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**Datasheet for the decision
of 4 May 2023**

Case Number: T 1731/21 - 3.2.01

Application Number: 09850121.6

Publication Number: 2483097

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F16C19/54, F16C33/66,
F16C33/78, F16C33/80

Language of the proceedings: EN

Title of invention:
A WHEEL HUB UNIT

Patent Proprietor:
Volvo Lastvagnar AB

Opponents:
Klocke, Peter
Späth, Dieter

Headword:

Relevant legal provisions:
EPC Art. 99, 108, 123(2), 100(c), 56
RPBA 2020 Art. 13(2), 12(6)

Keyword:

Admissibility of opposition - (yes)
Admissibility of appeal - (yes)
Main request and auxiliary requests 2-9 - Amendments -
allowable (no)
Auxiliary request 1 - Amendment - allowable (yes)
Auxiliary request 1 - Inventive step - (no)
Auxiliary request 10 - Admitted in opposition proceedings -
error in use of discretion at first instance (no)
Auxiliary request 10 - Amendments - allowable (yes)
Auxiliary request 10 - Inventive step - (yes)
Amendment to appeal case after summons - (no)

Decisions cited:

T 0247/20, G 0004/97, G 0003/97, T 1839/18

Catchword:



Beschwerdekammern

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Case Number: T 1731/21 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 4 May 2023

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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
26 July 2021 concerning maintenance of the
European Patent No. 2483097 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 patent proprietor and the opponents against the interlocutory decision of the opposition division finding that, on the basis of the auxiliary request 2, the patent in suit (hereinafter "the patent") met the requirements of the EPC.
- II. The opposition division held that:
- The subject-matter of claim 1 of the **main request** extended beyond the content of the application as originally filed,
 - The subject-matter of claim 1 of **auxiliary request 1** fulfilled the requirements of Article 123(2) EPC, but did not involve an inventive step in view of D3 (US 2009/0230649 A1) in combination with D4 (US 3,749,195), and
 - The subject-matter of **auxiliary request 2** involved an inventive step starting from D3 or starting from D1 (US 3,067,831).
- III. Oral proceedings were held by the Board on 4 May 2023.
- IV. The appellant (patent proprietor) requested that the decision under appeal be set aside and the patent be maintained as granted, alternatively that the patent be maintained on the basis of one of the auxiliary requests 1-18 filed with the statement of grounds of appeal. The appellant (patent proprietor) further requested that the opposition and the appeal be held as inadmissible and that the Appendix 1- Appendix 6 and D12 (EP 0 999 364 A2) be deemed inadmissible.

The appellants (opponents) requested that the appealed decision be set aside and the patent to be revoked.

They further requested document D12 to be admitted in the proceedings and that the letter of the appellant (patent proprietor) filed on 3 March 2023 be not admitted into the proceedings.

- V. Claim 1 of the main request with the feature numbering presented on page 2 of the notice of opposition reads as follows:
- 1.1 A wheel hub unit (10) comprising
 - 1.2 a wheel hub (40),
 - 1.3 a hydraulic motor (12) and
 - 1.4 a bearing section comprising two grease lubricated bearings (52a, 52b) for supporting the wheel hub (40) and the hydraulic motor (12),
 - 1.5 wherein the wheel hub unit (10) comprises a first seal (100),
 - 1.6 the bearing section being sealed towards the hydraulic motor (12) with the first seal for protecting the two grease lubricated bearings (52a, 52b) from hydraulic oil of the hydraulic motor (12).
- VI. Claim 1 of auxiliary request 1 corresponds to claim 1 of the main request with the addition of the following feature:
- (a) *"wherein the hydraulic motor (12) is arranged beside the two bearings (52a, 52b) in an axial direction of the wheel hub unit (10)".*
- VII. Claim 1 of auxiliary requests 2 and 3 corresponds to claim 1 of the main request with the addition of the following features:
- (b) *"wherein the wheel hub unit (10) comprises means (110,60) for protecting the first seal (100) from pressure spikes transmittable by the hydraulic oil of the hydraulic motor (12)",*

- (c) *"wherein the protection means comprises a second seal (110), which is arranged between the hydraulic motor (12) and the first seal (100) for protecting the first seal (100) from pressure spikes transmittable by the hydraulic oil of the hydraulic motor (12)"*,
- (d) *"wherein a first drainage channel (26) is arranged between the first seal (100) and the second seal (110)"*.

VIII. Claim 1 of auxiliary requests 4 and 5 corresponds to claim 1 of the main request with the addition of features (b) and (c) recited above and the features (e) and (f) reading:

- (e) *"wherein the second seal (110) comprises a leakage channel (120) with a predefined leakage"*,
- (f) *"wherein a radial inner surface (102) of the first seal (100) is positioned on a radial larger distance from a wheel hub rotational axis (18) than the leakage channel (120)"*.

IX. Claim 1 of auxiliary requests 6 and 7 corresponds to claim 1 of the main request with the additional features (b), (c), (d), (e) and (f) recited above.

X. Claim 1 of auxiliary requests 8 and 9 correspond to claim 1 of the main request with the additional features (b), (c), (d), (e) and (f) recited above and the features (g) and (h) reading as follows:

- (g) *"wherein a first drainage channel (26) is arranged between the first seal (100) and the second seal (110)"*
- (h) *"wherein the second seal (110) comprises a soft seal portion (114), wherein the soft seal portion (114) is arranged around a spacer ring (130) which is connected in a rotatably fixed manner to a steering knuckle (20)"*.

- XI. Claim 1 of auxiliary requests 10 and 11 corresponds to claim 1 of the main request with the additional features (a), (b), (c) and (d) recited above.
- XII. Claim 1 of auxiliary requests 12 and 13 corresponds to claim 1 of the main request with the additional features (a), (b), (c), (e), (f).
- XIII. Claim 1 of auxiliary requests 14 and 15 corresponds to claim 1 of the main request with the additional features (a), (b), (c), (d), (e), (f).
- XIV. Claim 1 of auxiliary requests 16 and 17 corresponds to claim 1 of the main request with the additional features (a), (b), (c), (d), (e), (f), (g), (h).
- XV. Claim 1 of auxiliary request 18 reads as follows:
A wheel hub unit (10) comprising a wheel hub (40) with a rim (42) for supporting a tyre, a non-rotating steering knuckle (20) with a king pin (30), a hydraulic motor (12) and a bearing section comprising two grease lubricated bearings (52a, 52b) for supporting the wheel hub (40) and the hydraulic motor (12) on the non-rotating steering knuckle (20), wherein the hydraulic motor (12) is arranged in an axially outermost position on the steering knuckle (20) opposite the king pin (30), the two bearings (52a, 52b) are arranged at both sides of a centre seal (54) with an axial distance to each other and are thus positioned radially between the steering knuckle and a rotational part in the wheel hub unit (10), each of the bearings (52a, 52b) being formed as a taper rolling bearing moving on a race-way of an inner ring 58 surrounding and rotationally rigidly connected to the steering knuckle 20, wherein the wheel hub unit (10) comprises a first seal (100), the bearing section being sealed towards the hydraulic motor (12)

with the first seal for protecting the two grease lubricated bearings (52a, 52b) from hydraulic oil from the hydraulic motor (12), the bearing section (50) being sealed to the outside by a further seal (200).

Reasons for the Decision

1. Admissibility of the opposition and of the appeal of the opponents - Articles 99 and 108 EPC

The opposition and the appeal of the opponents are admissible.

The opponents requested a reduced appeal fee since they were constituted by two natural persons Mr. Klocke and Mr. Späth. This request was approved by the EPO with communication of 15 October 2021.

- 1.1 The appellant (patent proprietor) submitted that it was reasonable to assume that the opponents acted as straw men for another party. The opponents relied on the fact that they were natural persons for obtaining a reduced appeal fee. However, since it was not possible for anyone outside the opponents' sphere to determine who was the party behind them, it was not possible to establish whether that party actually met the requirements of Rule 6(4) EPC for obtaining a reduced appeal fee. This amounted to a clear example of circumvention of the law by abuse of process (see G4/97). As a consequence both the opposition and the appeal should be found inadmissible.
The appellant (patent proprietor) noted that the notice of opposition was filed by the opponents who were professional representatives employed by the firm "ABACUS Patentanwälte", and that later during the

proceedings the opponents appointed the firm WINTER, BRANDL - Partnerschaft mbB as representative. It was highly doubtful that the opponents as patent attorneys would themselves have a commercial interest in the patent. Accordingly, they were either acting as straw men, or else they filed the notice of opposition for other purposes, such as for training purposes. However, the use of a further firm for representing them constituted a clear indication that someone else had a commercial interest in at least limiting the scope of the patent.

1.2 The Board does not recognise a circumvention of the law by abuse of process.

1.3 According to the principles set out by the Enlarged Board of Appeal in decisions G3/97 and G4/97, an opposition is not inadmissible purely because the person named as opponent is acting on behalf on a third-party. Such an opposition is, however, inadmissible if the involvement of the opponent is to be regarded as circumventing the law by abuse of process. In determining whether the law has been circumvented by abuse of process, the principle of the free evaluation of evidence is to be applied. The burden of proof is to be borne by the person alleging the opposition is inadmissible.

1.4 It is also established jurisprudence that the status of opponent is a procedural status obtained by the person or persons fulfilling the requirements of the EPC for filing an opposition as set out in particular in Article 99(1) in conjunction with Article 100, Rule 76 and 77 EPC (see decisions G4/97 reasons 2.1). In the present case, the appellant (patent proprietor) does not contest that two natural persons, Mr. Klocke and Mr

Späth, have filed the opposition and hence have the procedural status of opponents in the present proceedings. The appellant (patent proprietor) however contends that they are straw men acting on behalf of an unknown third-party and that the filing of a declaration for natural person for the purpose of the reduction of the appeal fee while it is not possible to determine whether or not the third-party "behind" the opponents complied with the requirements of Rule 6(4) EPC amounts to a circumvention of the law (see reply to the statement of grounds of appeal, in particular points 3.11-3.14).

- 1.5 The submissions of the appellant (patent proprietor) as regards the opponents acting as straw men are unproved allegations. The fact that the opponents, who are themselves professional representatives, chose to be represented by the firm WINTER, BRANDL - Partnerschaft mbB in the course of the proceedings does not necessarily imply that they were acting on behalf of a third-party. But even if they were acting as straw men when filing the opposition, the appellant (patent proprietor) fails to prove that they deliberately did so to circumvent the legal requirements for obtaining a reduction of the appeal fee in case an appeal would be filed at a later stage. In the absence of any element suggesting that the law has been circumvented by abuse of process, the opposition is admissible.

- 1.6 The appellant (patent proprietor) further contends that the appeal is not admissible in the absence of any possibility to determine whether the third party behind the straw men opponents met the eligibility criteria for the reduced appeal fee.

- 1.7 The Board first notes that the issue of eligibility to the reduced appeal fee is not an issue of admissibility of the appeal but of whether the appeal should be deemed to be filed (Article 108, second sentence, EPC, in conjunction with Article 8 RFEes).
- 1.8 Secondly, the Board recalls that, even when assuming that the opponents indeed acted on behalf of a third party, the entitlement to pay the reduced amount of the appeal fee under the conditions set by Article 2, item 11 Rfees and Rule 6(4) (b) EPC must be assessed in view of the legal status of the entity which has the procedural status of appellant, in this case the opponents Mr. Klocke and Mr Späth.
- 1.9 The appellant (patent proprietor) also argues that allowing straw men opponents to pay the reduced appeal fee without having to present any particular as regards to the third party could lead to the inappropriate result that every opposition in the future would be filed by straw men so as to benefit from the reduced amount of the appeal fee. In line with decision T1839/18 however, the Board notes that the revised fee structure of the EPO was adopted by the Administrative Council decision on 13 December 2017 (CA/D 17/7) in full knowledge and awareness of the established jurisprudence of the Enlarged Board of Appeal regarding straw men opponents. Should the Administrative Council have wished to impose further conditions for taking advantage of paying a reduced fee and in order to avoid abuses, it would no doubt have done so (see T 1839/18 point 2.20). In the present case, there is no doubt that Mr. Klocke and Mr Späth as natural persons are entitled to a reduction of the appeal fee (Article 2(1) item 11 RFEes and Rule 6(4) (b) EPC).

2. Main request - Added subject-matter - Article 100(c)
EPC

The subject-matter of claim 1 extends beyond the content of the application as originally filed.

- 2.1 The appellant (patent proprietor) held that the basis for the subject-matter of claim 1 could be found in claims 1 and 20 as filed. The expression "at least one bearing (52a, 52b)" used in claims 1 and 20 meant "one or more than one bearing". Therefore claims 1 and 20 comprised two alternatives: either the wheel hub unit comprised one bearing, or more than one bearing. Selecting the second alternative, the skilled person would make no distinction between the expressions "comprising two bearings" and "more than one bearing" since both expressions meant two or more bearings. Furthermore, appellant 1 noted that claim 1 restricted to a wheel hub unit comprising two bearings did not present the skilled person with new information in view of the two reference signs 52a and 52b in claim 1 corresponding to the two bearings present in the figures of the application.

Alternatively, claim 1 could be derived from the combination of claims 1, 18 and 20 of the application as filed. Granted claim 1 did not explicitly recite that "the hydraulic motor (12) is arranged beside the two bearings (52a, 52b) in an axial direction of the wheel hub unit (10)", as recited in claim 18 as filed. However, the above feature of claim 18 was implicitly disclosed by the following features of granted claim 1: "the bearing section being sealed towards the hydraulic motor (12) with the first seal for protecting the two grease lubricated bearings (52a, 52b) from hydraulic oil from the hydraulic motor (12)".

- 2.2 The Board concurs with the opposition division that the presence of two bearings is structurally and functionally linked to their arrangements beside the hydraulic motor in an axial direction of the wheel hub unit. Reference is made to claim 18 and page 6, lines 1-6 of the A1 publication.

The Board does not agree with the analysis of the appellant (patent proprietor) and their conclusion that the wheel hub unit comprising two bearings is directly and unambiguously derivable from claim 1 reciting "at least one bearing (52a, 52b)". Indeed, the wheel hub unit comprising two grease lubricated bearings with a first seal for protecting the two bearings from the hydraulic oil from the hydraulic motor is only directly and unambiguously derivable from the combination of claims 1, 18 and 20. However this claim combination comprises the position of the two bearings relative to the hydraulic motor in the wheel unit hub. This arrangement is inextricably linked to the functioning of the wheel hub unit of claim 1 and the sealing of the bearings towards the hydraulic motor.

3. Admissibility of the auxiliary requests 1-18 en bloc

The findings of the opposition division to reject the request of the opponents not to admit the auxiliary requests 1-18 en bloc is correct. Reference is made to point 21 of the appealed decision.

- 3.1 The appellants (opponents) argued that the 18 auxiliary requests filed on the last day of the period according to Rule 116 EPC did not converge and in particular auxiliary request 18 comprised features different from those of the auxiliary requests 1-17. The appellants

(opponents) added that irrespective of the lack of convergence of the auxiliary requests, the filing of 18 auxiliary requests according to the "principle of trial and error" represented an abuse of the procedure.

- 3.2 The Board judges that the opposition division correctly found that there were no grounds or legal basis for not admitting the auxiliary requests 1-18 en bloc. Indeed the admissibility of each request should be assessed in turn when discussed during the proceedings. Moreover as noted by the opposition division, in the present case, the 18 auxiliary requests were filed on time, providing fall-back options for the various objections raised by appellants (opponents) (added subject-matter, lack of novelty and lack of inventive step). Their number appears reasonable and while the auxiliary requests are not convergent, they follow a logic order, in an attempt to overcome the numerous objections raised by the opponent.

4. Auxiliary request 1

4.1 Added subject-matter - Article 123(2) EPC

The subject-matter of claim 1 does not extend beyond the content of the application as filed.

- 4.2 The appellants (opponents) were of the opinion that the feature: *"the bearing section (50) being sealed towards the hydraulic motor (12) with the first seal (100) for protecting the two grease lubricated bearings (52a, 52b) from hydraulic oil from the hydraulic motor (12)"* represented an unallowable intermediate generalisation as there was no general disclosure of one seal protecting two bearings in the application as filed.

The above-mentioned feature was not derivable from claim 18 as it did not disclose any seal. Figure 1b and page 8, lines 15-22 of the application as filed disclosed the above-mentioned feature in combination with a seal 54 between the two bearings and a seal 200 on their outside, the bearings being taper rolling bearings moving on a race-way of an inner ring 58 surrounding and rotationally rigidly connected to the steering knuckle 20. Further features of the embodiment had also been left out, such as the hydraulic motor being arranged in an axially outermost position on the steering knuckle 20 opposite to the king pin 30. The omitted features were functionally und structurally linked to the one seal protecting two bearings. For a seal to protect/seal two bearings, it was essential that the two bearings were located relatively close to each other. Furthermore, with the large acting axial forces, this was only possible if tapered roller bearings were selected in an O arrangement - as is the case in the preferred embodiment. The closely spaced tapered roller bearings enabled a sealed central bearing section 50 to be provided sealed by a first seal 100, a further seal 200 and seal 54. The two bearings arranged in a central area of the knuckle 20, enabled to provide the motor 12 at one axial end and to provide the kingpin 30 at the other axial end.

4.3 The Board does not agree. Amended claim 1 can be derived from the combination of claims 1, 18 and 20 as filed.

Claim 1 as filed defines: *"a first seal (100) for protecting the at least one bearing (52a,52b) from hydraulic oil from the hydraulic motor (12) "*, and claim 18 as filed defines: *"the-wheel hub unit (10) comprises two bearings (52a, 52b) and that the hydraulic motor (12) is arranged beside the two*

bearings (52a, 52b) in an axial direction of the wheel hub unit (10)".

A literal combination of claims 1 and 18 results in the first seal either protecting one bearing or the other or both. Limiting the claim to the seal protecting both bearings does not extend the subject-matter of claim 1 over the application as filed especially in view of the remaining feature of claim 18 whereby the *"hydraulic motor (12) is arranged beside the two bearings (52a, 52b) in an axial direction of the wheel hub unit"*.

Indeed, this arrangement points towards the use of one seal to protect the two bearings.

The alleged omitted features listed by the appellant (opponents) are not disclosed in claims 1, 18 and 20 as filed and are not inextricably linked to the first seal protecting the two bearings.

4.4 Admissibility of the appellant's (patent proprietor's) letter dated 3 March 2023 - Article 13(2) RPBA 2020

The submissions made by the appellant (patent proprietor) with letter dated 3 March 2023 do not constitute an amendment to their appeal case. The Board has therefore no discretion not to admit them. The Board takes the submissions into account in particular for assessing whether D3 in combination with D4 renders the subject-matter of claim 1 obvious.

4.4.1 The appellants (opponents) requested the letter dated 3 March 2023 of appellant (patent proprietor) not to be admitted in the proceedings pursuant to Article 13(2) RPBA 2020 as it represented an amendment to the appellant (patent proprietor)'s appeal case made after notification of a summons to oral proceedings. The appellants (opponents) argued that there were no exceptional circumstances justified by cogent reasons

for submitting new arguments at this late stage. The appellants (opponents) considered that the new arguments provided for auxiliary requests 1 and 10 regarding the inventive step starting from D3 in combination with D4 could not be considered as a development of the arguments provided earlier in the appeal procedure as they related to an analysis of the figures of D3 that were not presented earlier.

4.4.2 The Board does not agree and follows decision T 247/20 (point 1).

In their submissions, the appellant (patent proprietor) provided arguments why it was not obvious for the skilled person to omit the drain channel 34 or to change its position in front of the sealed bearing section as argued by the appellants (opponents) and why the adaptation to the drainage port was not obvious as held by the Board in its preliminary opinion pursuant to Article 15(1) RPBA 2020.

The Board considers the submissions as a development of appellant's 1 previous arguments provided in their grounds of appeal and their reply and as a direct response to appellant 2's reply and the communication of the Board under Article 15(1) RPBA 2020. The submissions do not constitute an amendment to their appeal case.

The Board notes that no additional pieces of evidence were submitted. The appellant (patent proprietor) gave further arguments why D3 and D4 were incompatible and referred to figures 1-3 of documents D3 which they previously discussed in their grounds of appeal (point 7.3) and their reply (point 8.4.). Based on figures 1-3 of D3, the appellant (patent proprietor) explained that the drainage port 34 could not be simply positioned in

front of the seal as there was no space to place the drainage port.

4.5 Inventive step starting from D3 in combination with D4
- Article 56 EPC

The subject-matter of claim 1 is rendered obvious starting from D3 in combination with D4.

Starting from D3 as closest prior art, the parties agree that the subject-matter of claim 1 differs from D3 in that:

- (i) the bearings are grease lubricated (feature 1.4)
- (ii) the bearing section are sealed towards the hydraulic motor with the first seal for protecting the two grease lubricated bearings from hydraulic oil from the motor (feature 1.6).

4.5.1 The appellant (patent proprietor) argued that based on paragraphs [0006]- [0008] of the patent, the above missing features implied an increased life of the wheel hub unit.

An objective technical problem may be formulated as how to improve the operability of the D3 steerable vehicle knuckle.

D4, column 3, lines 54 - column 4, lines 4 disclosed that a high pressure seal assembly 120 blocked fluid from the interior of the motor passage 108 to a bearing cavity 128 outside a hydraulic motor assembly to reduce the axial load on the bearings. However, the identified problem in D4 could not be transposed to D3 as the steerable vehicle knuckle of D3 did not comprise a motor passage 108 as in D4, and the amount of the hydraulic pressure upstream of the bearings was not disclosed in D3. There was therefore no reason to

implement a seal and change the lubrication of the bearings to grease in the steerable vehicle knuckle of D3.

Furthermore, the skilled person was strongly discouraged to implement features (ii) into the D3's steerable knuckle. Paragraphs [0021] and [0022] of D3 taught the skilled person that the fluid return lines 30 and 31 should return hydraulic fluid from different sections of the knuckle, the location of the first drain port 34 being located preferably between the two bearings. However, the assessment of figures 1-3 of D3 made it clear that features (ii) could not be implemented into any one of the embodiments without arriving at a modified knuckle in which the fluid return lines 30, 31 would return the hydraulic fluid from the very same section of the knuckle. Removing the drain port 34 was also against the teaching of paragraphs [0021] and [0022].

The skilled person would also be discouraged from implementing feature (i). D4, column 4, lines 21-32 disclosed that a low pressure seal 140 may be used for retaining lubricating fluid or grease in a bearing cavity. However, D3 and D4 did not disclose any specific purpose associated with grease lubricated bearings over oil lubricated bearings and the use of a seal for protecting the grease lubricated bearings. D3 actually disclosed that for the embodiments of figures 2 and 3, any spacer located between the bearings had to have a clearance, see paragraphs [0034] and [0038], respectively, in order to ensure that hydraulic fluid passed the spacer on its way to the drain line 31. Accordingly the bearings in D3 were lubricated by hydraulic fluid and it was imperative that hydraulic fluid reached the bearings for lubrication purposes.

4.5.2 The Board does not agree. Starting from the two identified differences and the problem to be solved identified by appellant (patent proprietor), the skilled person is taught in D4 to arrange a high pressure seal assembly to prevent hydraulic fluid from the motor to reach the bearing cavity in order to avoid the bearing assembly to be submitted to an increased axial load.

In D3, the bearings are also subject to the pressure of the hydraulic fluid of the motor, which then lubricate the bearings and passes through the drainage port 34 into the drainage line 31. The appellant (patent proprietor) submitted that in D3 there was no disclosure of the amount of pressure of the hydraulic fluid and therefore there was no indication that the hydraulic fluid might apply a high load onto the bearings. However, the pressure of the hydraulic fluid is that needed for operating the hydraulic motor 11 and as such is necessarily of such an amount to provide a load acting onto the bearings.

With this in mind, the skilled person would add a seal in front of the bearing 17B (figure 1 of D3). As a result, no hydraulic fluid from the motor would pass into the bearing assembly. The skilled person would thus recognise that no drainage port is necessary between the two bearings and would, as argued by the appellant 2, move the drainage port 34 upstream the added seal, where there is space, for example on the opposite side of the drainage port 35.

While the appellant (patent proprietor) considered that such an arrangement would be contrary to the teaching of paragraphs [0021] and [0022] of D3, the Board judges that the skilled person would not be taught away from

placing the drainage port on the opposite of the drainage port 35. Regarding the drain lines 30/31 and the drain ports 34/35 paragraph [0021] reads *"Line 30 is shown draining hydraulic fluid from the motor 11 and a portion of the knuckle 13, while line 31 is shown draining hydraulic fluid from another portion of the knuckle 13"* and paragraph [0022] reads: *"A first internal drain port 34 is preferably located between the inner bearing 17 A and the outer Bearing 17B"*. These two paragraphs disclose a preferable way of arranging the drainage lines and port in an embodiment where the hydraulic oil lubricates the two bearings. However the skilled person would modify the drainage arrangement if the hydraulic fluid of the motor was no longer lubricating the bearings. In such case, the skilled person would recognise that no drainage port is necessary between the two bearings and would place it upstream of the bearing assembly, before the seal. Both appellants acknowledged that it was technically feasible to place the drainage port 34 at the opposite side of the drainage port 35.

Furthermore, placing the seal before the bearing assembly would prevent the hydraulic fluid of the motor from lubricating the bearings. The skilled person would recognize that another lubricating means would be necessary. D4, column 4, lines 31-33 reads: *"A low pressure seal 140 is advantageously provided to retain lubricating fluid or grease in the bearing cavity 128"*. This passage discloses that lubricating fluid and grease are two alternative means for lubricating the bearings of D4, and this is also part of the common general knowledge. The choice of a grease lubricant over the alternative fluid lubricant is therefore an obvious consequence of the provision of a seal for preventing hydraulic fluid from the motor to reach the

bearing cavity and thus avoid high pressure on the bearings.

5. Auxiliary requests 2-9

The admissibility of these requests can be left open as they do not meet the requirements of Article 123(2) EPC. Claim 1 of these requests does not comprise the feature: *"wherein the hydraulic motor (12) is arranged beside the two bearings (52a, 52b) in an axial direction of the wheel hub unit (10)"* and therefore extend beyond the content of the application as originally filed for the same reasons as the main request.

6. Auxiliary request 10

6.1 Admissibility

Auxiliary request 10 corresponds to auxiliary request 10 filed in opposition proceedings and renumbered as auxiliary request 2 at the oral proceedings before the opposition division. The opposition division admitted this request and found that the patent could be maintained on this basis. Accordingly, in view of the primary object of the appeal proceedings to review the decision under appeal in a judicial manner (Article 12(2) RPBA), this request automatically forms part of the appeal proceedings and cannot be excluded on appeal (see case Law book, 10th edition, July 2022, V. A. 3.4.4) .

Additionally, in the Board's view, the opposition division exercised its discretion properly when admitting this auxiliary request.

- 6.1.1 The appellants (opponents) considered that auxiliary request 10 which was submitted on 31 January 2020, on the last day for making submission pursuant to Rule 116 EPC together with 15 other auxiliary requests constituted an abuse of procedure as it hindered a proper course of the opposition procedure. The opponent (appellant 2) was aware only after the deadline for making submission under Rule 116 EPC how the proprietor would defend the patent with regard to the ground for opposition under Article 100(a) EPC. Moreover, auxiliary request 10 was an unforeseeable combination of several granted claims, part of a granted claim and contained a feature from the description. Furthermore, the preliminary opinion of the opposition division did not prompt the patent proprietor to file such a large number of non-convergent auxiliary requests.
- Finally, contrary to the findings of the opposition division under point 14, there were not only three requests (main request, 1st auxiliary request and 2nd auxiliary request) filed, the patent proprietor maintained all non-convergent auxiliary requests until the end of the oral proceedings in opposition.
- 6.1.2 The Board does not recognise any error in the opposition division's application of their discretion to admit auxiliary request 10 in opposition proceedings (reference is made to point 27 of the appealed decision). The opposition division considered that auxiliary request 10 submitted on the last day for making submission under Rule 116 EPC, came as a response to the grounds of opposition pursuant to Article 100(a) and (c) EPC raised by the opponent. Auxiliary request 10 was in their view foreseeable and the added features already discussed either in the notice of opposition or subsequently.

Furthermore, the Board notes that the oral proceedings scheduled to initially take place on 31 March 2020 were postponed to take place on 4 May 2021. Under these circumstances, the appellants (opponents) had more than a year to consider the auxiliary requests.

6.2 Added subject-matter - Article 123(2) EPC

The subject-matter of claim 1 does not extend beyond the content of the application as filed for the same reasons as for claim 1 of auxiliary request 1. Reference is made to point 4.1 of the present decision.

6.3 Inventive step - Article 56 EPC

The subject-matter of claim 1 involves an inventive step starting from D3 in combination with D4 and starting from D1 in combination with D4, D12 (EP 0 999 364 A2) or common general knowledge.

6.3.1 During oral proceedings, the parties referred to their written submissions. The Board sees no reasons to change its preliminary opinion submitted with its communication pursuant to Article 15(1) RPBA 2020.

6.3.2 Starting from D3 in combination with D4

6.3.3 The subject-matter of claim 1 differs from D3 in features (i) and (ii) as identified for auxiliary request 1 and features (b), (c) and (d):
(b) *"wherein the wheel hub unit (10) comprises means (110,60) for protecting the first seal (100) from pressure spikes transmittable by the hydraulic oil of the hydraulic motor (12)"*,

- (c) *"wherein the protection means comprises a second seal (110), which is arranged between the hydraulic motor (12) and the first seal (100) for protecting the first seal (100) from pressure spikes transmittable by the hydraulic oil of the hydraulic motor (12)",*
- (d) *"wherein a first drainage channel (26) is arranged between the first seal (100) and the second seal (110)".*

These findings are not disputed by the parties.

- 6.3.4 The appellants (opponents) argued that D4 comprised a seal assembly 120 comprising a seal ring 134 and a back-up washer or ring 136. In their view, the seal ring 134 and the back-up washer 136 corresponded to a first seal and a second seal and a drainage channel was necessarily arranged between the first and second seals. The skilled person combining the teaching of D3 with the teaching of D4 would therefore arrive at the subject-matter of claim 1.
- 6.3.5 The Board judges that D4 does not disclose directly and unambiguously features (b), (c) and (d).

D4, column 4, lines 5-9 reads: *"In one specific embodiment the high pressure seal assembly included a known seal ring 134 of a suitable polymeric material. A back-up washer or ring 136 is mounted in an annular recess in the housing to reinforce the seal ring 134. Of course, other types of seal assemblies capable of withstanding relatively high pressures could be utilized in place of the specific seal assembly 120"*

D4 does not disclose an assembly with two seals but rather an assembly with one seal comprising a ring 134 and a reinforcement washer 136. Moreover a drainage is

not disclosed in D4 and does not appear to be implicit as alleged by appellant 2. The combination of D3 with D4 does not therefore lead to the subject-matter of claim 1. The subject-matter of claim 1 is therefore not rendered obvious by the combination of documents D3 and D4

6.3.6 Starting from D1 in combination with D4, D12 or common general knowledge

6.3.7 The appellants (opponents) were of the opinion that the subject-matter of claim 1 differed from D1 (figure 4 and column 5, lines 33-38) in that (i) the bearings were grease lubricated. Grease lubricated bearings were disclosed in D4 (column 4, lines 31-33) and were part of the common general knowledge. Therefore, the skilled person would without any inventive skills implement grease lubricated bearings in the wheel hub unit of D1.

The appellants (opponents) presented two further lines of argumentation should the Board consider that:

- no second seal was provided in D1 to protect the first seal 184 and 186 (features (b) and (c)), and/or
- no second seal and no channel between the first and the second seal were provided ((features (b), (c) and (d)).

6.3.8 The Board does not agree with any of the three lines of argumentation presented by the appellants (opponents). The subject-matter of claim 1 not only differs from D1 in that:

- the bearings are grease lubricated
- a second seal is arranged between the hydraulic motor and the first seal for protecting the first seal
- a drainage channel is arranged between the first seal and the second seal,

but also in that there is provided a *"first seal for protecting the two grease lubricated bearings (52a, 52b) from hydraulic oil from the hydraulic motor (12)"*.

D1, having the bearings on each side of the hydraulic motor requires two different seals 184, 186 to protect the two bearings from the hydraulic oil from the hydraulic motor. It is not possible with one (first) seal to protect the two bearings from the hydraulic oil from the hydraulic motor.

Furthermore neither the teaching in D1, D4, D12 nor common general knowledge would prompt the skilled person to arrange a first seal such that it protects two bearings from the hydraulic oil. Such an arrangement would require extensive modifications as the bearings are on each side of the hydraulic motor.

6.3.9 The question of the admissibility of document D12 can be left open as the subject-matter of claim 1 involves an inventive step in view of D1 in combination with D12.

As mentioned above even if the skilled person would combine D1 with D12 and exchange the seal of D1 with the seal of D12, they would not arrive at the subject-matter of claim 1 as the seal would not protect the two bearings from hydraulic oil from the hydraulic motor.

7. Since auxiliary request 10 corresponds to form in which the patent could be maintained according to the opposition division, the decision under appeal is to be confirmed, both appeals being thus to be dismissed.

Order

For these reasons it is decided that:

The appeals are dismissed

The Registrar:

The Chairman:



A. Voyé

G. Pricolo

Decision electronically authenticated