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Datasheet for the decision of 6 November 2024

Case Number: T 0514/21 - 3.4.02

Application Number: 08425232.9

Publication Number: 2108914

IPC: F41G7/32, F42B15/04

Language of the proceedings: EN

Title of invention:
Wire-Guided Torpedo Propulsion Assembly

Patent Proprietor:
LEONARDO S.p.A.

Opponent:
ATLAS ELEKTRONIK GmbH

Headword:
Wire-guided torpedo/LEONARDO

Relevant legal provisions:
EPC Art. 54, 56, 100(a)
RPBA 2020 Art. 13(2)

Keyword:

Grounds for opposition - lack of patentability (yes)
Novelty - (no) - main request
Inventive step - (no) - auxiliary requests 3, 4 and 5
Amendment after notification of Art. 15(1) RPBA communication (yes) - auxiliary requests 6, 7 and 8 - taken into account (no)

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Case Number: T 0514/21 - 3.4.02

D E C I S I O N
of Technical Board of Appeal 3.4.02
of 6 November 2024

Appellant: (Opponent)	ATLAS ELEKTRONIK GmbH Sebaldsbrücker Heerstraße 235 28309 Bremen (DE)
Representative:	Eisenführ Speiser Patentanwälte Rechtsanwälte PartGmbB Postfach 10 60 78 28060 Bremen (DE)
Respondent: (Patent Proprietor)	LEONARDO S.p.A. Piazza Monte Grappa 4 00195 Roma (IT)
Representative:	Studio Torta S.p.A. Via Viotti, 9 10121 Torino (IT)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 22 February 2021 rejecting the opposition filed against European patent No. 2108914 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman	R. Bekkering
Members:	F. Giesen
	C. Almberg

Summary of Facts and Submissions

I. The appeal by the opponent (appellant) lies from the decision of the opposition division to reject the opposition against European patent EP 2 108 914.

II. The board will refer to the following documents

D1 US 3,706,293
D19 Excerpt of the file with archive signature BW 1/387667, cover page, documentation "Aktenprüfung" (Anlage 3), pages 2 to 7 and figures 1 to 7
D20 Excerpt of the file with archive signature BV 5/68469, cover page, documentation "Aktenprüfung" (Anlage 3), 3 more pages
D27 Rössler, E. "Die Torpedos der deutschen U-Boote", E.S. Mittler und Sohn GmbH, 2005, ISBN 3-8132-0842-7

Document D27 was renumbered by the board. It was filed as D25 with the appellant's letter dated 25 May 2023. However, the decision under appeal had already made reference to documents numbered D25 and D26.

III. Oral proceedings took place before the board on 6 November 2024. The final requests of the parties were as follows:

The appellant (opponent) requested that the appealed decision be set aside and that the patent be revoked.

The respondent's (proprietor's) main request was that the appeal be dismissed (i.e. maintenance of the patent as granted).

In the alternative, the patent was to be maintained as amended according to the claims of one of
- auxiliary request 3 filed with letter dated 10 November 2021,
- auxiliary request 6 filed with letter dated 7 August 2024,
- auxiliary requests 4 and 5 filed with letter dated 10 November 2021, and
- auxiliary requests 7 and 8 filed with letter dated 7 August 2024, in that order.

IV. Claim 1 of the main request (i.e. as granted) reads as follows (essentially adopting the feature labels from the decision under appeal with a rearrangement concerning M1.1 and M1.2):

M1.1 *"A propulsion assembly (1)*
M1.2 *for a torpedo (2) equipped with a wire-guidance cable (14),*
M1.3 *the assembly comprising at least two parts (15, 5; 5, 6; 6, 16) in relative rotational motion;*
M1.4 *face sealing means (18) interposed between said parts (15, 5; 5, 6; 6, 16); and*
M1.5 *protection means (22) for preventing access of said cable (14) to said face sealing means (18), said protection means (22) defining a labyrinth (23)."*

V. Claim 1 of auxiliary request 3 has the features M1.1 to M1.5 of claim 1 of the main request and in addition the following features:

"wherein said protection means (22) comprise a circumferential edge (24) extending in a substantially axial direction from one of said at least two parts (15; 5; 6);
and at least one circumferential projection (25) defined by a number of angularly spaced sectors (26) extending axially from the other part (5; 6; 16) and radially facing said edge (24)."

VI. Claim 1 of auxiliary request 4 has all the features of claim 1 of auxiliary request 3. In addition features M1.3 and M1.4 were modified as follows:

M1.3' *the assembly comprising at least two parts (15, 5; 5, 6; 6, 16) in relative rotational motion forming an axial gap (17) therebetween;*

M1.4' *face sealing means (18) interposed between said parts (15, 5; 5, 6; 6, 16) to prevent water entering through said gap (17);*

Feature labels and underlining were added by the board. Underlining marks features added to the claim.

VII. Claim 1 of auxiliary request 5 has the features of claim 1 of auxiliary request 4 and in addition the feature

"*at least one of said parts (5; 6) is a hub of a propeller (3; 4)*"

added between the passages "*defining a labyrinth (23)*" and "*wherein said protection means (22) comprise a circumferential edge (24)*".

Reasons for the Decision

1. *Admissibility of the appeal*

The appeal meets the requirements of Articles 106 to 108 EPC and those of Rule 99 EPC. It is therefore admissible.

2. *Main request - Lack of novelty in view of D19*

2.1 The subject-matter of claim 1 of the main request is not new in view of D19. Therefore, the ground for opposition pursuant to Article 100(a) EPC in conjunction with Article 54 EPC prejudices the maintenance of the patent as granted.

2.2 D19 is part of the state of the art according Article 54(2) EPC.

2.3 In writing, the respondent did not provide any arguments questioning the finding in the decision under appeal according to which D19 was part of the state of the art according to Article 54(2) EPC. The board agrees with that finding in the decision under appeal.

At the oral proceedings before the board, the respondent raised doubts that D19 belonged to the state of the art because it did not contain a sufficient disclosure. According to page 4 of D19, the "Huhn'sche

Gleitringdichtung" ("Huhn seals" in the following) did not work.

The appellant argued that the torpedoes according to D19 using Huhn seals were used in test runs. The fact that these seals may not have been without problems did not mean that they were a non-working embodiment.

The board agrees with the appellant. The fact that other seals performed better does not mean that the Huhn seals can be considered to be insufficiently disclosed to the extent that a torpedo propulsion unit using them cannot be considered to be part of the state of the art. Moreover, according to the penultimate sentence on page 4 of D19, cited by the respondent, the Huhn seals could be brought to satisfactory operation after lapping the seal surfaces before use. This clearly shows that the disclosure of D19 teaches a skilled person everything required to put a torpedo using Huhn seals into practice.

2.4 D19 discloses all features of claim 1 of the main request.

2.5 The respondent argued, and the opposition division reasoned,that D19 did not disclose features M1.2 (because there was not disclosure of a guide wire) and M1.4 (because there was no disclosure of a face seal). Moreover, the opposition division argued that as a consequence of M1.4 not being disclosed, M 1.5, which makes reference to feature M1.4, was not disclosed either. The respondent additionally argued that D19 did not disclose a labyrinth as required by feature M1.5 and that not even the relative movement of the fore and aft propellers was derivable from D19 (M1.3).

2.6 Regarding feature M1.2 concerning wire guided torpedoes, the appellant argued, offering documents D20 and D27 as evidence, that the torpedo type "SEAL", disclosed in document D19, was a wire guided torpedo. The respondent argued that D19 and D20 formed separate disclosures which did not necessarily concern the same torpedo. In particular, D19 concerned a practice torpedo, whose construction could be different from the real "SEAL" torpedo referred to in D20.

2.6.1 The arguments concerning feature M1.2 overlook that the claim is directed to a propulsion assembly which has to be "suitable for" a torpedo equipped with a wire-guidance cable, rather than directed to the torpedo as such. Features M1.1 and M1.2 cannot be understood to mean that the propulsion assembly is equipped with a wire-guidance cable. It would appear that the guide tube marked "Führungsrohr" in D19 is suitable for housing a wire reel and, being open at the stern of the torpedo, for allowing a guide wire to remain connected to the launch mechanism.

In this respect, the respondent argued at the oral proceedings before the board that the guide tube had a sharp edge towards the rightmost seal at the stern of the propulsion unit in the figure of D19 concerning torpedoes with Huhn seals, which made the guide tube unsuitable for guiding a cable. The sharp edge would damage a cable as it unwinds.

The board does not agree that a sharp edge is shown in the figure referred to by the respondent. This is merely speculation on the part of the respondent. The last piece of the guide tube at the stern of the torpedo has a small part at the inner circumference, which hardly stands out radially. As argued by the

appellant, it is not apparent how a guide cable could possibly be damaged at this point in the guide tube.

The board is also persuaded by the appellant's argument, according to which the passage of D19 on page 6, point 2.4 numeral 1) concerning the transmission of telegram messages under water over a distance of 4600 m implied a guide wire. This taken together with the presence of a guide tube in figure 2 is a disclosure of the "SEAL" torpedo being a wire guided torpedo. This is consistent with the further documents D20 and D27.

In this regard, the respondent argued that one could not exclude that a new means for communication was tested. However, the question as to what is directly and unambiguously derivable from a document presumes an interpretation of its teaching by a skilled person on the basis of valid and confirmed scientific principles. It follows that the speculative possibility of a new undisclosed communication means allowing transmission of data over 4600m in water without a cable, cannot put into question the direct and unambiguous disclosure of the presence of a guide wire implied by the guide tube.

2.6.2 Furthermore the board is not persuaded by the respondent's argument that there was no connection between the disclosures of D19 and D20. According to the respondent, D19 referred to a practice torpedo. It was not directly unambiguously derivable whether the practice torpedo according to D19 had the same construction as the real "SEAL" torpedo referred to in D20, in particular whether it was also a wire guided torpedo.

The appellant argued correctly that the only difference between a practice torpedo and a real torpedo was that

the practice torpedo was not armed. There would be no differences in the basic construction. Otherwise, the practice would not be a realistic simulation of a real combat situation. Moreover, the board is not persuaded that code names given to weapon systems could realistically be assumed to denote weapons that differ substantially in their construction. The development and testing of weapons systems typically takes several years. Therefore the small difference of one or two years in the dates of documents D19 and D20 is not surprising. In the board's view, the appellant has made a persuasive case that there exists a torpedo code named SEAL, which is a wire-guided torpedo. The respondent's argument does not go beyond questioning the appellant's argument, without providing convincing evidence that could invalidate it.

2.7 On feature M1.4, which is concerned with face seals (and as a consequence also M1.5), the respondent and the opposition division considered that D19 did not provide enough information to identify the elements in the figures with certainty and to understand how the various portions behave in use. D19 only disclosed "Gleitringdichtungen". However, these seals were not face seals.

This does not convince the board. A skilled person is able to read technical drawings, such as figure 2 of D19 entitled "Wellendichtung mit Huhn'schen Dichtungen" and figure 7 entitled "neue Gleitringdichtung (Fa. Huhn)". In particular in the context of the further figures of D19 and the labels in the figures, it is apparent which parts are counter rotating shafts, hubs, propellers and which parts are the seals. The function ascribed to the parts by the appellant is clearly what a skilled person would derive from these figures in a

direct and unambiguous manner, and the board gathered the same understanding from these technical drawings.

The respondent argued that without a detailed description the figures of D19, it could, in particular, not be understood that the spring presses movable sealing blocks against each other. The respondent did not provide any alternative plausible explanation concerning the content of these figures that could cast doubt on their interpretation offered by the appellant.

The respondent also argued that the parts of figure 2 in D19 to the left and right of the seal had the same hatching. The rules for technical drawings required different hatching for different parts. The pieces around the seal therefore were not different parts.

This argument is erroneous. The terminology used by the respondent according to which figure 2 of D19 "does not show different pieces" suggests that the pieces cannot be relatively rotatable but only form a single (solid) piece. However, there is no rule for technical drawings known to the board, nor substantiated by the respondent beyond the mere assertion, that forbids using the same hatching for different parts that form a functional unit. If the respondent's (suggested) interpretation of figure 2 were correct, then the spring would be completely without function.

In figure 2 of D19, the sealing action of the Huhn seals is achieved by springs pressing the seals (in black) in an axial direction against axial faces of the sealing blocks (in red) attached to the respective facing propeller hubs. They are therefore face seals within the meaning of claim 1 and the regular meaning

of this expression as for example demonstrated by the Wikipedia article cited by the respondent on page 3 of their reply, right image. The board agrees that the term "Gleitringdichtung" refers to dynamic annular seals in general. However, the Huhn seals are a more specific subtype of dynamic seals and are clearly face seals. The same applies for the face seals shown in figure 7.

This conclusion relies on features a skilled person derives directly and unambiguously from the drawings. It is not necessary to have a written description in document D19, as the respondent argued.

2.8 At the oral proceedings, the respondent disputed that document D19 disclosed a labyrinth as required by feature M1.5. While figure 2 of D19 might show a protrusion, according to the respondent a cable could pass this portion in a linear oblique motion. In contrast to this, paragraph [0027] of the opposed patent specified that the labyrinth formed a winding path. This was not anticipated by D19.

The board is not persuaded by this argument. The appellant correctly argued that negotiating the gap between the propellers of D19 required a radial, then an axial and finally a radial motion. This corresponds exactly to the disclosure in paragraph [0027] of the patent. Hence, this gap can be considered a "labyrinth" in the sense of feature M1.5. The appellant also argued correctly that claim 1 of the main request did not limit the level of protection afforded by the protection means in feature M1.5 to a particular degree. Clearly the presence of the "labyrinth" shown in figure 2 of D19 makes it less likely for a guide wire to reach the seal and hence improves its

protection. It has to be concluded that it represents protection means within the meaning of the claim. The respondent's argument is founded on a restricted interpretation of the imprecise expression "labyrinth" in the claim, based on a specific embodiment to which the claim is clearly not restricted and an unrealistic tacit assumption concerning the relative sizes of the wire diameter and gap sizes in the "labyrinth" of D19, viz. that the guide wire diameter is very small compared to the gap sizes.

2.9 At the oral proceedings before the board the respondent also argued that a relative motion between the fore and aft propellers ("Vorderer und hinterer Propeller") was not directly and unambiguously derivable.

This is not persuasive. A counter-rotation of two propellers is required to keep the torpedo stable in the water. Otherwise it would rotate around its own axis. Therefore, counter-rotating propellers are understood by a skilled person to be an intrinsic feature of torpedo propulsion units such as that of figure 2 of D19.

2.10 Therefore, the board comes to the conclusion that the subject-matter of claim 1 of the main request is not new in view of D19.

3. *Auxiliary request 3 - Inventive step in view of D19*

3.1 The subject-matter of claim 1 of auxiliary request 3 does not involve an inventive step within the meaning of Article 56 EPC, irrespective of the question of the admittance of auxiliary request 3.

3.2 Closest prior art

The board is satisfied that document D19 is a suitable starting point for the assessment of inventive step.

3.3 Distinguishing features

The feature

> "*[at least one circumferential projection (25)] defined by a number of angularly spaced sectors (26) extending axially from the other part (5; 6; 16)*"

is not disclosed in document D19.

The appellant argued in writing that sectors were mathematical concepts. Any circumferentially continuous projection could mentally be decomposed into three or more sectors. Three or more sectors necessarily contained spaced sectors because of the presence of intervening sectors. As a consequence the amendment could not establish any limitation of the subject-matter of claim 1.

The board is not persuaded. Claim 1 would not be understood by a skilled person to refer to fictitious sectors but to physical ones. The amended claim excludes a circumferentially continuous projection. However, the board agrees that the claim wording covers two sectors with very small gaps between them.

3.4 Technical effect and objective technical problem

The respondent argued, based on paragraph [0029] of the patent as granted, that the technical effect of

projection 25 comprising a number of separate sectors 26, as opposed to being continuous, was to allow fresh water, when washing the torpedo, to reach the seals, and, without affecting the cooling and lubrication condition of the seals. Torpedoes were used in combat simulations. After contact with salty sea water, the angularly spaced sectors allowed washing of the seals with fresh water without disassembly of the propulsion unit.

The appellant doubted that the technical effect adduced by the respondent, while appearing plausible for the specific sector geometry shown in figure 3 of the patent, was achieved for any sector geometry falling under the claim definition. Any labyrinth, also that of document D19, would allow water to enter and reach the seals. In solving the technical problem as proposed by the respondent it was therefore essential how much water would be allowed to reach the seals. However, the claim was not limited in this respect.

As far as not affecting cooling and lubricating were concerned, the appellant argued that the seals were not lubricated, or self-lubricating. According to paragraph [0018] of the patent, tungsten carbide and graphite seals were used. It was therefore not clear how water entering through the sectors could or could not affect the lubricating condition. The same was true for the cooling condition. It may be true that water could cool the seals more efficiently if the water in the seal space was exchanged more rapidly. But again this effect would be dependent on the specific sector geometry determining the exchange rate of water in the axial gap, to which the claim was not restricted.

The board agrees with the appellant. According to Case Law of the Boards of Appeal of the European Patent Office, 10th edition, July 2022 ("CLBA"), I.D.4.1.3, a technical effect, in order to be taken into account, has to be achieved across the entire scope of the claim. This is not the case here. The appellant argued convincingly, and the respondent did not further rely on these effects, that the effects of not affecting the cooling and lubricating condition were vague, and at least not achieved for any sector geometry falling under the wording of the claim.

The technical effect of enabling washing the seals with fresh water without disassembly was also already achieved by the labyrinth of D19. The board observes that the labyrinth of D19 must allow water to enter - otherwise no seal would be needed - and exit the gap between the fore and aft propellers and thus reach the seals irrespective of the presence of angularly spaced sectors. Since the presence of seals demonstrates that salt water can reach the seals when the torpedo is in the water, the same is necessarily true for fresh water when the torpedo is for example hosed down on the deck of a ship. Some sector geometries may allow more water to reach the seals and to exit the gap. However, the formulation of the technical problem cannot rely on this aspect, since the claim is not restricted to any particular sector geometry.

Therefore, the objective technical problem is to provide an alternative propulsion assembly.

3.5 Assessment of the solution

The respondent argued that even if the objective technical problem were merely the provision of an

alternative, the claimed alternative would still not have been obvious.

Firstly, none of the prior art showed a protrusion with spaced sectors.

Secondly, sectors would have a negative influence on the protection function of the protection means. In D19 it would therefore have been disadvantageous to provide sectors in the circumferential protrusion, increasing the likelihood that a cable might enter the axial gap between the propeller hubs.

Thirdly, a mechanical engineer would consider that the propellers are manufactured by lathing. In such an operation, the mechanical engineer would strive for the lowest number of manufacturing steps. Providing the propellers of D19 with additional gaps would increase the likelihood of introducing quality problems and of increasing the cost.

3.6 The board is not convinced by these arguments.

Firstly the board notes that the observation by the respondent that none of the cited documents shows projections in the form of sectors *per se* does not allow to conclude that the subject-matter was not obvious. In particular when considering whether alternatives were obvious, it is not to be expected that the state of the art discloses every conceivable alternative. Most technical documents, in particular patent documents or technical test reports such as D19, are directed to a skilled reader. They inherently presume a general level of knowledge of the reader. Moreover, almost every piece of technical writing is characterised by conciseness and a focus on essential

information. It is therefore not to be expected that technical documents spell out information that is readily apparent to a skilled reader. This includes lists of alternative constructions which would be apparent to a skilled reader.

Secondly, the question in the framework of the problem-solution approach as to whether an alternative was obvious or not is a special case. Typically the conclusion that subject-matter was obvious is based on the conclusion that a skilled person had a motivation to implement the claimed solution in a piece of prior art. Normally a technical benefit constitutes such motivation. Alternatives, by definition, do not offer such a benefit, and hence intrinsically do not provide the motivation in the classical sense of the problem-solution approach. It can nevertheless not be concluded that this means that each conceivable alternative was not obvious. Rather, it has to be accepted, and is accepted in the case law (see CLBA, I.D.4.5, in particular last two paragraphs) that it is part of the normal skills of a skilled person to consider alternatives to existing constructions given by the prior art chosen as starting point, to consider the ramifications of implementing these modifications, and to proceed to implementing them without any expectation of a technical benefit.

Thirdly, the board disagrees with the respondent's argument that adding manufacturing steps in a mechanical engineering process would automatically have rendered subject-matter non-obvious. The implications of the far-reaching assertion of the respondent would, in the board's view, lead to the unreasonable result that basically any modification containing a further manufacturing step - such as drilling a functionless

hole - would have to be considered to have been obvious. Rather, as stated in the previous paragraph, it is part of the normal skills of a skilled person to consider the ramifications of constructional modifications. A skilled mechanical engineer was capable, as part of their normal skills, of adding a cutting operation to a work piece while keeping cost and quality under control. Those would merely have been readily apparent consequences, and their consideration would not have implied any inventive activity.

Fourthly, the board is also not convinced by the logic of the respondent's argument according to which a skilled person would not have added further manufacturing steps. The respondent continues to tacitly consider "improved washing without disassembly of the torpedo" as a non-obvious benefit that offsets the drawbacks of increased cost and quality problems in their argument. However, at this point in the assessment, i.e. after having concluded that the objective technical problem is the provision of an alternative, improved washing cannot be taken into account. Otherwise, this would have had to be included in the formulation of the objective technical problem. The modification according to claim 1 of auxiliary request 3 therefore merely entails the drawbacks of a further manufacturing operation without offsetting them with a non-obvious technical benefit. This does not involve an inventive step (CLBA, I.D.9.21.1).

4. *Auxiliary request 6 - Admittance*

4.1 Auxiliary request 6 is not taken into account pursuant to Article 13(2) RPBA.

4.2 According to Article 13(2) RPBA any amendment to a party's appeal case made after notification of a communication under Article 15, paragraph 1, shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified with cogent reasons by the party concerned. Late filed auxiliary request 6 constitutes such an amendment.

4.3 The respondent argued there were exceptional circumstances because in the communication under Article 15(1) RPBA the board had raised doubts for the first time concerning the question as to how to correctly formulate the objective technical problem, in particular to formulate it such that it was solved across the entire scope of the claim. This went beyond what the appellant had argued in paragraph 3.3 of the their rejoinder dated 25 May 2023. The last sentence of paragraph 3.3 had to be understood within the context of the argument concerning mathematical sectors preceding it.

4.4 The board is not persuaded by this argument. The last sentence of paragraph 3.3 of the rejoinder dated 25 May 2023 reads, in translation by the board:

> "*The effect described by the patent proprietor may appear plausible at first glance for the embodiment of figure 3, but in no case does such an effect occur for any sectors that fall under the claim wording.*"

This statement is not limited to a hypothetical partition into mathematical sectors of a physically continuous protrusion. It clearly questions that without limitation of the sector geometry the technical effect described in the opposed patent was achieved.

4.5 The board, in point 5.5. of its communication under Article 15(1) RPBA, merely stated that "*[i]t would have to be discussed whether the achievement of the technical effect is independent of further geometrical parameters and of the number and size of the gaps between the sectors, to which claim 1 is not limited.*"

This does not shift the objection of the appellant, but merely elaborates upon it by naming geometrical parameters of the sectors that might play a role in answering the question raised by the appellant.

Therefore, since the board's preliminary opinion was a normality in that it did not go beyond elaborating upon an objection already raised by the appellant, and informing the parties that this objection would have to be discussed, there are no exceptional circumstances. Rather, it would have been incumbent on the respondent to reply to this objection immediately after being notified of the rejoinder of 25 May 2023.

4.6 Therefore, the conditions of Article 13(2) RPBA for taking into account auxiliary request 6 are not met.

5. *Auxiliary requests 4 and 5 - Inventive step in view of D19*

5.1 Regardless of the question of admittance, the subject-matter of claim 1 of auxiliary request 4 and that of claim 1 of auxiliary request 5 does not involve an inventive step in view of D19.

5.2 Compared to claim 1 of auxiliary request 3, claim 1 of auxiliary request 4 has the further features specifying

that the rotating parts form an axial gap between them and that the face seals have the function to prevent entry of water in the axial gap.

5.3 These added features are not distinguishing features over document D19, which discloses an axial gap between the fore and aft propellers. It is implicitly disclosed in D19 that the seals' function is to prevent water from entering this gap, since this is the very function of a seal.

5.4 Since claim 1 of auxiliary request 4 does not have additional distinguishing features over document D19 compared to claim 1 of auxiliary request 3, the reasons as to why the subject-matter of claim 1 of auxiliary request 3 does not involve an inventive step apply equally to the subject-matter of claim 1 of auxiliary request 4.

5.5 In addition to the features of claim 1 of auxiliary request 4, claim 1 of auxiliary request 5 has the further feature according to which at least one of said parts (in relative rotational motion) is a hub of a propeller. This is also not a distinguishing feature in view of D19, which discloses a fore and an aft propeller. A hub is visible in figure 2, and even if that was disputed, propellers intrinsically have hubs.

5.6 Since claim 1 of auxiliary request 5 does not have additional distinguishing features over document D19 compared to claim 1 of auxiliary request 3, the reasons as to why the subject-matter of claim 1 of auxiliary request 3 does not involve an inventive step apply equally to the subject-matter of claim 1 of auxiliary request 5.

6. *Auxiliary requests 7 and 8 - Admittance*

6.1 Auxiliary requests 7 and 8 are not taken into account pursuant to Article 13(2) RPBA.

6.2 Like auxiliary request 6, auxiliary requests 7 and 8 are amendments to the respondent's appeal case first filed after notification of the communication under Article 15(1) RPBA without exceptional circumstances justifying their admission.

6.3 The reasons for not taking these auxiliary requests into account are the same as for auxiliary request 6.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar: The Chair:

L. Gabor R. Bekkering

Decision electronically authenticated