relating to Articles 83, 84 and 123(2) EPC.

Reasons for the Decision

1. The appeal is admissible.

2. *Main request*

2.1 There is agreement between the parties that document O1 discloses a gas-insulated switchgear device comprising the following features recited in claim 1 of the contested patent:

- an interruption unit 12 (see Figure 3) having one fixed contact and one moving contact which can couple each other,

- first actuation means 9 which are operatively connected to the moving contact (see Figure 1 and column 5, lines 36 to 41),

- a disconnection unit 13 electrically connected to the interruption unit, said disconnection unit having at least one fixed contact and one moving contact which can couple each other, and

- second actuation means 10 which are operatively connected to the moving contact (column 6, line 58 to column 7, line 6).

Document O1 defines the actuation means for driving the contacts of the interruption and disconnection units merely as "Antrieb" ("actuator") and does not specify its possible constitution.

2.2 Hence, the subject-matter of claim 1 according to the main request differs from the switchgear known from O1 in that:

"at least one of said actuation means comprises a motor with position control".

As pointed out in the contested patent (paragraph [0023]), the *"use of a motor with position control allows, among other things, to precisely apply a preset rule of motion during electrical operations".* Furthermore, the *"use of a motor with position control allows a simplification of the overall mechanical structure of the device according to the invention, reducing the dimensions and increasing the reliability of the system"* (paragraph [0025]).

2.3 Starting from a switchgear device according to O1, a problem addressed by the contested patent can be seen in providing a suitable actuator for driving the moving contacts of the interruption unit 12 and/or disconnection unit 13.

2.4 Document O2 relates to a "*control method and device for a switchgear actuator".* Figure 1 shows a current interrupter comprising a movable contact connected to one end of an operating rod 6. *"The other end of the operating rod 6 is operatively coupled to an actuator, such as a voice coil actuator 8. The voice coil actuator*

8 directly acts upon the operating rod 6 in order to open or close the contacts of the current interrupter 4" (O2, page 6, lines 17 to 21).

2.5 The appellant has essentially argued that O2 did not disclose a "*motor with position control"* as specified in claim 1 of the contested patent but merely a linear actuator based on a voice coil. In fact, on page 3, lines 3 to 10, O2 pointed out that motors were neither used as actuators of interrupters nor suitable for such use. However, even if were assumed that a person skilled in the art might have regarded the voice coil of O2 as a kind of *"linear motor"* with position control, such a skilled person would not have thought of combining it with O1 since the embodiments shown in Figures 5 to 8 of the latter related to rotary actuators.

2.6 As specified in O2 (page 6, lines 22 to 25), a voice coil actuator is a *"direct drive, limited motion device that uses a magnetic field and a coil winding 10, to produce a force proportional to the current applied to the coil".* The current passing through the voice coil winding is controlled by a *"control mechanism"* 12 that may be coupled to a feedback device 14 which provides input regarding the position of the operating rod (O2, page 7, lines 3 to 10). Insofar as it is used to drive the moving contact of the interrupter according to a predetermined *"motion profile"* defined on the basis of the position of the moving contact with respect to the fixed contact (see page 13, lines 3 to 10), the voice coil of the switchgear device shown in O2 constitutes a *"motor with position control"* as specified in the contested patent.

In particular, O2 (see page 13, lines 3 to 10) teaches that, during *"an opening sequence, the motion profile is also important to prevent the occurrence of restrikes or re-ignitions shortly after opening. If the contacts separate at too low a speed, or at a time when the voltage level is too high, excessive arcing may occur"*. It is thus necessary to establish the appropriate motion profile. According to page 14, lines 15 to 18, the voice coil actuator is controlled by comparing its actual position with a stored motion profile.

2.7 It is evident to a person skilled in the art that a switchgear device according to O1 would benefit from the use of an actuator which affords a certain control over the motion profile of a moving contact. It would thus be obvious to try and control the motion of the contacts of the known switchgear device by means of a motor with position feedback as shown in O2. As to the fact that the embodiments of Figures 5 to 8 of O1 imply the use of a rotary actuator, the Board considers that this would not prevent the skilled person from combining O1 and O2, since the teaching of the latter concerning the control of the motion profile of a moving contact is clearly not limited to the use of a particular actuator but can be implemented with a rotary actuator by adding the appropriate control of the rotor's angular position.

2.8 In the result, the Board concludes that it would be obvious to a person skilled in the art, looking for a suitable actuator for the moving contacts of a switchgear device according to O1, to consider the teaching of O2. In so doing, the skilled person would arrive at a switchgear device falling within the terms of claim 1 of the contested patent.

2.9 Hence the subject-matter of claim 1 of the appellant's main request does not involve an inventive step within the meaning of Article 56 EPC.

3. *Admissibility of the first auxiliary request*

3.1 As stipulated by the Enlarged Board of Appeal in G 9/91 (OJ EPO 1993, 408, in paragraph 18 of the reasons), the purpose of the appeal procedure *inter partes* is mainly to give the losing party the possibility of challenging the decision of the opposition division on its merits. A patentee who has lost before the opposition division thus has the right to have the rejected requests reconsidered by the appeal board.

If however the patentee wants other requests to be considered, admission of these requests into the proceedings is a matter of discretion of the appeal board, and is not a matter of right. As pointed out in T 840/93 (OJ 1996, 335 see point 3.1 of the reasons), this *"discretion is the equivalent in appeal proceedings of the requirements under Rule 86(3) EPC* [1973] *that the examining division consent to further amendments. For exercising the discretion in favour of the admission of requests by the patentee that were not before the opposition division, there must be good reason."*

3.2 Claim 1 according to the first auxiliary request submitted in the oral proceedings differs from claim 1 of the second auxiliary request filed with the grounds of appeal in that the following feature (emphasis added by the Board):

"said interruption unit (7) comprising a sealed casing (4) and being extractable with respect to the remaining part of the switchgear device"

is amended as follows:

"said interruption unit (7) comprising a sealed chamber (70) and being extractable with respect to the remaining part of the switchgear device".

3.3 According to the appellant, the amended wording constituted a mere correction of an obvious error in the application documents. It was in fact evident from the embodiment shown in Figure 1 and from the description of the contested patent (see paragraph [0034]) that the interruption unit 7 was arranged in the casing 4 and comprised the sealed chamber 70. Thus, the amended feature did not introduce any new subject-matter and only brought the claim into conformity with the original disclosure.

3.4 The feature relating to the interruption unit 7 comprising a sealed casing 4 and being extractable with respect to the remaining part of the switchgear device was originally disclosed in claim 12 of the original application documents. It is, however, apparent from Figures 1 and 2 and from the description (see paragraph [0034]) of the contested patent that the interruption unit 7 is comprised in a sealed casing 4. Though there is an evident discrepancy between this feature and the disclosure in the description and figures, it is not immediately apparent how it should be overcome. In fact, it could be assumed that the applicant's intention was merely to refer to an extractable interruption unit 7

comprised in a sealed casing 4 (see Figure 1 and 2). On the other hand, the amendment submitted by the appellant implies that the contacts 9 and 10 are arranged in a sealed chamber 70 and that interruption unit 7 comprising such sealed chamber 70 can be extracted from the remaining part of the switchgear device, *i.e.* from the sealed casing 4. While none of the claims as originally filed covers an aspect of the invention relating to an extractable interruption unit comprising a sealed chamber 70, the description does not disclose any features relevant to the extractability of an interruption unit which is disposed in a sealed casing 4 and comprises contacts arranged in a sealed chamber.

Thus, the appellant's amendment cannot be regarded as the predictable correction of an evident discrepancy between the claimed subject-matter and the original disclosure. On the contrary, it appears to promote a marginal and not completely clear aspect of the invention to the essential role of distinguishing the claimed subject-matter from the prior art and of possibly supporting an inventive step over such prior art.

In the opinion of the Board, it would be unfair to the respondent to admit an amendment of such weight and significance into the appeal proceedings at such a late stage, the more so as its admission may indeed raise a number of new and unexpected issues.

3.5 In the result, the Board in the exercise of its discretion decides not to admit the appellant's first auxiliary request into the appeal proceedings.

4. As none of the appellant's requests provides a basis for the maintenance of the contested patent, the appeal has to be dismissed according to the respondent's request.

Order

For the above reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

U. Bultmann M. Ruggiu