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**Datasheet for the decision
of 9 May 2017**

Case Number: T 1739/14 - 3.2.08
Application Number: 07425193.5
Publication Number: 1978265
IPC: F16B19/02, F01D25/24, F01D9/02,
F16B12/20
Language of the proceedings: EN

Title of invention:

A maintenance method of a plurality of gas turbine units

Patent Proprietor:

ANSALDO ENERGIA S.P.A.

Opponent:

Siemens Aktiengesellschaft

Headword:

Relevant legal provisions:

EPC Art. 100(a), 100(c), 56

Keyword:

Added subject-matter (no)
Inventive step - (yes)

Decisions cited:

Catchword:



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Case Number: T 1739/14 - 3.2.08

D E C I S I O N
of Technical Board of Appeal 3.2.08
of 9 May 2017

Appellant: Siemens Aktiengesellschaft
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Respondent: ANSALDO ENERGIA S.P.A.
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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted on 4 August 2014 rejecting the opposition filed against European patent No. 1978265 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chair P. Acton
Members: M. Foulger
Y. Podbielski

Summary of Facts and Submissions

- I. With the decision dated 4 August 2014, the opposition division decided to reject the opposition against European patent no. 1 978 265. The opposition division found that the grounds of opposition according to Article 100 (a) and (c) EPC did not prejudice the maintenance of the patent as granted.
- II. The appellant (opponent) filed an appeal against this decision. The appeal was filed in due form and within the given time limits.
- III. Oral proceedings took place before the Board of Appeal on 9 May 2017.
- IV. The appellant requested that the decision under appeal be set aside and that the patent be revoked.

The respondent (patent proprietor) requested that the appeal be dismissed or, in the alternative, that the patent be maintained on the basis of one of the three auxiliary requests filed, together with the reply to the statement setting out the grounds of appeal, by letter of 19 March 2015.

- V. In appeal proceedings the following prior art has been discussed:
 - prior art discussed in paragraph [0005] of the patent
 - D2: US 1,097,185 A
 - D3: EP 1 598 764 A
- VI. Independent claim 1 as granted (Main request) reads:

"A maintenance method of a plurality of a gas turbine

units; **(Feature A)**

each gas turbine unit (1) comprising a first stator element (6) provided with first connecting holes (10) and a second stator element (8) provided with second connecting holes (11).; *(sic)* **(Feature B)**

the first stator element (6) is coupled to the second stator element (8) by a plurality of coupling pins inserted in the first and the second connecting holes and by eccentric bushes; **(Feature C)**

the method being **characterised by** the step of replacing the second stator element (8) with a third spare stator element (35) provided with third connecting holes (36)

(Feature D)

and the step of repairing the second stator element (8) for making the second stator element (8) available as third spare stator element (35) for any gas turbine unit (1) of the plurality of gas turbine units (1);

(Feature E)

the step of replacing comprising the step of coupling the first stator element (6) to the third spare stator element (35) by inserting an eccentric bush (24) either in a first connecting hole (10) or in a third connecting hole (36) and inserting an eccentric coupling pin (22a) in either the third (36) or the first connecting hole (10) and in the eccentric bush (24) **(Feature F)**."

(Feature references in bold added by the Board)

The remaining requests are not relevant for this decision.

VII. The appellant argued essentially as follows:

i) Added subject-matter - Article 100(c) EPC

Granted claim 1 was based on a combination of originally filed claims 1,2 and 8. However, claim 8 as filed was phrased "... as claimed in the claims from 1 to 7". Thus the original disclosure included the subject-matter of all of the claims 1 to 7 and not just that of claims 1 and 2.

This interpretation was supported by the fact that, when filing the application, the respondent had used the formulation "according to any of the preceding claims" in dependent claims 4,5 and 7. Therefore the formulation of claim 8, "in the claims from 1 to 7", was clearly used to express a different intention, i.e. all of the claims 1-7.

The general introductory part of the description did not disclose all the features of claim 1 as granted in combination.

Nowhere in the application as filed were the features of claims 1, 2 and 8 disclosed in combination without the remaining features of the embodiment of the invention.

Hence, the patent as granted contained subject-matter which went beyond that of the application as filed (Article 100(c) EPC).

ii) Inventive step - Articles 100(a) and 56 EPC

The prior art cited in the patent paragraph [0005] could be seen as the most relevant prior art and disclosed the features of the preamble of claim 1 with the exception of the plurality of gas turbine units and the eccentric bush.

In the application as filed, the characterising features were disclosed as solving two separate problems (see paragraph [0007] and paragraph [0009] of the published application - N.B. except where stated otherwise, paragraph numbers refer to the published application). There was no synergy between the solutions to these problems and thus they could be regarded separately as partial problems.

D2 disclosed the feature of the method step of coupling a first element to a third element by inserting an eccentric bush (10) either in a first connecting hole or in a third connecting hole and inserting an eccentric coupling pin (5) in either the third or the first connecting hole and in the eccentric bush. This had the technical effect of enabling an adjustment of the two elements (p. 1, l. 19-23).

As the feature itself and its technical effect were known from D2 then it was obvious to apply this to the known maintenance method identified in paragraph [0005]. The solution to the first problem was made obvious by the teaching of D2.

The solution to the second problem was taught by D3 and was in any case obvious for the skilled person.

Hence, as the solution to each of the partial problems was obvious, the subject-matter of claim 1 did not involve an inventive step (Article 56 EPC).

VIII. The respondent argued essentially as follows:

i) Added subject-matter - Article 100(c) EPC

Claim 1 as granted comprised the features of claims 1,2

and 8 as filed. The skilled person would recognise from the description as filed and, in particular paragraph [0034], that the method of claim 8 makes use of the method as claimed in claim 2. In particular, paragraph [0034], first sentence reads "[t]he maintenance method ... according to the present invention is applicable to the maintenance of a plurality of gas turbine units 1." Hence, it was clear that the subject-matter of claims 3-7 was not essential to the invention concerning a plurality of gas turbine units.

Claim 8 as originally filed must therefore be read as meaning according to any one of claims 1-7 because an interpretation of according to all of the claims 1-7, would be in contradiction to the description as filed.

Hence, the subject-matter of claim 1 of the patent did not extend beyond that of the application as filed.

ii) Inventive step - Article 100(a) EPC

Paragraph [0005] of the patent could be regarded as being the most relevant prior art.

D2 did not disclose a solution to the problem of misaligned holes but rather used eccentric bushes as an adjustment means - the holes in D2 were initially aligned and then brought out of alignment in order to provide the necessary adjustment. It must also be noted that the two holes of each member are aligned with each other and, consequently, D2 did not provide any teaching relating to misaligned holes. Moreover, D2 did not relate to gas turbine units but rather slide-valves and reciprocating elements (p. 1, 1.28). For this reason, the skilled person would not have even considered D2 when looking for a solution to the above

problem.

The subject-matter of claim 1 therefore involved an inventive step.

Reasons for the Decision

1. Added subject-matter - Article 100(c) EPC

It is not disputed that claim 1 as granted comprises the features of claims 1,2 and 8 as filed. It is however disputed by the appellant that these features were disclosed in combination without the remaining features of the embodiment of the invention, hence leading leading to an intermediate generalisation.

The expression "according to claims 1-7" used in claim 8 as filed can be taken to mean according to any one of claims 1-7 or according to all of the claims 1-7. It is thus ambiguous. However, the description as filed, paragraph [0034] discloses that the present invention, i.e. the maintenance method according to claim 1, is applicable to the maintenance of a plurality of gas turbine units. Hence, the application as filed directly and unambiguously discloses that what is meant in claim 8 as filed is according to any one of claims 1-7.

The fact that other formulations are used in claims 4,5,7 does not change the above conclusion because different formulations are indeed possible in order to express the same concept.

Therefore the subject-matter of the granted patent does not extend beyond that of the application as filed.

2. Inventive step - Article 100(a) EPC

It is common ground that the most relevant prior art is that described in paragraph [0005] of the patent.

It is also not disputed that this prior art discloses the following features of claim 1:

a maintenance method whereby a gas turbine unit comprises a first stator element provided with first connecting holes and a second stator element provided with second connecting holes; the first stator element is coupled to the second stator element by a plurality of coupling pins inserted in the first and the second connecting holes.

The subject-matter of claim 1 therefore differs from this prior art by features A, E, F and by the provision of eccentric bushes to couple the first and second stator elements (part of feature G).

The claimed solution solves the following problems:

- i) to provide a method which does not require on-site reworking of the connecting holes during the replacement of the second stator element of a gas turbine unit and which is concurrently simple and effective (Features F and G(part));
- ii) to provide a maintenance method for a plurality of gas turbine units whereby the stators may be rotated between different turbines (Features A and E).

The argument that the solution to the first problem is rendered obvious by the teaching of D2 is not persuasive. D2 is not concerned with avoiding reworking of holes but rather for providing adjustment in order to lengthen or shorten the distance between two

components (D2, p.1, l. 18-23). The holes of D2 are moreover not misaligned (Fig. 2 and p. 1, l. 109-110) but rather the invention of D2 requires two holes at exactly the correct spacing. The skilled person would not therefore consider D2 when seeking to solve the above problem.

Hence, the solution to the first problem identified above is not made obvious by the cited prior art and, consequently, there is no need to examine whether the solution to the second problem involves an inventive step.

The subject-matter of claim 1 therefore involves an inventive step.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chair:



N. Schneider

P. Acton

Decision electronically authenticated