Internal distribution code:
(A) [-] Publication in OJ
(B) [-] To Chairmen and Members
(C) [-] To Chairmen
(D) [X] No distribution

Datasheet for the decision of 9 May 2014

Case Number: T 1471/11 - 3.2.07

Application Number: 02396185.7

Publication Number: 1321245

IPC: B25D17/26

Language of the proceedings: EN

Title of invention:
Arrangement for lubricating bearing surfaces of a tool of a hydraulic impact hammer

Patent Proprietor:
Sandvik Mining and Construction Oy

Opponent:
Atlas Copco Construction Tools GmbH

Headword:

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step -
yes; no indication towards solution according to claim 1 in closest prior art document, nor in further prior art documents
No direction given for the application of general technical practice

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern
Boards of Appeal
Chambres de recours

European Patent Office
D-80298 MUNICH
GERMANY
Tel. +49 (0) 89 2399-0
Fax +49 (0) 89 2399-4465

Case Number: T 1471/11 - 3.2.07

D E C I S I O N
of Technical Board of Appeal 3.2.07
of 9 May 2014

Appellant: (Opponent)	Atlas Copco Construction Tools GmbH Helenenstr. 149 D-45143 Essen (DE)
Representative:	Vomberg, Friedhelm Patentanwalt, Schulstrasse 8 42653 Solingen (DE)
Respondent: (Patent Proprietor)	Sandvik Mining and Construction Oy Pihtisulunkatu 9 33330 Tampere (FI)
Representative:	WSL Patentanwälte Partnerschaft mbB Kaiser-Friedrich-Ring 98 65185 Wiesbaden (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 5 May 2011 rejecting the opposition filed against European patent No. 1321245 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman: H. Meinders
Members: H.-P. Felgenhauer
E. Kossonakou

Summary of Facts and Submissions

I. The appellant (opponent) filed an appeal against the decision of the opposition division rejecting the opposition against European patent No. 1 321 245.

The appellant requests the impugned decision to be set aside and the patent to be revoked.

The respondent (proprietor) requests the appeal to be dismissed.

II. Claim 1 according to the main request (as granted) reads as follows:

"1. An arrangement for lubricating the bearing surfaces between a tool (4) of a hydraulic impact device and the impact device (1), the arrangement comprising a supply pump (9) and at least one channel (16) leading to the space between the bearing surfaces for supplying lubricant, the arrangement comprising at least two separate channels (19, 20) for supplying lubricant between the bearing surfaces separately, to at least two points positioned at a distance from each other in the axial direction of the tool; characterized in that separate dosing pumps (17, 18; 17', 18') serve as the supply pump for the lubricant in each of the two channels; that the dosing pumps operate at the pressure of the medium supplied to them in such a way that when pressurized medium is supplied to the working cylinders of the dosing pumps, the dosing pumps supply lubricant doses of a predetermined amount along the two channels (19, 20) to the space between the bearing surfaces, and when the pressure is reduced in the working cylinders of the dosing pumps, their pistons return to the rest position and load at the same time a new dose of

lubricant to be supplied between the bearing surfaces when pressurized medium is next supplied to them, and that said arrangement further comprises a separate supply pump (9) having a supply piston (12) which is pushed to a supply cylinder (10) in the supply pump by the effect of the pressure of the hydraulic fluid in a hydraulic fluid channel (2a) in the impact device, and correspondingly, returns to the rest position when the pressure is reduced; that the supply cylinder (10) is connected to a lubricant tank (15) via a check valve (14) and correspondingly to the dosing pumps (17, 18) via a lubricant channel (16) in such a way that when the supply piston of the supply pump (9) is pushed to the supply cylinder (10), the pressure of the lubricant results in the supply movement of the dosing pumps, and when the supply piston (12) of the supply pump (9) returns to its rest position, lubricant flows from the lubricant tank (15) to the supply cylinder (10) via the check valve (14)".

III. In the present decision the following documents referred to in the decision under appeal are taken into account:

D1 EP-B-0 525 498

D2 DE-A-39 39 785

D3 DE-A-1 919 198.

Furthermore document

D10 "Wissensspeicher Tribotechnik Schmierstoffe – Gleitpaarungen Schmiereinrichtungen" VEB Fachbuchverlag Leipzig 1979, pages 258 – 261

filed by the appellant during the appeal proceedings has been considered.

IV. Impugned decision

According to the impugned decision D1, with the specific teaching of D2 incorporated therein, is considered as closest prior art (reasons, points 3.1 and 4.1). In combination with the dosing valve known from D3, this cannot be considered as leading in an obvious manner to the arrangement of claim 1 of the patent in suit.

The result that the arrangement of claim 1 is inventive over the combined consideration of D1/D2 as closest prior art together with D3 as further prior art (reasons, points 4.6, 4.7) was based on the consideration that "(A)s acknowledged by the proprietor, all the individual components of the claimed arrangement are known per se in the prior art. The question that remains to be answered is whether the skilled person would combine these components in such a way as to arrive at the subject-matter of claim 1 of the patent in suit without exercising an inventive step" (reasons, point 4.2).

Furthermore it was concluded that "(T)he argument of the opponent that in view of the fact that dosing pumps and check valves were already known to the skilled person it was an obvious measure to include them in the arrangement of D1 is not supported by any prior art document. There is no convincing reason why a skilled person should combine the features of documents D1, D2 and D3 with the general knowledge of the skilled person just in a way to arrive at the subject-matter of claim 1" (reasons, point 4.6).

V. The submissions of appellant can be summarised as follows:

(a) D10 is to be admitted since it is evidence for general technical knowledge, can be easily understood and does not add to the complexity of the case.

(b) The arrangement for lubrication according to claim 1 comes within regular design practice starting from the arrangement of D1 or D2 as closest prior art and taking D3 into account which discloses a dosing pump of the same kind as the dosing pumps used in the arrangement according to claim 1.

(c) This result holds true even more in case D10 is also taken into account. This document gives evidence for the general technical knowledge according to which the supply of a sufficient amount of lubricant into lubricant channels can be guaranteed via any one of the three possibilities given in this document.

(d) The choice of one of these possibilities, namely to provide a separate dosing pump for each lubricant supply channel, is an obvious one.

(e) This applies likewise for the implementation of this possibility in the arrangement for lubricating as known from D1, taking into account that the known arrangement requires only a minor modification of the existing arrangement, namely the replacement of the throttles in the supply channels by dosing pumps. In case it is started

from D2 the minor modification is the provision of separate dosing pumps.

(f) In either case it anyway needs to be taken into account that neither claim 1 nor the description of the patent in suit define the claimed arrangement for lubrication to such an extent that it can be understood without having to resort to the general technical knowledge and understanding of the skilled person.

(g) If also the general technical knowledge required to understand the subject-matter of claim 1 is to be considered in the examination of inventive step, in addition to the available documents, it needs to be concluded that the subject-matter does not involve an inventive step.

(h) Documents D1 or D2 considered as closest prior art as well as the documents D3 and D10 relating to further prior art and general technical knowledge, respectively, do not comprise a direct reference to the subject-matter of claim 1 of the patent in suit. Nevertheless it needs to be considered that the skilled person would, in an attempt to solve the problem, not only combine the arrangement of the document considered as closest prior art with the teaching of those relating to further prior art, but in proceeding in this manner he would arrive at the arrangement for lubricating according to claim 1 without inventive skills being required.

VI. The submissions of the respondent can be summarised as follows:

(a) D10 is not to be admitted since it cannot be considered as only relating to general technical knowledge. It goes beyond that since it also introduces information on arrangements for lubrication (and thus prior art). Moreover, D10 should not be admitted since no justification for its late filing has been given.

(b) Concerning the arrangement for lubrication according to claim 1 neither consideration of D1 or D2 as closest prior art nor consideration of D3 as further prior art renders the arrangement according to claim 1 obvious. This holds also true in case additionally D10 is considered.

(c) The reason is that on the one hand none of the documents D1 or D2, if considered as closest prior art, gives an indication leading to the invention according to the subject-matter of claim 1. On the other hand, this applies likewise with regard to the further prior art according to D3 and / or D10. If the dosing pump of D3 would at all be implemented in D2 it would simply replace the supply pump 1. Consequently, due to the lack of any information in the documents that leads to the particular subject-matter of claim 1, this necessarily applies also concerning combined consideration of these documents. A different result could only be arrived at with knowledge of the invention, i.e. with hindsight.

(d) Claim 1 clearly defines the subject-matter such that no particular technical knowledge is required for its understanding.

(e) The technical knowledge which, starting from D1 and/or D2 and considering the teachings of D3 and/or D10, is required to arrive at the arrangement for lubrication according to claim 1 goes far beyond general technical knowledge, since specific technical measures would be required. Since these cannot, considering the available prior art, be considered as coming within regular design practice, the subject-matter of claim 1 involves an inventive step.

(f) It is impossible to follow the opinion that documents D1 and/or D2 considered as closest prior art can be combined with documents D3 and/or D10 relating to further prior art, respectively general technical knowledge. The same applies to the opinion that such a combination, although not directly suggesting the arrangement for lubricating according to claim 1, would render this arrangement obvious, due to the lack of any information given by the documents concerned or by other means to be taken into consideration.

VII. In the annex to the summons for oral proceedings (in the following: the annex) the Board has given its preliminary opinion concerning the subject-matter of claim 1, the disclosures of D1, D2 and D3 and aspects concerning the examination of inventive step starting from D1 and/or D2 as closest prior art and taking D3 as further prior art and possibly general technical knowledge and / or the common technical knowledge of the skilled person into account.

VIII. Oral proceedings before the Board, at the end of which the decision was announced, took place on 9 May 2014.

Reasons for the Decision

1. Subject-matter of claim 1 according to the main request

1.1 Claim 1 is, by its pre-characterising features, directed to an arrangement for lubricating the bearing surfaces between a tool of a hydraulic impact device and the impact device.

This arrangement comprises a supply pump and at least one channel leading to the space between the bearing surfaces for supplying lubricant, the arrangement comprising at least two separate channels (19, 20) for supplying lubricant between the bearing surfaces separately, to at least two points positioned at a distance from each other in the axial direction of the tool.

1.2 As indicated in the annex (points 6.1.1 and 6.1.2) and as discussed during the oral proceedings, according to the description of the patent in suit (cf. paragraph [0009]) "(A)n essential idea of the invention" "is that **lubricant is supplied** to the bearing surfaces of the impact hammer **along two separate supply channels in such a way that each supply channel has a dosing pump of its own** which supplies a given dose of lubricant at suitable intervals along its supply channel to the bearing point to which the branch channels from the supply channel are connected" (emphasis added).

1.3 Underlying this essential idea of the invention are, as indicated in the annex (point 6.1.2) the features of claim 1 concerning the provision and function of dosing pumps.

Accordingly

(a) separate dosing pumps (17, 18; 17', 18') serve as the supply pump for the lubricant in each of the two channels;

(b) the dosing pumps operate at the pressure of the medium supplied to them in such a way that

(c) when pressurised medium is supplied to the working cylinders of the dosing pumps, the dosing pumps supply lubricant doses of a predetermined amount along the two channels (19, 20) to the space between the bearing surfaces, and

(d) when the pressure is reduced in the working cylinders of the dosing pumps, their pistons return to the rest position and load at the same time a new dose of lubricant to be supplied between the bearing surfaces when pressurised medium is next supplied to them.

The arrangement of claim 1 further comprises

(e) a separate supply pump (9) having a supply piston (12) which is pushed to a supply cylinder (10) in the supply pump by the effect of the pressure of the hydraulic fluid in a hydraulic fluid channel (2a) in the impact device, and correspondingly, returns to the rest position when the pressure is reduced;

(f) the supply cylinder (10) is connected to a lubricant tank (15) via a check valve (14) and

(g) correspondingly to the dosing pumps (17, 18) via a lubricant channel (18) in auch a way that

(h) when the supply piston of the supply pump (9) is pushed to the supply cylinder (10), the pressure of the lubricant results in the supply movement of the dosing pumps, and

(i) when the supply piston (12) of the supply pump (9) returns to its rest position, lubricant flows from the lubricant tank (15) to the supply cylinder (10) via the check valve (14).

2. Disclosure of documents D1, D2, D3 and D10

The disclosures of D1, D2 and D3 have been referred to in the annex (cf. points 6.3 and 6.4) and discussed during the oral proceedings.

2.1 Disclosure of document D1

2.1.1 D1 (column 1, lines 23 – 28; column 5, lines 2 – 15) starts from the lubrication arrangement according to D2, as discussed below (point 2.2) such that the conclusion of the impugned decision is correct that the disclosure of document D1 can be considered as being completed by the information in D2 with respect to its lubrication arrangement. This has also been referred to in the annex (cf. point 6.3.1).

2.1.2 D1 further develops the lubrication arrangement of D2 with the objective to enable a uniform supply of lubricant, irrespective of the position and length of the channels provided therefor. In order to meet this objective D1 proposes throttles of different resistance in these channels to compensate for differences in

their lengths (cf. D1, column 1, line 42 – column 2, line 42; column 6, lines 2 – 35; figures 3 – 5). These throttles may be adjustable.

2.2 Disclosure of D2

2.2.1 D2 discloses an arrangement for lubricating the bearing surfaces between a tool 14d of a hydraulic impact device 14 and the impact device 14, the arrangement comprising a supply pump 1 and at least one channel 1k, 20, 21 leading to the space between the bearing surfaces for supplying lubricant, the arrangement having channel 1k divided into at least two separate channels 20, 21 for supplying lubricant between the bearing surfaces separately, to at least two points positioned at a distance from each other in the axial direction of the tool.

In addition to the features of the pre-characterising portion of claim 1 of the patent in suit the arrangement for lubricating according to D2 thus comprises a separate supply pump 1 corresponding to feature (e), the supply cylinder of which is connected to a lubricant tank corresponding to a part of feature (f).

2.2.2 Furthermore, as indicated in the annex (cf. point 6.2.1) and during the oral proceedings, corresponding to a part of feature (h), when the supply piston of the supply pump 1 is pushed in the supply cylinder, the pressure of the lubricant results in the supply movement and, corresponding to a part of feature (i), when the supply piston of the supply pump returns to its rest position, lubricant flows from the lubricant tank to the supply cylinder (cf. D2, column 5, lines 1 – 43; figures 1a, 1b).

2.3 Disclosure of document D3 / distinguishing features with respect to the dosing pumps as defined by claim 1

2.3.1 As indicated in the annex (cf. point 6.4) and during the oral proceedings, the dosing pump of D3 comprises, corresponding to features (c) and (d) of claim 1 of the patent in suit, a working cylinder 14 and a piston 19.

The dosing pump operates, corresponding to a part of feature (e), under the effect of the hydraulic fluid in a hydraulic fluid channel (cf. e.g the paragraph bridging pages 1 and 2 and page 6, paragraph 2 of D3). The operation of the known dosing pump as such is, as discussed during the oral proceedings, as follows: the dosing pump operates at the pressure of the medium supplied to it in such a way that, when pressurized medium is supplied to the working cylinder of the dosing pump, the dosing pump supplies a lubricant dose of a predetermined amount.

When the pressure is reduced in the working cylinder of the dosing pump, its piston returns to the rest position and loads at the same time a new dose of lubricant to be supplied when pressurised medium is next supplied to it.

The dosing pump disclosed as a single item in D3 corresponds, as indicated in the annex (cf. point 6.4) and as referred to by the Board during the oral proceedings, to a large extent to either one of the dosing pumps according to features (b) to (d).

2.3.2 An essential difference between the **dosing pumps referred to in claim 1** of the patent in suit and the **single dosing pump disclosed by D3** lies in the fact

that features (a) to (c) refer to dosing pumps (plural).

A further essential difference lies in the **use** attributed to the **dosing pumps according to claim 1** by feature (a) which defines that **separate dosing pumps** serve as the supply pump for the lubricant **in each of the two channels.**

The disclosure of D3 is, as discussed during the oral proceedings, solely directed to the structure and functioning of the single dosing pump defined therein as well as to the manner in which it is operated. This corresponds, as indicated above, to the arrangement of feature (b). Beyond that this document remains silent concerning the manner in which it may be used or positioned in the arrangement for lubricating to which it refers without further identification in D3.

2.4 Document D10: admittance / disclosure

2.4.1 According to the appellant D10, if it cannot be considered as illustrating the general technical knowledge, has to be considered as belonging at least to the general technical knowledge of the skilled person in the field of lubrication of hydraulic impact devices. It should be admitted since it is evidence for this, it can be understood easily and it does not add to the complexity of the case.

2.4.2 The respondent objected to the admittance of D10 into the proceedings mainly on the grounds that it was late filed, that its filing was not due to a change of the factual situation and that no justification for its late filing was given. Moreover, it cannot only be considered as relating to general technical knowledge.

Going beyond that, it also introduces arrangements for lubrication and thus prior art which has been late filed. Considering the title of the textbook D10 as well as its content, it is evident that it is for persons specialized in the area of tribotechnics and thus, having regard to the subject-matter of claim 1, persons with a knowledge and technical background going well beyond that of the notional skilled person to be considered.

2.4.3 The Board considered, as indicated during the oral proceedings, the opinion of the appellant to be more convincing.

Since, as can be derived from the following, the arrangement for lubricating involves an inventive step even when D10 is taken into consideration, the issue of the admittance of D10 needs no further discussion.

2.4.4 D10 discloses, as referred to by both parties, three possibilities for the supply of a lubricant without, however, any reference to hydraulic impact devices as referred to in claim 1. According to the first possibility the supply can be such that more lubricant than actually required is provided (cf. page 259, point 7.3.2.3). According to a second and third possibility specific dosing can be achieved by a plurality of independent small pumps or by a plurality of independent throttles in the channels for supplying lubricant coming from a single pump (cf. point 7.3.2.3 "Umlaufanlage mit Mehrkreispumpe" and "Umlaufanlage mit Drosselleitungen" and figures 7.53 and 7.54). In either case it is clearly indicated that the lubrication arrangement is one working in a closed circuit ("Umlaufanlage").

3. Inventive step starting from D2 as closest prior art

3.1 Distinguishing features / effect / problem to be solved

3.1.1 Starting from D2 as closest prior art the features distinguishing the arrangement according to claim 1 from these known arrangements are, as referred to in the annex (cf. point 6.5.8) and as indicated by the Board during the oral proceedings: features (a) – (d) and (h) concerning the **provision, arrangement and operation of separate dosing pumps**, which serve as the supply pump for the lubricant in each of the two channels.

3.1.2 Furthermore, features (f) and (i) are distinguishing features, according to which the supply cylinder is connected to a lubricant tank via a **check valve** through which lubricant flows when the supply piston of the supply pump returns to its rest position.

3.1.3 The **effect of the distinguishing features relating to the provision of a separate dosing pump in each channel** is, as indicated during the oral proceedings, that a predetermined amount of lubricant is supplied via each of the two channels.

Based on this effect the **problem** solved by the arrangement for lubricating according to claim 1 can already be formulated as to ensure that in the arrangement for lubrication of D2 the bearing surfaces to be lubricated can be supplied with an even amount of lubricant.

3.2 Obviousness

3.2.1 According to the appellant the skilled person starting from the arrangement of D2 in an attempt to solve the problem readily takes the dosing pump ("Zumessventil") of D3 into account since it is apparent that this dosing pump, when introduced into each of the two channels (20,21) foreseen according to D2 to supply lubricant, would provide a guaranteed predetermined dosing, as can be derived already from the title of D3 "Zumeßventil für eine Druckschmiervorrichtung". A further incentive would be that, as stated in D3 (cf. page 1, first paragraph, "Die Erfindung betrifft ein an eine mit intermittierendem Druck beaufschlagte Schmierstoffzuleitung angeschlossenes Zumeßventil einer Druckschmiervorrichtung"), the dosing pump according to D3 has, like the one referred to by feature (b) of claim 1, a supply piston which is pushed to a supply cylinder in the supply pump by the effect of the pressure of the hydraulic fluid in a hydraulic fluid channel.

3.2.2 According to the respondent, the skilled person starting from the arrangement of D2 would, in an attempt to solve the problem (cf. point 3.1.3 above), not get any information from D3 with respect to the use of separate dosing pumps as defined by claim 1. The reason is that D3 relates solely to a single dosing pump (cf. point 2.3.2).

Starting from the arrangement for lubricating according to D2 it could possibly be expected from the skilled person to replace the – single – supply pump by one of the type known from D3. However, to consider that the skilled person in this situation would arrange a plurality of such dosing pumps, one in each lubricating

channel, while maintaining the supply pump 1, can only be seen as the result of an *ex post facto* analysis.

The reason is that neither D2 nor D3 gives an indication in this direction. Additionally, the provision of separate dosing pumps would require a modification of the arrangement of D2 for which there is no motivation and which would go beyond the application of general technical knowledge or general technical practice.

3.2.3 Deviating from its provisional opinion as given in the annex (cf. point 6.4) that "D3 appears to disclose a dosing pump to be used in an arrangement as disclosed by … D2 … (cf. D3, paragraph 1 of page 1)" the Board considers the arguments of the respondent, reiterated at the oral proceedings, to be more convincing based on the fact that D3 does not give any indication concerning the use of more than one of the dosing pumps of the type disclosed in this document, in combination with a central supply pump.

Thus combined consideration of D2 and D3 cannot be considered as leading in an obvious manner to an arrangement for lubrication according to claim 1 of the patent in suit.

3.2.4 The above finding holds, in particular when considering the argument of the appellant that the general technical knowledge derivable from D10 (cf. point 2.4.4 above) would give an indication leading to the provision of a plurality of dosing pumps, one in each of the two channels (20,21) of the arrangement of D2. It is true that D10, irrespective of whether it is considered as representing general technical knowledge or further prior art, discloses two possibilities for

the specific dosing of a lubricant. The argument that a choice in favour of the possibility according to which separate dosing pumps are associated with the lubricant supply channels downstream from the supply pump is obvious can, without any reference in D10 to such a specific device as disclosed in D2 and without any further information in this direction, not be considered as supported by the actual facts.

Moreover, D10 more or less proves the point the respondent makes in that the possibility referred to by the appellant (dosing can be achieved by the arrangement of a plurality of small pumps) would lead to the replacement of pump 1 in the arrangement for lubricating according to D2 by such a plurality of small pumps as suggested in D10. However, this does not result in the arrangement claimed, which would require further modifications, for which the incentive, or motivation (or some indication in D2) is lacking.

Since, as can be derived from the above, further modifications would be required to arrive at the arrangement claimed, which themselves are not suggested by the prior art, the "application of (further) general technical knowledge" (in addition to the one derivable from D10) cannot help here, since in general this can only be considered for obvious constructional modifications.

3.2.5 In this respect also the argument of the appellant must fail that neither claim 1 nor the description of the patent in suit define the claimed arrangement for lubrication to such an extent that it can be understood without having recourse to the general technical knowledge and understanding of the skilled person. With that general technical knowledge in mind, in addition

to the teaching of the available documents, the examination of inventive step would necessarily lead to the conclusion that the claimed subject-matter does not involve an inventive step.

The reason is that even if it is correct that general technical knowledge and practice needs to be taken into account in order to reduce the arrangement for lubricating defined by claim 1 to practice, the decisive direction in which this general technical knowledge is to be applied to arrive at what is claimed, still needs to be derivable from some teaching or knowledge.

This is presently not the case concerning the examination of inventive step. Since the available documents D2, D3 and D10 have been found as not rendering the subject-matter of claim 1 obvious the skilled person is, starting from these documents, not given any such direction.

3.2.6 The subject-matter of claim 1 therefore involves, corresponding to the impugned decision (cf. point IV above), an inventive step starting from D2 as closest prior art and taking furthermore D3, D10 and general technical knowledge or -practice into account (Article 56 EPC), already considering only the distinguishing features of a separate dosing pump in each of the two channels, in combination with a central supply pump.

4. Inventive step starting from D1, incorporating D2, as closest prior art

4.1 Considering D1 as closest prior art with the lubricating arrangement of D2 incorporated, the above

result arrived at starting with D2 as closest prior art applies *mutatis mutandis*.

The disclosure of D1 goes beyond that of D2 since, as outlined above (cf. point 2.1.2), D1 further develops the lubrication arrangement of D2 with the objective to enable a uniform supply of lubricant, irrespective of the position and length of the channels provided therefor. In order to meet this objective, according to D1 throttles of different resistance, which may be adjustable, are provided in these channels to compensate for differences in their lengths (cf. D1, column 1, line 42 – column 2, line 42; column 6, lines 2 – 35; figures 3 – 5).

4.2 According to the appellant the following facts lead the skilled person without the need of inventive skills to the arrangement of lubrication according to claim 1:

- the provision of throttles according to D1 in exactly the manner as the claimed feature (a) with separate dosing pumps serving as the supply pump for the lubricant in each of the two channels,

- the information derivable from D10 that separate throttles as well as separate supply pumps can be used for dosing the lubricant supply in the individual channels, and

- a dosing pump of the type referred to in feature (a) being known from D3.

Moreover, according to the appellant it is obvious that, depending on circumstances, it can be advantageous to provide separate pumps as active elements instead of throttles as passive elements,

although it can be derived from D10 that the general function or effect is the same. If no such advantageous effect can be taken into account due to lack of evidence in that respect, the problem to be solved starting from the arrangement for lubricating according to D1 as closest prior art is reduced to providing merely an alternative arrangement for lubricating. In that case the choice between the two possibilities of D10 (dosing via separate throttles or via separate dosing pumps in the supply channels) is arbitrary, which cannot lead to subject-matter involving inventive step.

This result applies even more if a – still to be proven - advantageous effect of the use of dosing pumps over throttles is to be taken into account, since this gives a clear motivation towards the choice of such dosing pumps. Whatever the reasoning, the arrangement for lubricating of claim 1 is obvious since combined consideration of the teachings of D1 and D10 leads the skilled person to make the supply of lubrication more determinable by using dosing pumps instead of the known separate throttles.

According to the appellant this assessment holds true even more considering that, in order to imply such a change as proposed by D10 to the arrangement for lubricating according to D1, document D3 clearly discloses exactly the type of dosing pump required.

4.3 The Board considers the argument of the respondent as being more convincing that although D1 discloses the provision of throttles in each of the lubricating channels, D10 refers to the provision of throttles as well as the provision of a plurality of pumps. However, the first solution has the single central supply pump,

the second solution dispenses with such a supply pump, replacing it with a plurality of dosing pumps. Again neither D1 nor D10 gives an indication for the application of separate supply pumps while maintaining such a pump.

For the reasons outlined above with respect to the examination of inventive step starting from D2 as closest prior art, the additional consideration of the dosing pump of D3 cannot help either.

4.4 In this respect it also needs to be taken into account that the only information referred to by the appellant other than the disclosures of the documents was general technical knowledge. As indicated above (cf. point 3.2.5), however, this cannot be considered in the present case as giving the necessary information.

Since, thus, none of the available documents nor their combined consideration, nor the consideration of general technical knowledge can be considered as suggesting the arrangement for lubrication of claim 1, this arrangement involves an inventive step in the sense of Article 56 EPC.

4.5 Based on the above result of the examination of inventive step, relying only on the distinguishing features relating to the provision of separate dosing pumps for the lubricant in each of the two channels, it can be left open whether the further distinguishing features ((f) and (i)) relating to the provision of a check valve can, considered either by themselves or in combination with the remaining features of claim 1, be regarded as contributing to the arrangement of claim 1 involving inventive step.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

G. Nachtigall H. Meinders

Decision electronically authenticated