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Datasheet for the decision of 30 March 2022

Case Number: T 2396/19 - 3.2.01

Application Number: 13167354.3

Publication Number: 2669189

IPC: B64C9/14, B64C9/18, B64C9/16

Language of the proceedings: EN

Title of invention:
Rotary actuated high lift gapped aileron

Patent Proprietor:
The Boeing Company

Opponent:
AIRBUS Operations GmbH/AIRBUS Operations S.A.S./
AIRBUS S.A.S./AIRBUS Operations Ltd./
AIRBUS Operations S.L.

Headword:

Relevant legal provisions:
EPC Art. 54(2), 56, 113(1)
EPC R. 115(2)
RPBA Art. 12(4)
RPBA 2020 Art. 15(3)

Keyword:
Novelty - first auxiliary request (yes)
Late-filed evidence - admitted (yes)
Inventive step - first auxiliary request (no)
Main and auxiliary requests 2 to 8 - rejected as inadmissible-change of status of the patentee following withdrawal of their appeal
Oral proceedings - held in absence of party
Right to be heard - respected (yes)

Decisions cited:
G 0009/92, G 0004/93

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

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Case Number: T 2396/19 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 30 March 2022

Appellant: (Patent Proprietor)	The Boeing Company 100 North Riverside Plaza Chicago, IL 60606-1596 (US)
Representative:	Shipp, Nicholas Kilburn & Strode LLP Lacon London 84 Theobalds Road London WC1X 8NL (GB)
Appellant: (Opponent)	AIRBUS Operations GmbH/AIRBUS Operations S.A.S./ AIRBUS S.A.S./AIRBUS Operations Ltd./ AIRBUS Operations S.L. Kreetslag 10/316 Route de Bayonne 2 rond-point Emile Dewoitine/New Filton House Avenida de John Lennon S/N 21129 Hamburg/31060 Toulouse/31707 Blagnac/ Filton Bristol BS99 7AR / 28906 Getafe-Madrid (DE)
Representative:	Schicker, Silvia Wuesthoff & Wuesthoff Patentanwälte PartG mbB Schweigerstraße 2 81541 München (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 1 July 2019 concerning maintenance of the European Patent No. 2669189 in amended form.**

Composition of the Board:

Chairman	G. Pricolo
Members:	S. Mangin
	A. Jimenez

Summary of Facts and Submissions

I. The appeals were filed by the appellant (patent proprietor) and the appellant (opponent) against the interlocutory decision of the Opposition Division finding that, on the basis of the second version of auxiliary request 1 filed during oral proceedings in opposition, the patent in suit (hereinafter "the patent") met the requirements of the EPC.

II. The Opposition Division admitted the second version of auxiliary request 1 filed during oral proceedings into the proceedings and held that the invention was sufficiently disclosed, that the subject-matter of claim 1 was novel over D1 (GB 2 March 0098 A) and involved an inventive step in view of D1 in combination with D10 (DE 1 506 615 A).

III. With letter of 2 March 2022, the appellant (patent proprietor) withdrew their appeal and their request for oral proceedings.

IV. **The appellant (opponent)** requested that the decision under appeal be set aside and that the European patent be revoked.

Before the withdrawal of its appeal, **the respondent (patent proprietor)** requested in writing that the decision under appeal be set aside and the patent be maintained on the basis of the main request (patent as granted) or alternatively on the basis of the first auxiliary request corresponding to the version maintained by the Opposition Division or alternatively on one of the second to eighth auxiliary request submitted with the statement of grounds of appeal

corresponding to the first to seventh auxiliary requests filed in opposition proceedings on 9 July 2018.

V. Oral proceedings were held before the Board on 30 March 2022 in the absence of the respondent (patent proprietor) as announced with letter of 2 March 2022.

VI. The first auxiliary request comprises only one independent claim, namely independent claim 1 which reads as follows (with the feature numbering used on pages 18 and 19 of the appealed decision):

[1.a] A rotary actuated high lift gapped aileron system (232, 300), comprising:
[1.b] a high lift gapped aileron (306) operable to couple to an airfoil (302) by a rotary actuator (312) at a hinge line (418) of the high lift gapped aileron and the rotary actuator and operable to change a camber (416) of the airfoil;
[1.c] the rotary actuator (312) coupled to the high lift gapped aileron and operable to produce a rotary motion of the high lift gapped aileron in response to an actuation command;
[1.d] a droop panel (308) positioned over the hinge line and operable to enhance lift of the high lift gapped aileron;
[1.e] a cove lip door (310) positioned under the hinge line and operable to provide an airflow over the high lift gapped aileron; and
[1.f] a deployment linkage mechanism (304, 502, 602, 702, 802) coupled to the high lift gapped aileron and operable to position the droop panel and the cove lip door in response to the rotary motion,
[dep. claim 3 as granted] wherein the rotary actuator (312) is positioned at an end of the high lift gapped

aileron (306) without blocking free flow of fluid across a span (404) of the high lift gapped aileron.

VII. Auxiliary requests 2 to 8

In addition to an independent product claim 1, auxiliary requests 2 to 8 include an independent method claim (claim 6 in auxiliary requests 2 to 4 and 7 to 8, and claim 5 in auxiliary request 5).

(a) Claim 6 of auxiliary request 2 reads as follows:

A method (900) for providing lift on a fluid-dynamic body (302), the method comprising:
coupling (902) a rotary actuated high lift gapped aileron (306) to a fluid dynamic body by a rotary actuator at a hinge line (418) of the rotary actuated high lift gapped aileron and the rotary actuator;
positioning (904) the rotary actuator at an end area of the leading edge of the rotary actuated high lift gapped aileron; and
configuring (906) the rotary actuated high lift gapped aileron to change a camber (416) of the fluid-dynamic body when deployed in response to a rotary actuation of the rotary actuator.

(b) Claim 6 of auxiliary request 3 reads as follows:

A method (900) for providing lift on a fluid-dynamic body (302), the method comprising:
coupling (902) a rotary actuated high lift gapped aileron (306) to a fluid dynamic body by a plurality of rotary actuators at a hinge line (418) of the rotary actuated high lift gapped aileron and the rotary actuators;

positioning (904) a first rotary actuator of the plurality of rotary actuators at a first spanwise end of an end area of the leading edge of the rotary actuated high lift gapped aileron and a second actuator of the plurality of actuators at a second spanwise end of the end area of the leading edge of the aileron;
configuring (906) the rotary actuated high lift gapped aileron to change a camber (416) of the fluid-dynamic body when deployed in response to a rotary actuation of the rotary actuator, wherein a controller connected to aircraft systems to facilitates the change of camber of the airfoil by an actuation of the high lift gapped aileron via the rotary actuator (312);
coupling (908) a cove lip door (310) under the hinge line to provide a greater airflow over the rotary actuated high lift gapped aileron; and
coupling (910) a droop panel (308) over the hinge line to enhance a high lift effect of the rotary actuated high lift gapped aileron.

(c) Claim 6 of auxiliary request 4 corresponds to claim 6 of auxiliary request 3 with the addition of the following feature:

"wherein a portion of each of the first and second actuators extends into a respective portion of the first and second spanwise ends of the end area of the leading edge of the aileron".

(d) Claim 5 of auxiliary request 5 corresponds to claim 6 of auxiliary request 4 wherein "fluid dynamic body" has been replaced by "wing".

(e) Claim 6 of auxiliary request 6 corresponds to claim 6 of auxiliary request 2 with the following amendments:
- *"area of the leading edge"* has been deleted from *the following passage:*
"positioning (904) the rotary actuator at an end ~~area of the leading edge~~ of the rotary actuated high lift gapped aileron"; and
- the features of dependent claim 7 have been added:
"wherein the method of claim 6, further comprises: *coupling (908) a cove lip door (310) under the hinge line to provide a greater airflow over the rotary actuated high lift gapped aileron; and coupling (910) a droop panel (308) over the hinge line to enhance a high lift effect of the rotary actuated high lift gapped aileron".*

(f) Claim 6 of auxiliary request 7 corresponds to claim 6 of auxiliary request 2 with the following amendments:
- the deletion of *"area of the leading edge"* from the following passage:
"positioning (904) the rotary actuator at an end ~~area of the leading edge~~ of the rotary actuated high lift gapped aileron"; and
- the addition of the following feature:
"to allow free flow of fluid across a span of the high lift gapped aileron and thereby alleviate a significant low speed slot blockage across the span of the high lift gapped aileron".

(g) Claim 6 of auxiliary request 8 corresponds to claim 6 of auxiliary request 2 with the following amendments:

- the deletion of *"area of the leading edge"* from the following passage:
"positioning (904) the rotary actuator at an end ~~area of the leading edge~~ of the rotary actuated high lift gapped aileron"; and
- the addition of the following feature:
"the high lift gapped aileron (306) comprises a bladed fitting arm coupling the high lift gapped aileron (306) to the rotary actuator (312)".

VIII. Additional cited documents relevant for the decision:

D20: Cutaway of Lockheed Martin F-16, published in Flight International, 2001;

D21: "Advanced High Lift gapped system Architecture with Distributed Electrical Flap Actuation", Martin Recksiek, AST 2009, Hamburg, published: 27 March 2009;

D22: "Mechanical Design of High Lift Systems for High Aspect Ratio Swept Wings", Peter K.C. Rudolph, NASA-Report CR-1998-196709, published February 1998;

D23: "Development of a smart wing", P. Hutapea et al., Aircraft Engineering and aerospace Technology: An International Journal 80/4 (2008), pages. 439-444, published: 2008; and

D24: Cutaway of McDonnell Douglas F-4 Phantom II, published in Flight International, 30 June 1966, Page. 1094;

D25: Cutaway of McDonnell Douglas F-15C Eagle, published in Air International, August 1981, Page. 66; and

D26: "Entwurf eines robusten, filterintegrierten Aktuatorreglers zur Erhöhung der Stabilitätsreserve bei der Dämpfung von Strukturschwingungen", Dissertation of Bettina Sattler, published 27 June 2001.

Reasons for the Decision

1. Because the proprietor has withdrawn their appeal, they are now respondent. As respondent, the proprietor is primarily restricted during appeal proceedings to defending the patent in the form in which it was maintained by the Opposition Division in its interlocutory decision (see G9/92 and G4/93, order) and the principle of prohibition of reformatio in peius applies to the benefit of the sole appealing opponents. Consequently, the proprietor as respondent is barred from returning to the patent as granted or to higher ranking unsuccessful requests. Therefore, the Board finds the main request directed at the patent as granted held unallowable in the decision under appeal to be inadmissible.

2. First auxiliary request - version maintained by the Opposition Division

2.1 The subject-matter of claim 1 is novel over D1 but does not involve an inventive step starting from D1 in combination with common general knowledge.

2.2 The appellant (opponent) is of the opinion that the subject-matter of claim 1 of the first auxiliary request is not novel over D1 and does not involve an inventive step in view of D1 with common general knowledge. As proof of the common general knowledge, they submitted documents D20-D26.

2.3 The respondent (patent proprietor) is of the opinion that auxiliary request 1 is novel and inventive over D1 and contests the admission of documents D20-D26 as in their view the documents could have been submitted earlier, they are complex and thus constitute an undue burden at this stage of the proceedings and are not prima facie relevant.

2.4 The Board, with communication pursuant to Article 15(1) RPBA 2020, informed the parties of the reasons why the subject-matter of claim 1 was considered not inventive. In the absence of any further submissions from the parties, the Board sees no reason to deviate from the preliminary opinion, which is confirmed below:

2.5 Together with their statement of grounds of appeal the appellant 1 submitted document D20-D26. Article 12(4) to (6) RPBA 2020 does not apply to any statement of grounds of appeal filed before 1 January 2020 and reply to it filed in due time. Instead, the question whether or not new submissions should be admitted must be decided on the basis of Article 12(4) RPBA 2007, which gives the Board discretion not to admit, on appeal, documents that could have been presented in opposition proceedings (Article 25(2) RPBA 2020).

While claim 1 of auxiliary request 1 is a combination of granted claims 1 and 3, auxiliary request 1 has only been filed during the oral proceedings. During opposition proceedings the opponent submitted that the rotary actuators being positioned at the end of the high lift gapped ailerons are common general knowledge but did not provide documents to illustrate it. The submission of documents D20-D26 with the grounds of appeal to illustrate the common general knowledge alleged by the opponent during oral proceedings is an

appropriate and immediate reaction to developments in the previous proceedings. Documents D20-D26 are admitted into the proceedings.

2.6 The subject-matter of claim 1 of the first auxiliary request is novel over D1, it does not involve an inventive step starting from D1 and in view of the skilled person's general knowledge.

Feature 1g restricts the position of the rotary actuator to the end of the high lift gapped aileron. But feature 1g does not limit the number of rotary actuators and the position of the other rotary actuators.
Therefore feature 1g defines that there is at least one rotary actuator positioned at the end of the high lift gapped aileron, but other rotary actuators may be placed anywhere along the high lift gapped aileron as long as there is a certain span between the rotary actuators.
Furthermore feature 1g requires that free flow of fluid across a span of high lift gapped aileron is not blocked. But feature 1g does not define the length of the span, whether it is the entire span of the aileron or a smaller span.

Finally, "positioned at an end" should be considered as positioned at an "end area" (see figure 4 and paragraphs [0038], [0051], [0061], [0067] of the patent).

The subject-matter of claim 1 differs from D1 in that the rotary actuator is located in an end area of the aileron. D1, page 2, lines 24-31, does not specify where the rotary actuators are placed.

Considering the above, the Board finds that no effect can be associated to feature 1g. The problem to be solved is therefore to select an alternative location for the rotary actuator.

While D1 does not specify where the rotary actuator is placed, there is no contraindication to place the rotary actuator at an end area of the flap. Furthermore placing a rotary actuator at an end area of the flap is an obvious possibility in view of the skilled person common general knowledge illustrated by documents D20-D23.

3. Auxiliary requests 2-8

3.1 As a consequence of the proprietor's withdrawal of their appeal, auxiliary requests 2-8 (corresponding to the first to seventh auxiliary requests filed in opposition proceedings on 9 July 2018) are rejected as inadmissible in view of G9/92.

3.2 As already stated above, if the opponent is the sole appellant against an interlocutory decision maintaining a patent in amended form, the patent proprietor is primarily restricted during appeal proceedings to defending the patent in the form in which it was maintained by the Opposition Division in its interlocutory decision. Moreover, according to G9/92, amendments proposed by the patent proprietor as a party to the proceedings as of right under Article 107, second sentence, EPC, may be rejected as inadmissible by the Board of Appeal if they are neither appropriate nor necessary, which is the case if the amendments do not arise from the appeal.

3.3 In the present case, the addition of an independent method claim for providing lift on a fluid-dynamic body or on a wing in auxiliary requests 2-8, is an aspect of the invention that was not included in auxiliary request 1 as maintained by the Opposition Division.

The introduction of a method claim is neither appropriate nor necessary as it does not arise from the appeal. It does not either overcome a ground for opposition under Article 100 EPC as regard the auxiliary request 1 maintained by the Opposition Division. Auxiliary requests 2-8 cannot be an opportunity to fix shortcomings of the auxiliary request 1 maintained by the Opposition Division, such as the lack of a method claim.

In the present case, all auxiliary requests 2-8 comprise additionally to the independent claim 1 directed to a rotary actuated high lift gapped aileron system an independent method claim for providing lift on a fluid dynamic body or a wing, an amendment which is neither appropriate nor necessary as mentioned above.

4. To conclude, auxiliary request 1 maintained by the Opposition Division does not involve an inventive step and auxiliary requests 2-8 are rejected as inadmissible as they contain amendments that are neither appropriate nor necessary (G9/92).

5. The right to be heard - Article 113(1) EPC

In accordance with Rule 115(2) EPC and Article 15(3) RPBA 2020, the oral proceedings were held without the respondent.

According to Article 15(3) RPBA 2020, the Board shall not be obliged to delay any step in the proceedings, including its decision, by reason only of the absence at the oral proceedings of a party duly summoned who may then be treated as relying only on its written case.

In the present case, the proprietor withdrew their appeal and informed the Board that they would not attend oral proceedings with letter of 2 March 2022. By withdrawing their appeal, the proprietor became respondent. The principle of prohibition of reformatio in peius and in particular G9/92 become thereby relevant.
The Board holds that it is possible to base the present decision taking into account the prohibition of reformatio in peius and the related decision G9/92 discussed for the first time during oral proceedings, as the absent – albeit duly summoned – patent proprietor could have reasonably expected that the withdrawal of the appeal and the consequent change of status from appellant to respondent would have had an effect on the admissibility of requests filed when the appeal was still pending.

Order

For these reasons it is decided that:

The decision under appeal is set aside.

The patent is revoked.

The Registrar: The Chairman:

A. Voyé G. Pricolo

Decision electronically authenticated