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Datasheet for the decision of 11 May 2023

Case Number: T 0541/21 - 3.2.01

Application Number: 15164452.3

Publication Number: 2942273

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Language of the proceedings: EN

Title of invention:
A UNISON RING SYSTEM

Patent Proprietor:
Rolls-Royce plc

Opponent:
Raytheon Technologies Corporation

Headword:

Relevant legal provisions:
EPC Art. 84, 123(2), 108
RPBA 2020 Art. 12(2), 12(3)

Keyword:
clarity (auxiliary request 3: yes)
added subject-matter (main request:yes; auxiliary request 3:no)
Statement of grounds of appeal - reasons set out clearly and concisely
admissibility of appeal (yes)

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

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Case Number: T 0541/21 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 11 May 2023

Appellant: (Opponent)	Raytheon Technologies Corporation Pratt & Whitney 400 Main Street East Hartford, CT 06118 (US)
Representative:	Dehns St. Bride's House 10 Salisbury Square London EC4Y 8JD (GB)
Respondent: (Patent Proprietor)	Rolls-Royce plc Kings Place 90 York Way London N1 9FX (GB)
Representative:	Rolls-Royce plc Intellectual Property Dept SinA-48 PO Box 31 Derby DE24 8BJ (GB)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 18 February 2021 concerning maintenance of the European Patent No. 2942273 in amended form.**

Composition of the Board:

Chairman	H. Geuss
Members:	C. Narcisi
	O. Loizou

Summary of Facts and Submissions

I. The European patent No. 2 942 273 was maintained in amended form by the decision of the Opposition Division posted on 18 February 2021. Against this decision an appeal was lodged by the Opponent pursuant to Article 108 EPC.

II. The following documents are cited in this decision:

EP-A (published patent application of the contested patent);
EP-B (published patent specification of the contested patent).

III. Oral proceedings were held on 11 May 2023. The Appellant (Opponent) requested that the decision under appeal be set aside and that the European patent be revoked.
The Respondent (Patent Proprietor) requested that the appeal be dismissed (main request) or, in the alternative, that the patent be maintained on the basis of auxiliary request 3 filed with the reply to the statement of grounds of appeal dated 22 November 2021.

Auxiliary requests 1,2,4,5 and 6 were withdrawn.

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

"A unison ring system (200) comprising:
a first unison ring portion (210);

a second unison ring portion (240)), the second unison ring portion (240) being co-axial with the first unison ring portion (210) ; and
a bearing (270);
the first unison ring portion (210) comprising:
a first unison ring (120); and
a first bearing location portion (230);
the second unison ring portion (240) comprising:
a second unison ring (150); and
a second bearing location portion (260);
wherein the first bearing location portion (230) is co-axial with the first unison ring (120) and projects axially from the first unison ring(120), the second bearing location portion (260) is co-axial with the second unison ring (150) and projects axially from the second unison ring (150),
the first bearing location portion (230) comprising a radially outwardly opening groove (232), the second bearing location portion (260) comprising a radially inwardly opening groove (262),
the first unison ring portion (120) and the second unison ring portion (240) being axially positioned such that the first bearing location portion (230) is concentric with the second bearing location portion (260) thereby defining an annular cavity (290) therebetween;
the bearing (270) being accommodated in the annular cavity (290), an axial length (292) of the annular cavity (290) being greater than an axial length (272) of the bearing (270);
characterised in that the bearing (270) comprises a plurality of rolling elements (280), a radially outwardly facing surface (234) of the first bearing location portion (230) being formed as an inner bearing race (234), a radially inwardly facing surface (264) of the second bearing location portion (260) being formed

as an outer bearing race (264), and the plurality of rolling elements (280) being disposed between the first bearing location portion (230) and the second bearing location portion (260), wherein, during operation, the plurality of rolling elements (280) are in intimate contact with and slidable over the radially inwardly facing surface (264) of the second bearing location portion, and the radially outwardly facing surface (234) of the first bearing location portion (230), such that the first unison ring portion (210) is able to move axially relative to the second unison ring portion (240) by a distance equal to the difference between the axial length of the annular cavity (290) and the axial length of the bearing (270).”

Claim 1 of auxiliary request 3 differs from claim 1 of the main request in that the wording “between the axial length of the annular cavity (290) and the axial length of the bearing (270)” is replaced by the wording “between the axial length of the annular cavity (290) and the axial length of the bearing (270), such that in the event of a failure of one of the first actuating system and the second actuating system, the first unison ring portion (210) will either
(i)move away from the second unison ring portion (240) until the rolling elements (280) of the bearing (270) abut against an axially distal side of the radially inwardly opening groove on the second bearing location portion (260) and abut against an axially distal side of the radially outwardly opening groove (232) of the first bearing location portion (230); or
(ii)move towards the second unison ring portion (240) until the rolling elements (280) of the bearing (270) abuts against an axially proximal side of the radially inwardly opening groove (262) on the second bearing location portion (260) and abut against an axially

proximal side of the radially outwardly opening groove of the first bearing location portion (230) so that the other one of the first actuating system and the second actuating system will drive both unison ring portions (210:240) via the co-operating first and second bearing location portions (230:260) and bearing (270)".

V. The Appellant's (Opponent's) arguments may be summarized as follows:

The arguments related to the objections based on Article 123(2) EPC presented in the statement of grounds of appeal (see page 5) are clearly in response to the appealed decision and include reasons setting out the grounds of appeal. Therefore these arguments should be admitted into the appeal proceedings.

The subject-matter of claim 1 (main request) includes subject-matter extending beyond the content of the application as filed, since disputed features F12 (i.e. "wherein, during operation, the plurality of rolling elements (280) are in intimate contact with and slidable over the radially inwardly facing surface (264) of the second bearing location portion, and the radially outwardly facing surface (234) of the first bearing location portion (230)") and F13 (i.e. "such that the first unison ring portion (210) is able to move axially relative to the second unison ring portion (240) by a distance equal to the difference between the axial length of the annular cavity (290) and the axial length of the bearing (270)") were isolated from their specific context in EP-A, thus leading to a generalization of the originally filed subject-matter.

In particular, amended claim 1 now refers vaguely to the rolling elements being "slidable" over the bearing location portions "during operation" such that the first and second unison ring portions can move axially relative to each other. However, to the extent this operation is supported, it is only supported in the specific sense described in paragraphs [0011] and [0012] of EP-A, i.e. "during normal control" of the respective first and second propeller assemblies or in the "event of a failure" of the actuating system of one of the first unison ring portion and the second unison ring portion. Consequently, the operation implied by the broader concept of claim 1 (by said features F12 and F13) also represents new technical information, given that various operations which are not disclosed in EP-A may be encompassed.

Further, there is also no support for claiming the slidability of the unison ring portions without reference to how this is achieved, i.e. by means of the features detailed in paragraphs [0045]-[0047] of EP-A.

Claim 1 of auxiliary request 3 is unclear since it lacks essential features and also some of the features in paragraphs [0045]-[0047] of EP-A are omitted, thus leading likewise to the claimed subject-matter being not originally disclosed.

VI. The Respondent's (Patent Proprietor's) arguments may be summarized as follows:

The appeal is inadmissible in relation to the ground of added subject-matter and the Board should exercise its discretion under Article 12(4) and 12(5) RPBA 2020 (Rules of Procedure of the Boards of Appeal) not to admit these arguments into the appeal proceedings. In

particular, the Appellant did not provide any reason why the decision under appeal in respect of added-subject-matter is incorrect, and why the reasons provided in the appealed decision at point 7 are not valid (contrary to Article 12 (2) and (3) RPBA).

The subject-matter of claim 1 (main request) does not extend beyond the content of the application as filed. In effect, said features F12 and F13 are based on paragraphs [0011], [0012], [0044], [0055] and [0060] of EP-A.
In particular, paragraphs [0011] and [0012] explain how the unison system operates during normal use and in the event of failure, as is further described in paragraphs [0050] and [0051] with specific reference to the embodiments of the invention. Accordingly, it is clear to the person skilled in the art that features F12 and F13 are present during operation of the unison ring system and that they define features which allow the operation to be performed both in normal use and in the event of failure.
Specifically, the first bearing location portion and the second bearing location portion define an annular cavity therebetween (see feature F7: "the first unison ring portion (120) and the second unison ring portion (140) being axially positioned such that the first bearing location portion (130) is concentric with the second bearing location portion (160) thereby defining an annular cavity therebetween, the bearing (170) being accommodated in the annular cavity (190)) and feature F12 defines that a plurality of rolling elements is slidable over the inner surface of the cavity, within the limits provided by the axial length of the cavity, such that the first and second unison ring portions are "able to move" relative to each other over an axial distance determined according to feature F13 by the

difference between the axial length of the annular cavity and the axial length of the bearing.

Therefore the amount of "sliding" defined "during operation" by features F12 and F13 encompasses and applies both to "normal control" and in the "event of failure", such that no new information implying possible further operations is derivable from claim 1.

The Appellant's objections raised against auxiliary request 3 should not be admitted into the appeal proceedings since they are late filed and anyway they are unfounded because all the essential features disclosed in the description have been included into claim 1.

Reasons for the Decision

1. The grounds of appeal provided in relation to Article 123(2) EPC are admissible, for the Board finds that the arguments submitted by the Respondent in this respect are unfounded.

In effect, Article 108 EPC (in conjunction with Rule 99 EPC) includes no provisions to the extent that an appeal can be considered inadmissible in relation to a specific ground of appeal if insufficient reasons are given. Indeed, a partial inadmissibility of an appeal is not provided for in the EPC. In the present case sufficient reasons were given by the Appellant in the

statement of grounds of appeal regarding the other grounds of appeal, for instance in relation to the question of clarity of the amendments and of novelty and inventive step. Therefore, as the admissibility of the appeal pursuant to the EPC is considered only in its entirety, the appeal is admissible and said grounds of appeal based on Article 123(2) EPC undoubtedly are admissible in view of Article 108 EPC.

In addition, the Appellant provided, contrary to the Respondent's allegations, sufficient reasons setting out the grounds of appeal also in relation to Article 123(2) EPC, as detailed hereinafter.

2. The arguments of the Appellant in relation to Article 123 (2) EPC are sufficiently substantiated in the statement of grounds of appeal such that the requirements of Article 12 (2) and (3) RPBA (Rules of Procedure of the Boards of Appeal) 2020 are complied with. Thus, there was no reason for exercising the Board's discretionary power under Article 12 (5) RPBA 2020 to not admit said arguments.

The Appellant stated that "the amended claims now refer vaguely to the rolling elements being slidable over the bearing location portions during operation such that the first and second unison ring portions can move axially relative to each other. However, to the extent this operation is supported, it is only supported in the specific sense described in paragraphs [0011] and [0012] of the A2 publication. There is no basis whatsoever to support this generalisation, as this is in fact the only operation that is described in the application as filed. Thus, there is no other more general disclosure that would support the rather broader formulation used in the claims..Thus the

subject-matter introduced into features F12 and F13 represents an impermissible generalisation of what is described in the application as filed, and the claims now present the skilled person with possibilities that would not be derivable from the original application". (see statement of grounds of appeal, page 5).

Consequently, the Appellant gives in its statement of grounds of appeal sufficient reasons explaining why it considers that amended claim 1 (i.e. in particular features F12 and F13) includes subject-matter extending beyond the content of the application as filed, thus contravening Article 123(2) EPC.

3. The subject-matter of claim 1 (main request) does not comply with the requirements of Article 123 (2) EPC, for claim 1 as amended by introducing said features F12 (i.e. "wherein, during operation, the plurality of rolling elements (280) are in intimate contact with and slidable over the radially inwardly facing surface (264) of the second bearing location portion, and the radially outwardly facing surface (234) of the first bearing location portion (230)") and F13 (i.e. "such that the first unison ring portion (210) is able to move axially relative to the second unison ring portion (240) by a distance equal to the difference between the axial length of the annular cavity (290) and the axial length of the bearing (270)") includes subject-matter extending beyond the content of the application as filed (EP-A).

In effect, features F12 and F13 define that the rolling elements are "slidable" in said annular cavity (defined by the first and second bearing location portion), albeit the distance over which the rolling elements are sliding in the cavity being in no way indicated or

defined. Therefore any amount of sliding which is permissible within the limits set by the cavity's axial boundaries is encompassed by claim 1, so that said first and second unison ring portions (being "able to move axially" relative to each other) may move in a corresponding manner by any selectable distance which is smaller than said difference defined by feature F13.

In addition, the term "during operation" (see feature F12) does not define any specific kind of operation, such that in general any kind of possible operation of the propeller assemblies is encompassed by features F12 and F13 of claim 1, which operation is obtained by a corresponding relative movement of said first and second unison ring portions over any selectable distance.

Therefore these amendments clearly introduce new technical information (by way of generalization), given that EP-A merely defines (see paragraphs [0011] and [0012]) two specific kinds of operations (of said first and second propeller assemblies), which are obtained by a corresponding specific relative movement of the first and second unison ring portions.
Indeed, according to EP-A "during normal control of the respective first and second propeller assemblies" only a "slight variation between the independent movement of each of the first unison ring portion and the second unison ring portion" occurs (wherein "the cavity accommodates the slight variation"), whereas "in the event of a failure of the actuating system of one of the first unison ring portion and the second unison ring portion, the actuating system of the other one of the first unison ring portion and the second unison ring portion will drive the failed unison ring portion

via the cooperating first and second bearing location portions and bearing".

It ensues from the above that features F12 and F13 (in the context of claim 1) do not implicitly include the disclosure according to paragraphs [0011] and [0012], as there is no way for the skilled person be able to derive the specific features of these paragraphs from the subject-matter of claim 1 without previous knowledge of the disclosure of EP-A, these features not being part of common general knowledge.

Finally, paragraphs [0055], [0044] and [0060] in EP-A cannot provide any basis or support for said features F12 and F13, as these paragraphs do not even mention the term "operation", therefore no attempt being made in these paragraphs to define any actual "operation" of the unison ring system according to the invention in terms of the relative movement of its structural elements. Hence these paragraphs do not disclose any "operation" of the unison ring system as intended and actually implemented by the invention, only describing instead structural features and elements and their relative movement as generally derivable in principle from their structural features (i.e. without any reference to the actual amount, extent and size of relative movement implied by the specific "operations" as implemented by the invention as disclosed in EP-A (see e.g. paragraphs [0011], [0012])).

4. The subject-matter of claim 1 of auxiliary request 3 fulfils the requirements of Article 123 (2) EPC, as it does not include subject-matter extending beyond the content of the application as filed (EP-A).

Indeed, in amended claim 1 the feature relating to the "distance being the difference between the axial length 192 of the annular cavity and the axial length 172 of the bearing 170 is predetermined to be greater than the difference between the positions of the first unison ring portion 110 and the second unison ring portion 140 during their normal controlled operation" (see paragraph [0047] in EP-A) was omitted, however no subject-matter is derivable from claim l, which was not previously disclosed in EP-A.

In particular, it would be obvious for the skilled person that said condition according to aforesaid feature has to be necessarily fulfilled, for otherwise separate control of the first and second unison ring portion (during normal control of the respective first and second propeller assemblies), by means of the first and second actuating system respectively as required in claim 1, would not be possible. In effect, sufficient corresponding space has to be provided in axial direction for separate control of the actuators.

For the same reasons as stated hereinbefore the subject-matter of claim 1 is clear for the skilled person (Article 84 EPC).

In view of the above conclusions the question concerning the admissibility of the Appellant's objections against claim 1 of auxiliary request 3 on the grounds of Article 84 EPC and Article 123(2) EPC can remain unanswered.

No further objections were submitted regarding the allowability of auxiliary request 3, as was explicitly stated by the Appellant during oral proceedings. Therefore the Board sees no reasons which prejudice the

maintenance of the patent in amended form according to auxiliary request 3.

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 in amended form on the basis of the claims of auxiliary request 3 filed with the reply to statement of grounds of appeal and a description to be adapted.

The Registrar: The Chairman:

A. Voyé H. Geuss

Decision electronically authenticated