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**Datasheet for the decision
of 10 October 2022**

Case Number: T 0296/19 - 3.3.02

Application Number: 14159100.8

Publication Number: 2781561

IPC: C09D5/00

Language of the proceedings: EN

Title of invention:

Treated coated article and process of treating a coated article

Patent Proprietor:

General Electric Company

Opponent:

United Technologies Corporation

Headword:

Relevant legal provisions:

EPC Art. 54, 56, 84, 123(2)

RPBA 2020 Art. 13(2), 15(7)

Keyword:

Abridged reasons for decision - explicit consent of the parties
Claims - clarity
Novelty
Inventive step
Amendments

Decisions cited:

Catchword:



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Case Number: T 0296/19 - 3.3.02

D E C I S I O N
of Technical Board of Appeal 3.3.02
of 10 October 2022

Appellant: General Electric Company
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 30 November
2018 revoking European patent No. 2781561
pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman M. O. Müller
Members: S. Bertrand
P. de Heij

Summary of Facts and Submissions

- I. The appeal by the patent proprietor (appellant) lies from the decision of the opposition division to revoke European patent No. 2 781 561.
- II. The following documents are referred to in the present decision:
- | | |
|----|-----------------|
| D3 | US 7,368,177 B2 |
| D4 | EP 1 411 148 A1 |
| D5 | US 8,318,251 B2 |
- III. In the impugned decision, the opposition division's conclusions included that the subject-matter of claim 1 of any of the main request and the first and second auxiliary requests was not new in view of D4.
- IV. Oral proceedings were held before the board on 10 October 2022.
- V. The appellant requested that the decision under appeal be set aside and that the patent be maintained in amended form on the basis of the main request, filed as the fourth auxiliary request with the letter dated 8 September 2022.
- VI. The opponent (respondent) requested, as far as relevant to this decision, that the appeal be dismissed and that the main request not be admitted into the proceedings.

Reasons for the Decision

Form of the decision

In the current case, both parties agreed during the oral proceedings that the decision could be put in writing in abridged form. Accordingly, and in the absence of any reasons to the contrary, the present decision is put in abridged form (Article 15(7) RPBA 2020).

Main request (filed as auxiliary request 4 by letter of 8 September 2022)

1. Claim 1 of the main request reads as follows:

"1. A process of treating a coated article, the process comprising:

providing an article having a MCrAlY coating;

prior to applying an aluminide treatment, preparing the MCrAlY coating to remove at least a portion of an oxidized material on the MCrAlY coating;

applying the aluminide treatment onto the MCrAlY coating to form a treated MCrAlY coating; and

outwardly forming β -phase material from the MCrAlY coating into the treatment;

wherein the applying is selected from the group consisting of soaking, spraying, brushing, dipping, pouring, pack cementation, vapor deposition, and combinations thereof."

2. Admittance of the main request
 - 2.1 The respondent requested that the main request not be admitted into the proceedings.
 - 2.2 The main request is based on the fourth auxiliary request filed with the statement of grounds of appeal.
 - 2.3 This fourth auxiliary request was filed in response to the opposition division's conclusion (point 7.3 of the decision) that the features added in the first and second auxiliary requests filed in first-instance proceedings did not distinguish the claimed subject-matter over D4. This conclusion was drawn for the first time during the oral proceedings before the opposition division since in the annex to the summons to attend oral proceedings (point 6.2), the opposition division was of the preliminary opinion that these features were "*nowhere disclosed in the prior art*". The appellant could not be expected to respond on the spot during the oral proceedings to this change of opinion by filing the appropriate claim requests as also the respondent had not raised any objections against the first and second auxiliary requests prior to the date of the oral proceedings before the opposition division. The fourth auxiliary request filed with the statement of grounds of appeal could thus not have been presented in the first-instance proceedings.
 - 2.4 The main request, which is based on the fourth auxiliary request filed with the statement of grounds of appeal, was filed with the letter of 8 September 2022. Claim 1 of the main request differs from claim 1 of the fourth auxiliary request filed with the statement of grounds of appeal in that the term "*and/or other portions of the article*" was deleted. This amendment was made to overcome the objection of

lack of clarity raised by the board in its communication pursuant to Article 15(1) RPBA 2020. The objection was that it was not clear what preparing other portions of the article meant in claim 1 of the fourth auxiliary request filed with the statement of grounds of appeal. This objection was raised for the first time in the board's communication pursuant to Article 15(1) RPBA 2020 and represents exceptional circumstances justifying the admittance of the main request.

2.5 For these reasons, the board decided, in accordance with Article 13(2) RPBA 2020, to admit the main request into the appeal proceedings.

3. Article 123(2) EPC

Claim 1 of the main request differs from claim 1 as filed in the step of, prior to applying an aluminide treatment, preparing the MCrAlY coating to remove at least a portion of an oxidised material on the MCrAlY coating.

Claim 1 of the main request is based on the combination of claim 1 as filed and paragraph [0019] of the A1 publication of the patent application disclosing the additional step referred to above. The features disclosed in paragraph [0019] of the published application are not, as argued by the respondent, inextricably linked with those of paragraphs [0018], [0020] and [0021] and can thus be combined with claim 1 as filed without creating an intermediate generalisation.

Claims 2 to 11, 13 and 14 of the main request are identical to claims 2 to 11, 13 and 14 as filed.

Claim 12 of the main request is based on claim 12 as filed.

4. Article 84 EPC

4.1 The respondent objected that the terms "oxidized material" and "preparing" referred to in claim 1 of the main request were unclear.

4.2 The board does not agree.

The process of claim 1 of the main request comprises the step of, prior to applying an aluminide treatment, preparing the MCrAlY coating to remove at least a portion of an oxidised material on the MCrAlY coating.

This step is not present in the claims as granted and is thus open to a clarity objection (G 3/14, OJ EPO 2015, A102, order).

However, even though the oxidised material referred to in claim 1 of the main request is unspecified, the skilled person would understand that an oxidised material is any material that has been oxidised, i.e. a material that gained oxygen atoms. This term encompasses any oxide. The skilled person is thus able to distinguish an oxidised material from an unoxidised material. The term "oxidized material" is therefore clear.

With regard to the term "preparing", the board agrees with the appellant that this term means, in the context of claim 1, "making ready" and not "building (something) up". Thus, the skilled person would understand from the wording "preparing the MCrAlY coating to remove at least a portion of an oxidized material" that the step requires making the MCrAlY coating ready for the application of the aluminide

treatment by removing at least a portion of an oxidised material present on the MCrAlY coating.

Consequently, claim 1 of the main request meets the requirements of Article 84 EPC.

5. Novelty

The respondent did not raise any novelty objection specifically directed to the present main request. With regard to the subject-matter of claim 1 of the previous main request, the respondent had argued that it lacked novelty over D3 and D4.

The board observes the following:

D4 does not explicitly disclose the steps of "*prior to applying an aluminide treatment, preparing the MCrAlY coating to remove at least a portion of an oxidized material on the MCrAlY coating*" and "*outwardly forming β -phase material from the MCrAlY coating into the treatment*". The board does not accept that the former feature is implicitly disclosed as alleged by the respondent in the written proceedings (reply to the statement of grounds of appeal page 13, last paragraph). Neither can the board agree that the latter feature was the inherent result of the method of D4. These two steps thus represent the distinguishing features of claim 1 of the main request in view of D4.

The same conclusion applies with regard to D3, the disclosure of which is very similar to that of D4.

The subject-matter of claim 1 of the main request, and by the same token of all remaining claims is thus novel.

6. Inventive step

The respondent objected to inventive step in view of D4 or D3 as the closest prior art.

6.1 D4 as the closest prior art

6.1.1 The patent is directed to a process of treating coated articles such as combustion turbines.

6.1.2 During the oral proceedings, the respondent relied on D4 as the closest prior art.

D4 discloses a method of depositing a coating on an article. The coated articles are components of gas turbines. The coating of these components protects them from oxidation and/or corrosion resulting from the thermal effect of the hot environment.

In view of the above, D4 belongs to the same technical field and has the same objective as the opposed patent. D4 thus constitutes a suitable closest prior-art document for the assessment of inventive step of the subject-matter of claim 1 of the main request.

6.1.3 The coating of D4 comprises two layers, one of which consists of MCrAlY and the other consists of β -NiAl (nickel aluminide). Figure 3 of D4 discloses an article (1) comprising a MCrAlY coating (7) and a β -NiAl coating (6) on top of the layer of the MCrAlY coating (paragraph [0029]). The application of the MCrAlY in D4 corresponds to the step in claim 1 of providing an article having a MCrAlY coating. The application of the β -NiAl coating corresponds to the step of applying an aluminide treatment onto the MCrAlY coating to form a treated MCrAlY coating. Claim 4 of D4 discloses that the β -NiAl coating may be deposited by a CVD process (chemical vapour deposition), which corresponds to the

feature of claim 1 "*the applying is selected from the group consisting of soaking, spraying, brushing, dipping, pouring, pack cementation, vapor deposition, and combinations thereof*".

6.1.4 Distinguishing features

As set out above when discussing novelty, the two steps of "*prior to applying an aluminide treatment, preparing the MCrAlY coating to remove at least a portion of an oxidized material on the MCrAlY coating*" and "*outwardly forming β -phase material from the MCrAlY coating into the treatment*" represent the distinguishing features of claim 1 of the main request in view of D4.

6.1.5 Objective technical problem

It was common ground between the parties that the effect of the feature "*outwardly forming β -phase material from the MCrAlY coating into the treatment*" was a reduction of the brittleness of the coating. The appellant formulated the technical problem as the provision of a coating process for an article to deliver adequate fatigue performance in the context of an article which has an oxidised material on the surface of the coating. The board agrees with this formulation of the objective technical problem.

6.1.6 Obviousness

The respondent relied on D5 and common general knowledge for the obviousness of the solution proposed by claim 1 of the main request.

D5 (column 2, lines 3-16 and column 6, lines 52-67) discusses the characteristics of outward-type and inward-type diffusion aluminide coatings.

There is, however, no teaching in D5 or D4 that the surface of the MCrAlY coating has an oxidised material on its surface and that this should be removed prior to the aluminide treatment. The allegation that this is common general knowledge was contested by the appellant but not corroborated by any evidence. For this reason alone, the board considers that the solution proposed by claim 1 of the main request is not obvious in view of the combination of D4 and D5 or common general knowledge.

6.2 D3 as the closest prior art

In the written proceedings, the respondent also relied on D3 as the closest prior art. D3 (figure 2) discloses a coated article comprising a first layer **16** consisting of MCrAlY and a second layer **19** consisting of, e.g. β -NiAl.

Thus, D3 discloses the same coated article as D4. The distinguishing features of claim 1 of the main request are the same as those identified in view of D4. This was not disputed by the respondent. Consequently, the same reasoning as given in view of D4 as the closest prior art applies. The subject-matter of claim 1 of the main request involves an inventive step in view of D3 as the closest prior art.

6.3 The subject-matter of claim 1, and by the same token dependent claims 2-14 of the main request, consequently involves an inventive step.

7. The board concludes that the main request is allowable.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division with the order to maintain the patent with the set of claims of the main request, filed as the fourth auxiliary request with the letter dated 8 September 2022, and a description to be adapted thereto.

The Registrar:

The Chairman:



N. Maslin

M. O. Müller

Decision electronically authenticated