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**Datasheet for the decision
of 21 March 2023**

Case Number: T 1023/20 - 3.2.03

Application Number: 14752417.7

Publication Number: 3017252

IPC: F23R3/00, F23M5/02

Language of the proceedings: EN

Title of invention:

TILE FOR COVERING COMBUSTION CHAMBERS, IN PARTICULAR FOR GAS
TURBINE ENERGY PRODUCTION POWER PLANT AND COMBUSTION CHAMBER
COMPRISING SAID TILE

Patent Proprietor:

Ansaldo Energia S.p.A.

Opponent:

Siemens Energy Global GmbH & Co. KG

Headword:

Relevant legal provisions:

EPC Art. 54, 56, 123(2)
EPC R. 103(1) (a)
RPBA 2020 Art. 13(2)

Keyword:

Novelty - main request (no) - auxiliary request 5 (yes)
Inventive step - obvious alternative - auxiliary request 5 (no)
Amendments - extension beyond the content of the application
as filed (yes- auxiliary requests 1-4)
Reimbursement of appeal fee - (no) - substantial procedural
violation (no)
Amendment after summons - exceptional circumstances (yes -
auxiliary request 5)
Amendment after summons - exceptional circumstances (no-
auxiliary requests 6,7)

Decisions cited:

T 1212/97, T 1179/16, G 0002/21

Catchword:



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Case Number: T 1023/20 - 3.2.03

D E C I S I O N
of Technical Board of Appeal 3.2.03
of 21 March 2023

Appellant: Siemens Energy Global GmbH & Co. KG
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted on 20 April 2020
rejecting the opposition filed against European
patent No. 3017252 pursuant to Article 101(2)
EPC.

Composition of the Board:

Chairman C. Herberhold
Members: R. Baltanás y Jorge
N. Obrovski

Summary of Facts and Submissions

- I. European patent No. 3 017 252 B1 relates to a *"Tile for covering combustion chambers, in particular for gas turbine energy production plant and combustion chamber comprising said tile"*.
- II. An opposition was filed against the patent, based on Article 100(a) EPC in conjunction with Articles 54 EPC and 56 EPC.
- III. This appeal was filed by the opponent (appellant) against the Opposition Division's decision to reject the opposition.
- IV. In a communication pursuant to Article 15(1) of the Rules of Procedure of the Boards of Appeal (RPBA 2020) dated 20 December 2022, the Board indicated its preliminary opinion on the main request (claims as granted) and the four auxiliary requests submitted with the reply to the statement setting out the grounds of appeal.

The patent proprietor (respondent) filed additional auxiliary request 5 with a submission dated 23 January 2023.

Oral proceedings were held on 21 March 2023.

During the oral proceedings, the respondent filed new auxiliary requests 6 and 7.

V. Requests

The appellant requested that the decision under appeal be set aside and the patent be revoked. It further requested reimbursement of the appeal fee.

The respondent requested that the appeal be dismissed or, as an auxiliary measure, that the patent be maintained on the basis of one of auxiliary requests 1 to 4 filed with the reply to the statement setting out the grounds of appeal, or auxiliary request 5 filed with the submission dated 23 January 2023, or one of auxiliary requests 6 and 7 filed during the oral proceedings before the Board.

VI. Claim 1 as granted (main request), including the feature references adopted by the parties, reads as follows:

- a) *Tile for covering combustion chambers, in particular for gas turbine energy production power plant, comprising a main body (23), which extends along a longitudinal axis (8) and is provided with:*
- b) *- a main face (24), which faces, in use, the inner of the combustion chamber (4);*
- c) *- two lateral opposing faces (25), each of which is provided with a groove (26) extending substantially along the longitudinal axis (8) and adapted to be engaged by at least a respective retaining element (29)*
- d) *configured to couple the tile (22) to an inner face (28) of the combustion chamber (4) so as to block movements of the tile (22) along a direction orthogonal to the longitudinal axis (B);*

- e)** - a rear face (27), adapted, in use, to be coupled to the inner face (28) of the combustion chamber (4);
- f1)** the tile being characterized in that the rear face (27) is provided with a coupling element (35), which protrudes from the rear face (27) and
- f2)** is configured to engage a respective seat (31) of the inner face (28) of the combustion chamber (4)
- f3)** so as to block movements of the tile (22) along the longitudinal axis (8).

VII. Claims 4, 5 and 6 as granted are used in auxiliary requests 4 to 7 (see points XI. to XIV. below) and read as follows:

Claim 4:

Combustion chamber, in particular for gas turbine energy production power plant, provided with a casing (20), which defines a combustion area; the casing (20) comprising an inner face (28), which is provided with at least one seat (31) and with an inner covering (21) which covers the inner face (28) and comprises at least one tile (22) according to anyone of the foregoing claims.

Claim 5:

Combustion chamber according to Claim 4, comprising a plurality of retaining elements (29) configured to couple the tiles (22) to the inner face (28) of the combustion chamber (4) so as to block movements of the tile (22) along a direction orthogonal to the longitudinal axis (8).

Claim 6:

Combustion chamber according to claim 5, wherein the retaining elements (29) comprise a first end,

which is fixed to the seat (31) of the inner face (28), and a second end, which engages a respective groove (26) of the respective tile (22).

VIII. Claim 1 of auxiliary request 1 comprises all the features of claim 1 as granted plus the following additional feature at the end of the claim:

f4) *..., wherein the coupling element (35) protrudes from a part of the rear face (27) that is provided on the longitudinal axis (B)*

IX. Claim 1 of auxiliary request 2 comprises all the features of claim 1 of auxiliary request 1 plus the following additional feature at the end of the claim:

f5) *... and, in use, is provided between two retaining elements (29) engaged in different grooves (26)*

X. Claim 1 of auxiliary request 3 is based on claim 1 of auxiliary request 2, with feature f2) having been replaced with the following feature (added features are marked in bold):

f2b) *... is configured to engage a respective seat (31) of the inner face (28) of the combustion chamber (4) that is intended to accommodate the retaining elements (29)*

XI. Claim 1 of auxiliary request 4 is based on the combination of claims 1, 4 and 6 as granted, plus features f4) and f5) before the final portion of the claim corresponding to claim 6 as granted.

XII. Claim 1 of auxiliary request 5 corresponds to the combination of claims 1 and 4 as granted.

XIII. Claim 1 of auxiliary request 6 is based on claim 1 of auxiliary request 5 plus the features of claim 5 as granted inserted between features b) and c), the features of claim 6 as granted inserted after feature f3), and the features "*the coupling element being arranged on the rear face (27) so as to be positioned in the seat (31) between the first ends of the retaining elements (29)*" inserted at the end of the claim, with feature c) having been replaced with the following feature c') (amended features are marked in bold):

c') - *two lateral opposing faces (25), each of which is provided with a groove (26) extending substantially along the longitudinal axis (8) and adapted to be engaged by ~~at least~~ a respective retaining element (29) **of the plurality of retaining elements (29)***

XIV. Claim 1 of auxiliary request 7 is based on claim 1 of auxiliary request 6 plus the following feature at the end of the claim:

...; the seat being defined by a longitudinal groove having a substantially U-shaped section

XV. Prior art

The following documents are relevant to this decision:

- E4: WO 2005/071320 A1
- E9: Presentation "V94.3A / SGT5-4000F, User Group Meeting 2008", Siemens, Singapore, 23 to 24 July 2008, 71 pages

- E9a: E9V94.3AN83.4A Asia Pacific 4th User Group Meeting, Event Programme
- E9b: Contact list of participants related to E9
- E10: Presentation "Hochleistungskeramiken in stationär betriebenen Gasturbinen", Siemens, Holger Grote, Claus Krusch, Friederike Lange, March/September 2009, 12 pages
- E10a: Invitation to the "Berliner Industriegespräch mit Diskussion am Mittwoch, dem 30.09.2009, um 18.30 Uhr", Deutsche Physikalische Gesellschaft e.V.
- E11: Presentation "Hochleistungskeramiken in stationär betriebenen Gasturbinen", Siemens, Friederike Lange, Holger Grote, Claus Krusch, March/September 2009, 9 pages
- E11a: Invitation "Ankündigung - 5. Mitgliederversammlung 2009", Verein MORE-Freiberg e.V., website www.more-freiberg.de
- E11b: Minutes of the meeting "5. Mitgliederversammlung in Freiberg", website www.more-freiberg.de

XVI. The appellant's arguments can be summarised as follows:

(a) Public availability of E9, E10 and E11

All three presentations corresponding to E9, E10 and E11 were shown at events which were organised not by the appellant but by independent third parties. The appellant was invited to participate in these events and did so by presenting relevant information in the field of ceramic tiles for combustion chambers, since this was an issue of utmost importance for the attendees of the events. External evidence was provided which showed that the presentations had indeed been given. In addition, several witnesses who could provide

further proof had been offered. In this context, it was to be taken into account that all three documents had already been filed at the beginning of the opposition proceedings. Thus, the circumstances of each disclosure could have been thoroughly examined at the earliest possible stage.

The small divergence in the title of E9a with regard to E9 and E9b was to be attributed to the person drafting the agenda of the corresponding meeting, which was external to the appellant.

(b) Main request - Article 54 EPC

The tiles with protrusions consistently shown in slide 66 of E9, slide 34 of E10 and slide 20 of E11 disclosed all the features of claim 1, which had to be considered to merely define a tile and no further element belonging to the combustion chamber. Any protrusion on a rear side of a tile was suitable for performing the claimed function. The protrusion did not need to extend further than a few millimetres in order to be suitable for doing so, since the movements it had to block were only due to vibrations in the combustion chamber.

(c) Auxiliary requests 1 to 4 - Article 123(2) EPC

Feature f4) (coupling element protruding from a part of the rear face that is provided on the longitudinal axis) is present in claim 1 of all auxiliary requests 1 to 4.

This feature extended the subject-matter of claim 1 beyond the original disclosure (Article 123(2) EPC).

A number of features shown in Figures 3 and 4 - which allegedly formed the basis for the amendments - were functionally linked to the claimed position of the coupling element but were missing in claim 1. The particular embodiment from which the feature was taken only disclosed a specific position along the axis of symmetry in a particular spatial relationship with these omitted features, so claiming feature f4) in isolation amounted to an unallowable intermediate generalisation.

(d) Auxiliary request 5 - Article 54 EPC

As was derivable from slides 1 and 67 of E9, the combustion chamber comprised grooves for holding the retaining elements when assembled. The disclosed protrusions were aligned with the retaining elements and therefore had to enter the same grooves. There was no alternative interpretation possible. Even if - as argued by the respondent - the disclosed protrusions were narrower than the retaining elements, the explicit disclosure in slide 66 about the role of these protrusions in axial fixation implied that they had to interact with the groove to perform this explicitly disclosed function. Furthermore, the relative sizes of the protrusions and retaining elements were the same in slides 66 and 67.

Moreover, slide 33 of E10 and slide 19 of E11 clearly showed the grooves where the retaining elements were received when assembled. These retaining elements had a wider end portion opposite the end engaging the lateral groove of the tile. This wider end portion was secured in the deeper portion of the T-shaped grooves, as had been customary in tile-protected combustion chambers for years. This implied a bending of the retaining

elements, which provided a space between the tile and the retainer accommodating the protrusions. In the assembled state, the protrusions engaged the lateral wall of the grooves, thereby providing axial fixation of the tile. Again, there was no alternative interpretation possible for this arrangement in view of the disclosure of the axial fixation functionality, and it implied that the protrusions performed the function defined in claim 1.

(e) Auxiliary request 5 - Article 56 EPC

E4 disclosed T-shaped grooves (9) receiving retaining elements (25) and preventing their wider end portions (27) from escaping from the lower part of the grooves (9) (see e.g. Figures 1 and 8). The retaining elements (25) engaged grooves (8) in the lateral opposing faces (6) of the tile (1) to block movements of the tile (1) along a direction orthogonal to the longitudinal axis (A; see Figure 1).

The subject-matter of claim 1 differed from E4 in that coupling elements protruding from the rear face of the tile were provided to block axial movements by cooperation with a seat (f1) to f3)).

E4 disclosed two separate embodiments for blocking axial movements of the tile: one based on clips (12) (see Figure 1) and the other based on the interaction of the retaining elements (25) with small protrusions (24, 28) in the lateral grooves (8) of the tile (1). The skilled person would realise the disadvantages of the solutions linked to the combined tolerances between the grooves (8, 9) and clip/retaining elements (12, 25) and between the clip/retaining elements and the tiles (1), and would also know about the problems created by

the constant wear of the tile protrusions (24, 28) in contact with the retaining elements. Consequently, they would look for an alternative means to prevent axial movements of the tile. A solution to this problem was disclosed in slide 66 of E9. The skilled person, looking at the protrusion which was explicitly disclosed as a means to provide axial fixation, would immediately realise how this protrusion was providing axial fixation in combination with the existing grooves housing the retaining elements. As these grooves were the same as those provided in E4, it was straightforward to implement the teaching of E9 to axially fix the tiles in E4. Thus, the combination of both documents rendered the claimed invention obvious.

(f) Auxiliary requests 6 and 7 - Article 13(2) RPBA
2020

Auxiliary requests 6 and 7 were an amendment to the case under Article 13(2) RPBA 2020, and there were no discernible exceptional circumstances which might justify their late filing at this stage of the proceedings.

The lack of an inventive step with regard to E4 in combination with E9 had been an issue since the beginning of the proceedings. Auxiliary requests 6 and 7 could and should have been filed at an earlier stage in reply to these objections. The Board's conclusion that a newly filed auxiliary request was not inventive over a line of attack which had been in the proceedings since the beginning could not justify the filing of even more new auxiliary requests.

(g) Reimbursement of the appeal fee

Reimbursement of the appeal fee was equitable on the grounds that there had been a substantial defect in the opposition proceedings. The Opposition Division clearly ignored the colour version of the prior art - in particular page 66 of E9 and the text "axial fixation" in it - which resulted in a decision which should have never been taken. Had the Opposition Division properly considered the colour version, it would surely have reached a different conclusion about the presence of protrusions on the rear face of the tile and the appeal would not have been necessary. The reference to "dark grey squares" in point II.4.6 of the contested decision demonstrated that the version of document E9 considered by the Opposition Division was the black and white version. Furthermore, it was clear from the course of the oral proceedings before the Opposition Division that only the black and white version of the documents had been taken into account.

XVII. The respondent's arguments can be summarised as follows:

(a) Public availability of E9, E10 and E11

Evidence about the public availability of E9, E10 and E11 was exclusively in the hands of the appellant. More particularly, the appellant was the source having provided E9, E10 and E11. This was to be distinguished from a situation where documents are retrieved from a different source which is equally accessible to all parties. Therefore, according to established case law, the most stringent standard of proof had to be applied in order to assess whether or not these documents could

be considered to have been disclosed before the priority date.

The agenda of E9a contained the characters "E9" in its title. This cast doubt on whether E9a had been edited and, consequently, on the reliability of E9 as a whole. Moreover, E9a did not identify the presentation of E9 as that planned for "Day 2" at "1.30pm".

In addition, the list of participants of E9b should have allowed the appellant to propose some external witnesses to confirm the disclosure of E9. However, the appellant did not contact any member of the public for this purpose, so it was unclear whether E9 corresponded to what had been allegedly presented.

The details about the audience of E9 ("User Group Meeting 2008") were so general that public disclosure could not be considered proven since *"a person willing to contact someone who actually attended the meeting would not be able to identify one single attendee"*. In view of the reference to a confidentiality agreement in E9a, it had to be assumed that such an agreement had been signed at the meeting, rendering the content of E9 confidential. Public availability of E9 could only be proven if the opponent provided evidence that a confidentiality agreement had not been signed, since the patent proprietor had no means to show the contrary.

The time available for the presentation according to E9a (two hours), the length of E9 (169 pages) and the lack of details about the technical means used for the presentation raised questions about the technical teaching which an attendee could have taken from it, in

an analogous situation to that decided upon in case T 1212/97.

E10a and E11a were mere programmes of an event to be held. Consequently, they could not prove that the event actually took place. There was also no external proof that E10 and E11 had actually been presented at these events.

E11b reported on a meeting, but it too failed to confirm that the relevant slides of E11 had indeed been shown at that event.

Consequently, there were reasonable doubts regarding the public disclosure of E9, E10 and E11, and they could not be considered prior art available to the public.

(b) Main request - Article 54 EPC

The images in E9 (slide 66), E10 (slide 34) and E11 (slide 20) were not conclusive about the presence of protrusions. Even if it were accepted that protrusions were disclosed, the images were not conclusive about the role the protrusions played.

Features f1) (rear face provided with a coupling element protruding from the rear face), f2) (configured to engage a respective seat of the inner face of the combustion chamber) and f3) (so as to block movements of the tile along the longitudinal axis) had to be considered as a whole. This meant that the coupling element protruding from the rear face of the tile had to be suitable for co-operating with a seat in order to perform the claimed function. The protrusions allegedly disclosed in E9, E10 and E11 were in any case very

small and had bevelled edges. This meant that they were unsuitable for blocking movements along the longitudinal axis as defined in feature f3). With respect to the term "with axial fixation" in slide 66 of E9, on which the appellant heavily relied, it was not even clear to which direction it referred and whether the fixation meant was "along the longitudinal axis" as required by feature f3).

The function of the alleged protrusions was not clear from any of E9, E10 or E11. As could be derived from slides 66 and 67 of E9, the retaining elements were uncontestedly overlapping the alleged protrusions. This meant that these could not engage any seat at the inner face of the combustion chamber. The representation at the bottom left of slides 34 and 20 of E10 and E11, respectively, did not disclose the alleged protrusions or any seat for them either. Thus, the function of the alleged protrusions had to be different from that defined in claim 1.

(c) Auxiliary requests 1 to 4 - Article 123(2) EPC

Feature f4) (coupling element protruding from a part of the rear face provided on the longitudinal axis) had a basis in Figures 3 and 4 as originally filed. Further features disclosed in these figures, such as the coupling element being provided between the retaining elements, were not described as essential and could therefore be omitted in the claim.

(d) Auxiliary request 5 - Article 54 EPC

Whereas the grooves disclosed in E9, E10 and E11 received the retaining elements, there was no clear and unambiguous disclosure that the protrusions were also

housed in them, let alone that they interacted with the grooves to block axial movements of the tile. No conclusion could be drawn from the schematic figures about the relative sizes of the protrusions and the retaining elements. Consequently, the role and/or function of the protrusions was not disclosed.

(e) Auxiliary request 5 - Article 56 EPC

E4 disclosed two solutions for axially fixing the tile. If the skilled person realised there were problems with material wear in the fixation using the lateral tile protrusions (24, 28), they would simply turn to the other embodiment based on clips (12). Thus, the skilled person had no reason to consider an alternative to the solutions disclosed in E4 itself.

Furthermore, E9 did not contain a hint to the problem posed, nor did it disclose a complete solution for axial fixation. Even if the skilled person did take E9 into account, they would not have enough information to deduce how the protrusions in slide 66 were to be used for blocking axial movements. Consequently, the combination of E4 with E9 could not lead the skilled person towards the invention.

(f) Auxiliary requests 6 and 7 - Article 13(2) RPBA
2020

Auxiliary requests 6 and 7 were a reaction to the Board's conclusion concerning a lack of inventive step of auxiliary request 5, which was only announced during the oral proceedings. They should thus be admitted as a reaction to the course of the proceedings.

Reasons for the Decision

1. Public availability of E9, E10 and E11

1.1 Standard of proof

1.1.1 Even though different concepts as to the standard of proof have been developed in the case law of the boards of appeal, one aspect they all have in common is that a judgement is to be made on the basis of the application of the principle of the free evaluation of evidence (G 2/21, reasons 46), which is a universally applicable principle for assessing any means of evidence (G 2/21, reasons 55).

1.1.2 In the case in hand, the respondent argued that the standard of proof "beyond any reasonable doubt" had to be applied since the evidence was under the exclusive control of the appellant.

This is not convincing.

1.1.3 First of all, the respondent refers to a standard of proof which the case law has considered in the context of **public prior use** (see Case Law of the Boards of Appeal, 10th edition, C.3.5.2(b)). This is not the case here. E9, E10 and E11 are **evidence of oral disclosures**, and the discussion hinges on the public availability of their contents.

1.1.4 The three events at which E9, E10 and E11 were presented were organised and controlled not by the appellant but by third parties. This has not been disputed by the respondent. E9b discloses the participants list of the "Asia Pacific 4th User Group Meeting" during which E9 was presented, including

contact details. E10a and E11a disclose the public organisations (Deutsche Physikalische Gesellschaft e.V. / More-Freiberg e.V.) that organised the meetings where E10 and E11 were presented, including their electronic and/or physical addresses and other contact data.

Consequently, by contrast with a public prior use in which all the evidence lies in the hands of one party, in this case the respondent could have approached third parties to verify whether E9, E10 and E11 were presented during the corresponding events.

1.1.5 Accordingly, in the case in hand there is no reason to deviate from the regular standard of proof, i.e. the balance of probabilities (Case Law of the Boards of Appeal, 10th edition 2022, III.G.4.3). As will be explained in further detail below, the Board is convinced that the contents of E9, E10 and E11 were publicly available.

1.2 Correlation/match between E9-E9a/E9b, E10-E10a and E11-E11a/E11b

1.2.1 E9b discloses a participants list with the heading "V94.3A / V84.3A ASIA PACIFIC 4TH USER GROUP MEETING 2008".

E9a discloses an "Event Programme" with the heading "**E9**V94.3/V83.4A Asia Pacific 4th User Group Meeting" (emphasis added). E9a details a programme of activities starting on 23 July 2008 including different visits in Singapore. This has been acknowledged by the respondent. The program for 24 July 2008 includes a "Siemens Presentation/Q&A" at "1.30pm" lasting for two hours.

E9 is the print-out of a presentation bearing the date 24 July 2008 on each slide, together with the footer "*V94.3A User Group Meeting 2008*". The cover page of the presentation bears the title "*V94.3A / SGT5-4000F User Group Meeting 2008 Singapore, July 23 to 24, 2008*".

The correlation between the dates on the programme of E9a and on the presentation E9, the correlation between the title of all three documents (meeting V94.3) and the correlation between the location mentioned either implicitly or explicitly in E9a and E9 (Singapore) convince the Board that E9 is indeed the presentation which is referred to in E9a. Against this background, the appellant - contrary to the respondent's assertion - was not required to present external witnesses to further corroborate this.

The presence of the characters "E9" in the header of E9a alone is not a sufficient indication of E9a having been edited in a way which could cast doubt on its reliability. It is to be remarked that the titles are not identical in all three documents, even if a reference to "V94.3A" is always present. The fact that the characters "E9" correlate with the numbering used for E9 in the proceedings is merely circumstantial for want of any further evidence supporting the assertion that E9a had been altered.

- 1.2.2 E10a discloses that a presentation by "*Dr. Holger Grote, Siemens AG*" was scheduled on 30 September 2009 at 18.30 as part of the "*Berliner Industriegespräch*" by the Deutsche Physikalische Gesellschaft e.V. The presentation was entitled "*Hochleistungskeramiken in stationär betriebenen Gasturbinen*".

E10 is the print-out of a presentation with the title "*Hochleistungskeramiken in stationär betriebenen Gasturbinen*". The first person mentioned on the cover page as the presenter is "*Dr. Holger Grote [...] Siemens AG*", and this page includes the heading "*Berliner Industriegespräche*". All slides but the cover page and slide 2 include the date 30 September 2009 in the footer.

The consistency in date, event, title and presenter convinces the Board that E10 is indeed the presentation which is referred to in E10a. The fact that two more names appear on the cover page and that "März 2009" is indicated in the footer of slide 2 does not cast doubt on this, since it is not unusual for presenters from a company to join an event at short notice and for slides from previous presentations to be pasted into new documents without modifications. In fact, the third person listed on the cover page is "*Dr. Friederike Lange*", who gave a very similar presentation on the same day at another event (see E11, point 1.2.3 below). The fact that a group of employees (of Siemens AG) devised the content of two presentations on the same subject which were to take place on the same day, and that the name of the person actually presenting at each specific event was listed first, appears to be in no way unusual.

- 1.2.3 E11a is an invitation to the 5th general assembly ("*5. Mitgliederversammlung*") of the "*Meeting of Refractory Experts - MORE-Freiberg e.V.*". The assembly was scheduled on 30 September 2009. Point 3 of the invitation foresees a presentation about "*Hochleistungskeramiken in stationären Gasturbinen*" by Siemens AG.

E11b are the minutes of the "*5. Mitgliederversammlung*". Point "TOP 3" discloses that a presentation from "*Dr. Friederike Lange*" from Siemens AG with the title "*Hochleistungskeramiken in stationären Gasturbinen*" was given during that event.

E11 is the print-out of a presentation with the title "*Hochleistungskeramiken in stationär betriebenen Gasturbinen*". One of the three people mentioned on the cover page is "*Dr. Friederike Lange [...] Siemens AG*", and this page includes the heading "*MORE Freiberg e.V.*". All slides but the cover page and slide 2 include the date 30 September 2009 in the footer.

As with E10, the consistency of the date, event, title and presenter convinces the Board that E11 is the presentation which is referred to in E11a and E11b. The fact that two more people appear on the cover page and that "März 2009" is indicated in the footer of slide 2 does not cast doubt on this, for the same reasons as explained in the preceding point in the context of E10.

1.3 Whether the presentations actually took place

Document E11b is the minutes of the "*5. Mitgliederversammlung*" of the "*Meeting of Refractory Experts - MORE-Freiberg e.V.*". The minutes include the date of the 5th assembly ("*Mittwoch, der 30.09.2009*") and the place where it was held ("*Hörsaal Haus Silikattechnik, Institut für Keramik, Glas- und Baustofftechnik*").

The date and location match the invitation E11a to the same event.

Therefore, the Board is persuaded that the 5th general assembly announced in E11a actually took place on 30 September 2009, and that the presentation E11 was shown to the participants without confidentiality restrictions (see E11b, point "TOP 3").

The fact that evidence E11b, originating from a third party, shows that E11 was presented to the public without confidentiality restrictions strongly suggests that the presentations E9 and E10 (the latter having been held on the same day as presentation E11) were also presented to the public without any confidentiality restrictions, since the technical information disclosed (and in particular the images decisive for the case in hand) is largely the same. It would be highly unusual if the same technical information were subject to confidentiality restrictions in one presentation but freely given to the public in another. The Board is thus convinced that all of these presentations were given to the public without confidentiality restrictions.

1.4 Arguments from the written submissions

1.4.1 The Board's preliminary opinion concerning some further arguments put forward by the respondent in its written submissions was negative. As there were no new contributions in this respect during the oral proceedings, the Board remains of the same opinion.

1.4.2 The arguments about the alleged difficulty contacting a member of the public who attended the presentation E9 are not convincing.

The respondent itself acknowledges in its written submission that at least one person "actually attended

the meeting". This is all that is necessary for considering the technical information in E9 to be publicly disclosed. The Board remarks that document E9b actually discloses the participants having attended the presentation, thus confirming that the content of E9 was rendered publicly available.

- 1.4.3 Contrary to the respondent's opinion, a reversal of the burden of proof is not justified in the context of the confidentiality agreement mentioned in E9a.

Document E9a discloses that a 20-minute session was planned at 3.40 p.m. on 23 July 2008 with the title "*Review of User Group Protocols, Confidentiality Agreements, Website by User Group Secretary*". The Board agrees with the Opposition Division that no link between this particular session and the other sessions of the user group meeting (including presentation E9) can be derived from the announcement. The fact that some undefined confidentiality agreements were discussed within the User Group in a session held before does not imply that all matters discussed in any presentation offered at the Singapore meeting were to be treated in a confidential manner.

Under these circumstances, the Board cannot see any sufficient reasons which would justify a reversal of the burden of proof, in particular since the respondent actually requested that the absence of a fact be proven, something which may be nearly impossible to do ("*negativa non sunt probanda*").

- 1.4.4 The arguments about the circumstances of the presentation in terms of available time and technical equipment and the reference to T 1212/97 are not convincing either.

The key issue in decision T 1212/97 was to establish "*whether there is any safe and satisfactory evidence as to the information content of what was made available to the public by the lecture*" (see point 2 of the reasons). The problem in this case was the absence of any direct evidence about the content of the lecture, which was consequently defined by the deciding Board as an "ephemeral disclosure" (see points 2, 3 and 4 of the reasons). More particularly, by contrast with the case in hand, no copy of the presentation slides was available in case T 1212/97 (see passage from the last line of page 27 to the end of point 4 of the reasons).

Therefore, the situation is not comparable with the case in hand since E9 provides direct evidence of what was disclosed at the presentation. This disclosure hinges not on what might have been orally explained by the presenter and understood by the public but on the disclosure of the **explicit content of the slides which were shown** to the public.

The fact that 169 pages were planned for a presentation lasting two hours does not represent such an unreasonable amount of information that could cast doubt on whether the attendees could look at the relevant figures long enough to ascertain the details in them.

The further arguments about the quality of the projecting equipment are purely speculative. In principle, the aim of any presentation is to convey the disclosed information to the audience, so proper technical means will be used for that purpose.

1.4.5 The above reasoning also applies to the analogous arguments concerning the public availability of E10 and E11 put forward in the respondent's written submissions.

1.5 In view of the above, E9, E10 and E11 are prior art under Article 54(2) EPC.

2. Main request - Article 54 EPC

2.1 E9

2.1.1 Document E9 discloses a tile for covering combustion chambers (see cover page), in particular for a gas turbine energy production power plant (CHS: Ceramic Heat Shield; see also slide 70), comprising a main body, which extends along a longitudinal axis (see tile under number "2." in slide 66, and e.g. cover page) and is provided with:

- a main face, which faces, in use, the inner of the combustion chamber (see e.g. cover page);
- two lateral opposing faces, each of which is provided with a groove extending substantially along the longitudinal axis (see tile under number "2." in slide 66) and adapted to be engaged by at least a respective retaining element (see slide 67) configured to couple the tile to an inner face of the combustion chamber (see e.g. cover page) so as to block movements of the tile along a direction orthogonal to the longitudinal axis;
- a rear face, adapted, in use, to be coupled to the inner face of the combustion chamber (see lower face of the tile under number "2." in slide 66, and also the cover page).

This is not disputed by the respondent.

Thus, features a) to e) are disclosed in E9.

2.1.2 Feature f1) (rear face is provided with a coupling element, which protrudes from the rear face)

The respondent argued that the images of E9 (slide 66) were not conclusive about the presence of protrusions.

However, the Board agrees with the appellant that the lighter portions along the top and left-hand sides of the squares shown in the tile number "2." in slide 66 clearly disclose a surface protruding from the rear side of the tile (feature f1)), contrary to the conclusions of the contested decision. This is immediately understandable given the use of the usual shadings for perspective representations in a drawing or picture.

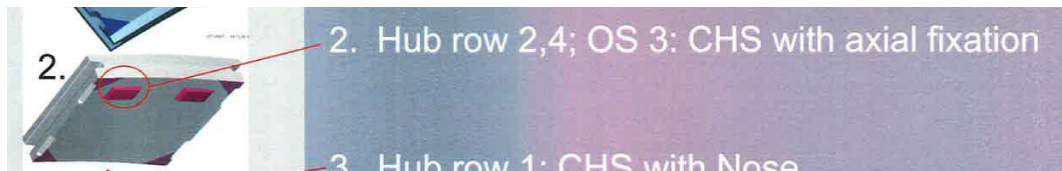
Thus, the tile under number "2." in slide 66 discloses protrusions on its rear face.

2.1.3 Suitability of the protrusions for engaging a respective seat of the inner face of the combustion chamber (f2)) so as to block movements of the tile along the longitudinal axis (f3))

The respondent acknowledged that the condition to be assessed concerning the protrusions disclosed in E9 is whether or not they are **suitable** to co-operate with a seat in order to perform the function defined in features f1) to f3).

Contrary to what the respondent argued, E9 discloses that the protrusions play a role in axial fixation

since their function is explicitly recited and connected to the left-hand protrusion in slide 66 (see relevant portion of the slide reproduced below, "... *CHS with axial fixation*").



It is self-explanatory that a protrusion playing a role in axial fixation must do so by interference with another element. Therefore, the protrusion shown in the figure is suitable for doing so by interference with e.g. a seat of the inner face of the combustion chamber in which it might be engaged - i.e. if a corresponding seat were provided. In the context of a gas turbine, there is also no doubt regarding the meaning of the term "axial fixation" since these devices have a naturally defined axial direction following the flow of air/gas and the direction of the shaft. In the context of assessing the novelty of claim 1, it is irrelevant which other element actually interacts with the protrusions shown in the document since the "seat of the inner face of the combustion chamber" **does not belong to the invention**. Furthermore, any protrusion - even if protruding for only a few millimetres and having a bevelled edge - is suitable for blocking axial movements in the claimed way to a greater or lesser extent. As claim 1 does not define the level of resistance to the axial movement, this cannot represent a distinguishing feature.

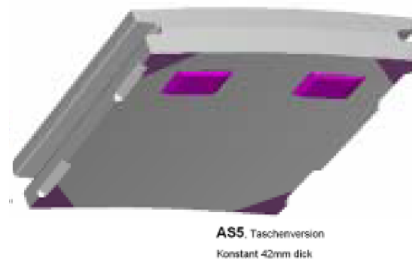
Consequently, slide 66 of E9 discloses protrusions on the rear side of a tile which are suitable for

performing the functions defined in f2) and f3) and which can therefore be considered "coupling elements" (f1)).

2.1.4 In view of the above, the subject-matter of claim 1 is not novel with regard to E9 (Article 54(2) EPC).

2.2 E10 and E11

E10 and E11 contain an image of a tile analogous to that in slide 66 of E9, in which protrusions are disclosed (see slide 34 of E10 and slide 20 of E11; see reproduction below).



Both documents disclose identical or analogous slides as regards the rest of the features of claim 1 (see slides 33 and 34 of E10 and slides 19 and 20 of E11).

Since the considerations about the suitability of the protrusions disclosed in E9 for performing the functions defined in features f2) and f3) likewise apply to the **identical protrusions** disclosed in E10 and E11, the subject-matter of claim 1 is also not novel with regard to each of these documents (Article 54(2) EPC).

3. Auxiliary requests 1, 2, 3 and 4 - Article 123(2) EPC

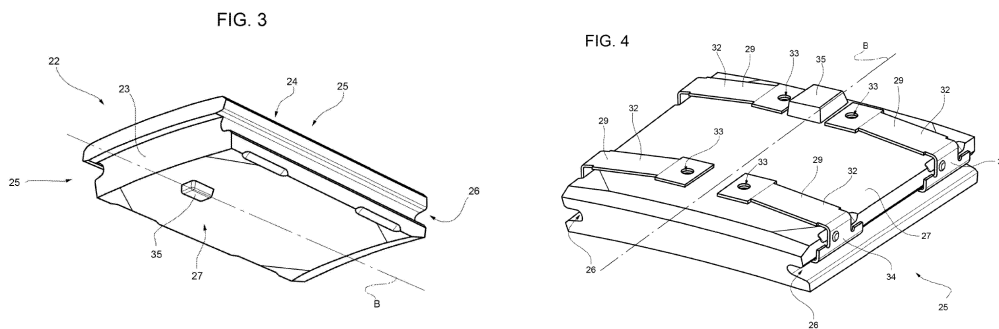
3.1 The Board's communication under Article 15(1) RPBA 2020 included objections under Article 123(2) EPC with

regard to feature f4) (coupling element protruding from a part of the rear face that is provided on the longitudinal axis).

Since the respondent did not put forward any new arguments concerning this particular objection, the Board did not see any reason which could justify a different assessment.

3.2 The respondent's arguments with respect to an alleged disclosure of feature f4) in Figures 3 and 4 as originally filed are not persuasive for the following reasons.

Originally filed Figures 3 and 4 of the application as originally filed (reproduced below) disclose a particular embodiment of a tile with a coupling element arranged on the longitudinal axis **coinciding with an axis of symmetry** (not just any longitudinal axis as defined in feature f4)). The figures also disclose several further features which are inextricably linked in a functional manner to the disclosed location of the coupling element. In particular, the figures disclose that two portions (with no reference number) of the longitudinal edges of the tile's rear side have been **cut out in order to accommodate the retaining elements** (29) in alignment with the coupling element. The skilled person understands that this is necessary in order to allow the retaining elements and the coupling element to be received in a single channel at the inner face of the combustion chamber. The relevance of this capability is confirmed in lines 10 to 15 of page 10 of the PCT publication.



Therefore, the absence of these features, which the skilled person understands as being inextricably linked to feature f4), and the omission of the fact that the longitudinal axis coincides with an axis of symmetry of the tile results in an unallowable intermediate generalisation (Article 123(2) EPC).

3.3 Since feature f4) is present in all auxiliary requests 1 to 4, and since none of these auxiliary requests defines all the omitted features, the reasoning in the preceding point applies to all of these requests. Consequently, claim 1 of each of auxiliary requests 1, 2, 3 and 4 is not compliant with Article 123(2) EPC.

4. Auxiliary request 5

4.1 Admittance - Article 13(2) RPBA 2020

Auxiliary request 5 is admitted into the proceedings for the following reasons.

The appellant did not raise any substantive objections with regard to auxiliary requests 1 to 4 filed with the reply to the statement setting out the grounds of appeal before the Board's communication under Article 15(1) RPBA 2020 was issued.

Thus, the Board's communication was the first occasion on which the respondent was made aware of objections against auxiliary requests 1 to 4. These objections were raised by the Board of its own motion.

Auxiliary request 5 was filed in reply to these objections about one month after the Board's communication had been issued and two months before the oral proceedings. Auxiliary request 5 consists of a direct combination of claims as granted such that the subject-matter of the invention now includes the combustion chamber.

The fact that the respondent reacted to the objections raised by the Board in the communication under Article 15(1) RPBA 2020 at the first possible occasion in a timely manner, and that the amendments proposed do not substantially shift the focus of the proceedings (the matters to discuss remain basically the same with regard to the prior art), constitutes exceptional circumstances which have been justified with cogent reasons (see page 13 of the respondent's submission dated 23 January 2023), within the meaning of Article 13(2) RPBA 2020.

It is further noted that the appellant did not object to the admittance of auxiliary request 5 into the appeal proceedings either.

4.2 Effect of the amendments in features f2) and f3)

The combination of claims 1 and 4 as granted defines not only the particular tile but also the combustion chamber comprising this particular tile. This means that features f2) and f3) have become more limiting compared with the main request since the coupling

element **must engage** a respective seat of the inner face of the combustion chamber **so as to block movements** of the tile along the longitudinal axis, rather than being merely suitable for doing so.

4.3 Novelty - Article 54 EPC

4.3.1 E9

The subject-matter of claim 1 is not anticipated by E9 for the following reasons.

As stated above, slide 66 of E9 discloses a tile (under number "2.") comprising protrusions on its rear face. The same slide explicitly discloses that the protrusions play a role in axial fixation ("CHS with axial fixation").

E9 does not provide any details as to how the disclosed protrusions are used to provide this axial fixation. The Board agrees with the appellant that the concept of "axial fixation" requires the side portions of the protrusion to interact with some fixed element. However, E9 does not clearly and unambiguously disclose **which fixed element is used** for this purpose. Contrary to the appellant's opinion, the grooves receiving the retaining elements are not the only possibility for this. It would be equally possible for the protrusions to engage some intermediate piece, e.g. the retaining elements, without engaging any seat of the inner face of the combustion chamber so as to block movements of the tile.

Even if slides 1 and 67 of E9 did disclose that the protrusions actually enter the grooves holding the retaining elements when assembled, this would not

inevitably imply any engagement of the protrusion in the groove for performing the claimed function. It would be technically possible for the disclosed protrusions to be narrower than the retaining elements.

Lastly, the Board agrees with the respondent that the figures in slides 66 and 67 are of a schematic nature, so no precise relative sizes of the protrusion and retaining elements can be ascertained from them.

In view of the above, E9 does not clearly and unambiguously disclose features f2) and f3) of claim 1 (coupling element configured to engage a respective seat of the inner face of the combustion chamber so as to block movements of the tile along the longitudinal axis).

4.3.2 E10 and E11

By contrast with E9, there is no disclosure in E10 and E11 of the purpose of the protrusions disclosed in slides 34 (E10) and 20 (E11).

The figures at the bottom left of the slides 34 (E10) and 20 (E11) show the retainers, but they do not disclose the protrusions. They may well represent the retaining elements to be used with one of the other types of tiles disclosed on the same slide which do not comprise protrusions.

Thus, no clear and unambiguous conclusions can be drawn about the purpose of the protrusions in E10 and E11 or about how they interact with other elements, let alone the grooves housing the retaining elements when assembled.

Consequently, E10 and E11 do not clearly and unambiguously disclose features f2) and f3) either.

4.4 Inventive step - Article 56 EPC

4.4.1 Document E4 discloses a combustion chamber, in particular for gas turbine energy production power plant (see page 1, lines 5 to 14), provided with a casing (3), which defines a combustion area;

the casing (3) comprising an inner face (see Figures 1, 4, 4A and 5), which is provided with at least one seat (9) and with an inner covering which covers the inner face (3) and comprises at least one tile (1, 2);

the tile comprising a main body, which extends along a longitudinal axis (A; see Figure 1) and is provided with:

- a main face (4), which faces, in use, the inner of the combustion chamber;
- two lateral opposing faces (6), each of which is provided with a groove (8) extending substantially along the longitudinal axis (see Figures 6 and 7) and adapted to be engaged by at least a respective retaining element (25) configured to couple the tile to an inner face of the combustion chamber (see Figure 5) so as to block movements of the tile along a direction orthogonal to the longitudinal axis (A; see e.g. Figure 1);
- a rear face (5), adapted, in use, to be coupled to the inner face of the combustion chamber (see Figures 4, 4A and 5).

This is not disputed by the respondent.

Thus, all the features of amended claim 1 are disclosed in E4 with the exception of f1), f2) and f3) (rear face provided with a coupling element protruding from the rear face and configured to engage a respective seat of the inner face of the combustion chamber so as to block movements of the tile along the longitudinal axis).

4.4.2 E4 discloses two solutions for blocking movements of the tile along the longitudinal axis. A first embodiment is based on clips (12) (see Figure 1), the second one on the interaction of the retaining elements (25) with small protrusions (24, 28) in the lateral grooves (8) of the tile (1).

4.4.3 Thus, distinguishing features f1) to f3) represent an alternative solution for the technical problem already addressed in E4 (and in the impugned patent; see e.g. paragraph [0032]). Therefore, the objective technical problem addressed by the invention can be formulated as "providing alternative means to block movement of the tile along the longitudinal axis".

The respondent argued that if this were the case when starting from one of the two embodiments of E4, the skilled person would simply turn to the other embodiment and would have no reason to consider an alternative to the solutions disclosed in E4 itself.

This is not convincing. If the only contribution of the invention is to propose something different from the prior art (i.e. providing an alternative), then it is appropriate to consider that the skilled person would take into account any alternative known in the underlying technical field, unless the closest prior art teaches away from it (see Case Law of the Boards of

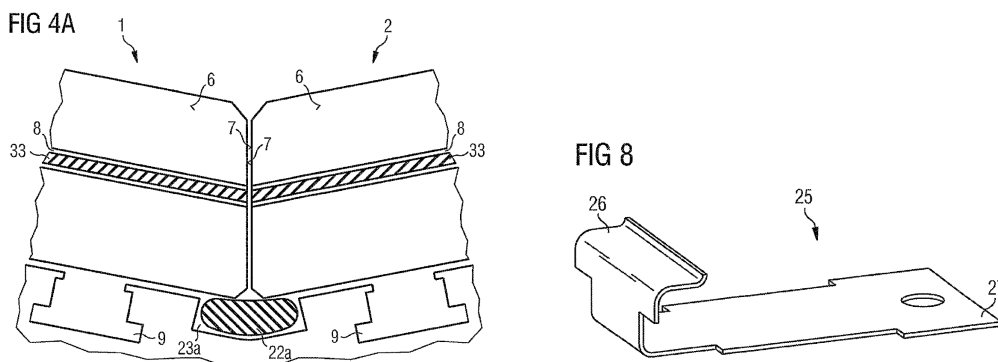
Appeal, 10th edition, I.D.4.5, in particular T 1179/16, reasons 3.4.4).

- 4.4.4 The respondent argued that E9 did not give the skilled person any indication that its teaching might provide a solution to the problem posed. However, slide 66, point 2, explicitly discloses that the tile represented is a ceramic heat shield with axial fixation. The line encircling the protrusion further links this function to the protrusion on the tile. There is thus a clear pointer in E9 that its teaching provides a solution to the problem posed.

It was further argued that E9 did not disclose the complete solution for axial fixation based on the axial protrusions, and so the skilled person did not have enough information to deduce how the protrusions in slide 66 were to be used for blocking axial movements.

It is correct that E9 does not explicitly show how the protrusion provides the axial fixation in detail. However, as the protrusion is uncontestedly located below the retainer, it is obvious to the person skilled in the art that the blocking function (explicitly linked to the protrusion; see above) is to be effected by engagement of the groove of E4, which also accommodates the retaining elements.

In this context, it must be taken into account that E4 discloses T-shaped grooves (9) that receive the retaining elements (25) and prevent their wider end portions (27) from escaping (see e.g. Figures 4A and 8, reproduced below).



The engagement of the wider portion (27) of the retaining element (25) into the lower portion of the groove (9) implies that an empty space is created within the groove, between the rear face (5) of the tile (1, 2) and the retaining element (25). The skilled person starting from E4 is aware of this.

The skilled person learns from E9 that a protrusion at the rear face of the tile can be used to block movements along the longitudinal axis, and that this protrusion is aligned with cut-out portions on the longitudinal edges of the lateral opposing faces, which are obviously intended for receiving some kind of retaining element (see in this context the retainers on page 67 of E9, which are of a very similar construction to the retainers of E4; see Figures 8 to 10). The skilled person immediately recognises that the empty space available in the grooves (9) receives the protrusions. This has not been disputed by the respondent. Since E9 explicitly discloses protrusions blocking axial movements, and since the protrusions are received within the groove, the skilled person takes from these disclosures the implicit teaching that the width of the protrusions must correspond to the width of the groove in order to provide the explicitly disclosed blocking functionality against movements of the tile along the longitudinal axis.

4.4.5 Consequently, the subject-matter of claim 1 of auxiliary request 5 is not inventive with regard to the combination of E4 with E9 (Article 56 EPC).

5. Auxiliary requests 6 and 7 - Article 13(2) RPBA 2020

The respondent argued that auxiliary requests 6 and 7 were a reaction to the Board's conclusion concerning a lack of inventive step of the subject-matter of auxiliary request 5, which only became known during the oral proceedings.

However, the objection on the ground of a lack of inventive step with regard to the combination of E4 with E9 was already raised in the statement setting out the grounds of appeal (see page 22 of the statement). Even though the objection addressed claim 1 as granted, which concerns a tile for covering combustion chambers, it was to be expected that a new auxiliary request, comprising a combination of claims 1 and 4 as granted and claiming a combustion chamber with the very same tile, would attract the same objection. In such circumstances, patent proprietors must expect that an earlier objection raised by an opponent might become relevant against a later-filed new auxiliary request (such as auxiliary request 5 in the case in hand). The mere fact that the Board did not deal with this inventive step objection already in its preliminary opinion has no bearing on the admittance of auxiliary requests 6 and 7. The Board reiterates in this context that it considered claim 1 as granted to lack novelty in its preliminary opinion and that auxiliary request 5 was not even on file at the time this opinion was issued.

In view of the above, there are no discernible exceptional circumstances for admitting auxiliary requests 6 and 7 into the appeal proceedings (Article 13(2) RPBA 2020).

6. Revocation - Article 101(3) (b) EPC

For want of an allowable request, the patent must be revoked (Article 101(3) (b) EPC).

7. Request for reimbursement - Rule 103(1) (a) EPC

The appellant argued that the Opposition Division had ignored the colour version of the prior art figures - in particular the figure in slide 66 of E9 - and the text "axial fixation" in E9. The appellant asserted that it was clear from the course of the oral proceedings before the Opposition Division that only the black and white version of the documents had been considered, which was the reason for the negative decision against which it had had to file this appeal.

The Board is not persuaded by these arguments.

The only reference to a black and white version of the prior art by the Opposition Division is in point II.4.6 of the contested decision, referring to "the dark grey squares on the rear side of the tile". This point concerns E9 alone and, in fact, seems to refer to the figure which was pasted in black and white in the preceding paragraph of the decision itself (see bottom of page 9), not to the documents consulted when taking the decision or when discussing the issue at the oral proceedings.

The argument about the alleged course of the oral proceedings and what was actually considered by the Opposition Division is inconsistent with the minutes of the oral proceedings (a correction of which has not been requested and which are thus considered a true representation of what happened during the proceedings). The minutes state that the colour versions of E9 (see page 4, third paragraph from the bottom), E10 and E11 (see page 2, last paragraph) were considered during the discussion, even if a reference to the black and white version of E9 can also be found there (see page 7, second sentence of the second paragraph from the bottom).

Furthermore, the relevant aspect for deciding whether or not the squares in each figure at issue were protrusions was the presence of lighter lines along the top and left sides of each square. It is immaterial whether the colour or black and white version of E9 (or E10 or E11) was taken into account since these lighter lines are visible in both versions of the documents.

Lastly, contrary to what the appellant argued in the statement setting out the grounds of appeal, the Opposition Division did consider the text "with axial fixation" in E9, as evident from the last sentence of point II.4.5 of the decision. In the following point, however, the Opposition Division noted that it could not be unambiguously derived from the drawing that the square elements in slide 66 were protrusions. This does not imply that the wording "with axial fixation" was ignored, as asserted by the appellant, but that the means for performing this function were not considered to be as alleged by the then opponent.

In view of the above, the only fact which can be ascertained is that the Opposition Division's assessment of the disclosure of E9 in the context of novelty differs from the Board's conclusion on this matter. This, however, concerns the application of substantive law and an error in judgement in that regard, not a substantial procedural violation.

Thus, there is no reason for reimbursing the appeal fee and the request to this effect must be refused (Rule 103(1) (a) EPC).

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is revoked.
3. The request for reimbursement of the appeal fee is refused.

The Registrar:

The Chairman:



S. Sánchez Chiquero

C. Herberhold

Decision electronically authenticated