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Datasheet for the decision of 11 June 2014

Case Number: T 0681/12 - 3.2.08

Application Number: 04020301.0

Publication Number: 1630441

IPC: F16D25/10, F16D21/06

Language of the proceedings: EN

Title of invention:
Wet clutch, in particular DCT clutch

Patent Proprietor:
Transmisiones y Equipos Mecánicos, S.A. de C.V.

Opponent:
BorgWarner, Inc.

Headword:

Relevant legal provisions:
EPC Art. 56

Keyword:
Admissibility of late filed documents
Inventive step - main request and auxiliary request 1 (no)
Invenitve step - auxiliary request 2 (yes)

Decisions cited:

Catchword:

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Case Number: T 0681/12 - 3.2.08

D E C I S I O N
of Technical Board of Appeal 3.2.08
of 11 June 2014

Appellant: (Opponent)	BorgWarner, Inc. 3850 Hamlin Road Auburn Hills, MI 48326 (US)
Representative:	Leckel, Ulf LECKEL Patentanwaltskanzlei Postfach 12 11 22 68062 Mannheim (DE)
Respondent: (Patent Proprietor)	Transmisiones y Equipos Mecánicos, S.A. de C.V. Avenida 5 de Febrero No. 2115 Fraccionamiento Industrial Benito Juarez Queretaro, 76120 (MX)
Representative:	Kitzhofer, Thomas Prinz & Partner Rundfunkplatz 2 80335 München (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 25 January 2012 concerning maintenance of the European Patent No. 1630441 in amended form.**

Composition of the Board:

Chairman	T. Kriner
Members:	P. Acton
	C. Schmidt

Summary of Facts and Submissions

I. The appellant (opponent) filed a notice of appeal, received at the EPO on 23 March 2012, against the opposition division's interlocutory decision, posted on 25 January 2012, finding that, taking into account the amendments made during the opposition proceedings, European patent No. EP 1 630 441 met the requirements of the Convention. The appeal fee was paid simultaneously and the statement of grounds was received on 24 May 2012.

II. Oral proceedings took place before the board of appeal on 11 June 2014.

The appellant requested

that the decision under appeal be set aside and the patent be revoked.

The respondent (patent proprietor) requested

- that the appeal be dismissed,
- in the alternative, that the patent be maintained on the basis of auxiliary request 1 filed with letter dated 10 December 2012 or on the basis of auxiliary request 2 filed during the oral proceedings.

III. The following documents used during the opposition procedure were used in the appeal proceedings:

E3: GB-A-955 852
E6: DE-U-91 14 528
E7: EP-A-1 195 537

The following documents were filed together with the grounds of appeal:

E12: DE-A-198 30 951
E13: JP-A-10-281 178
E14: DE-A-101 46 606
E15: DE-A-43 24 809
E16: DE-B-100 04 179

The following documents were addressed for the first time during the oral proceedings:

E8: DE-A-746 133
E9: US-A-2 150 950
E10: US-A-3 025 686
E11: US-A-2 989 161.

IV. Claim 1 of the main request reads:

"Wet DCT clutch, comprising:

- two clutch packs (2, 3) including:
-
- a plurality of steel plates (4, 5), and
- a plurality of friction plates (6, 7) being disposed between the steel plates (4, 5);
-
- two clutch pistons (8, 9), each piston (8, 9) acting on its associated clutch pack (2, 3); and
-
- an activation chamber (14, 17) for each piston (8, 9),
-
- two balancing chambers (15, 16), each balancing chamber (15, 16) being associated to a piston (8, 9), each activation chamber (14, 17) and each

balancing chamber (15, 16) being disposed next to its associated piston (8, 9), characterized by:

- disc springs (10, 11) being disposed between the steel plates (4, 5) at the inner diameter of the clutch pack (2, 3) (Feature A),
- wherein the steel plates (4, 5) comprise slots (18) for guiding lube oil between the steel plates (4, 5) and the friction plates (6, 7) (Feature B), and
- wherein the activation chamber (14, 17) and the balancing chamber (15, 16) are arranged on opposite sides of the associated piston (8, 9) (Feature C)."

Claim 1 of auxiliary request 1 differs from claim 1 according to the main request in that the following feature has been added after Feature A:

"the slots (18) extending from the radial inner edge of the steel plates (4, 5) to the radial outer edge of the disc springs (10, 11) seen in a front elevation view" (Feature D).

Claim 1 of auxiliary request 2 differs from claim 1 according to the main request in that the following feature has been added after Feature A:

"the slots (18) extending from the radial inner edge of the steel plates (4, 5) beyond the radial outer edge of the disc springs (10, 11) seen in a front elevation view, but end radially inwardly of the friction plates, and start in a gap between adjacent teeth of a steel plate toothing." (Feature E)

The references to features A to E were introduced by the Board.

V. The appellant's arguments can be summarised as follows:

a) Admission of documents E8 to E11 and E13 to E16 into the proceedings

Claim 1 of all requests on file comprised the features of claim 3 as granted. Since documents D8 to D11 had already been used in the opposition proceedings for the assessment of inventive step of the subject-matter of claim 3, they should be admitted into the appeal proceedings.

Documents D13 to D16 had been filed together with the grounds of appeal and therefore at the earliest possible time during the appeal proceedings and should therefore be admitted into the proceedings as well.

b) Main request and auxiliary request 1

E12 disclosed all features of claim 1 according to the main request apart from Features A and B. These features did not have any functional interrelationship and solved two independent problems, namely reducing the dragging between the plates (Feature A) and providing lube oil to the clutch plates (Feature B).

Since E3 suggested solving the first partial problem by using disc springs according to Feature A and E8 disclosed using slots according to Feature B to solve the second partial problem, the subject matter of claim 1 of the main request did not involve an inventive step.

Since the slots disclosed in E8 extended in the manner required by Feature D, the same argumentation applied for claim 1 of auxiliary request 1.

c) Auxiliary request 2

Nor could the introduction of Feature E into claim 1 justify inventive step. On the one hand, it was obvious for the skilled person to position the slots in the gap between adjacent teeth of the steel plate. On the other hand, the specified extension of the slots from beyond the radial outer edge of the disc springs to an end point radially inwardly of the friction plates did not solve any technical problem and represented merely an arbitrary design measure.

VI. The respondent's arguments can be summarised as follows:

a) Admission of documents E8 to E11 and E13 to E16 into the proceedings

Documents E8 to E11 had been submitted for the first time during oral proceedings at the appeal stage in reaction to requests which had been filed with the reply to the grounds of appeal one and a half years before the oral proceedings. Since the appellant had had enough time to react to these requests during the written proceedings, there was no reason why they should be admitted at such a late stage.

Documents E13 to E16 had been filed after the nine-month opposition period, so they too were late-filed and should not be introduced into the proceedings

either, especially since they were no more relevant than the other documents on file.

b) Main request and auxiliary request 1

The subject-matter of claim 1 of the main request differed from the clutch according to E12 by Features A and B. Both features affected the steel plates and their combination led to a higher strength of the clutch packs. Hence, contrary to the appellant's opinion, they did not solve two unrelated problems.

Moreover, since E12 already solved the problem of reducing the drag by the provision of wave springs 34 positioned at the outer diameter of the clutch pack, there was no reason to modify the clutch according to E12 by inserting disc springs at the inner edge of the steel plates. Furthermore, the skilled person would not have taken E3 into consideration since this document focused on reducing the wobble of the whole clutch mechanism (see page 3, lines 47 to 56 and 115 to 118), and the springs used in that document were too strong to be applied to the clutch according to E12.

Finally, since the slots described in E8 were not sufficient to introduce enough oil to separate the discs (see page 1, lines 31 to 34), the skilled person had no reason to apply the teaching of E8 to the clutch according to E12 either.

Hence the subject-matter of claim 1 of the main request involved an inventive step.

Feature D had been introduced into claim 1 of auxiliary request 1 only to specify the position of the slots (at the radial inner edge of the steel plates) and the

radial direction in which they extended. As to the assessment of inventive step, the same argumentation applied as for the main request applied.

c) Auxiliary request 2

Since E8 did not disclose disc springs, it could not disclose any relationship between them and the extension of the slots. Moreover, the slots shown in the figures of E8 extended into the friction plates, thereby presenting a teaching which led away from the subject-matter of claim 1 of auxiliary request 2.

Reasons for the Decision

1. The appeal is admissible.

2. Admission of documents E8 to E11 and E12 to E13 into the proceedings

2.1 In the grounds of appeal, the appellant cited E3, E6, E7 and E12 to E16 in support of lack of inventive step of the subject-matter of claim 1 underlying the decision of the opposition division.

Together with the reply to the grounds of appeal, the respondent filed new claims 1 according to a main request and to an auxiliary request 1. Both requests were based on claim 1 as maintained by the opposition division in combination with claim 3 as filed.

The appellant did not react in writing to this new set of claims and cited D8 to D11 for the first time during the oral proceedings before the board. He argued that these documents should be admitted into the

proceedings, since they had already been cited in the opposition proceedings and to argue against the inventive step of claim 3.

2.2 As a general rule, documents which have been used during opposition proceedings are not automatically part of the appeal proceedings if they have not been cited in the grounds of appeal. Therefore, D8 to D11 have to be considered as having been filed for the first time during the oral proceedings before the board and their admission depends on the same rules which apply to any late-filed document.

In the present case, since D8 is a short and clear document which is highly relevant for the assessment of inventive step of all requests, it is admitted into the proceedings. However, D9 to D11, which are much more complex and do not provide any additional information with respect to D8, are not admitted.

2.3 The situation with documents E13 to E16 is different. Normally, filing documents together with the statement setting out the grounds of appeal to reinforce the attack made before the opposition division is regarded as the normal behaviour of a losing party and does not constitute an abuse of procedure.

Since E13 to E16 were filed together with the grounds of appeal in order to provide a better starting point for the assessment of inventive step, they are admitted into the proceedings.

3. Main request and auxiliary request 1

E12 discloses (see particularly the figure):

a wet DCT clutch, comprising:

- two clutch packs including:
  - a plurality of steel plates, and
  - a plurality of friction plates being disposed between the steel plates

- two clutch pistons (13), each piston acting on its associated clutch pack; and

- an activation chamber (23) for each piston,
-
- two balancing chambers (18), each balancing chamber being associated to a piston, each activation chamber (23) and each balancing chamber (18) being disposed next to its associated piston (13)
-
- wherein the activation chamber (23) and the balancing chamber (18) are arranged on opposite sides of the associated piston (13).

The subject-matter of claim 1 differs from the clutch according to E12 in that

- disc springs are disposed between the steel plates at the inner diameter of the clutch pack (Feature A)

and in that

- the steel plates comprise slots for guiding lube oil between the steel plates and the friction plates (Feature B).

It is correct that both the disc springs and the slots are related to the steel plates. It is further correct that both the springs and the slots are applied to the steel plates and not to the friction plates in order not to weaken the structure of the clutch packs. However, this does not lead to the conclusion that the two features have a synergetic technical effect which is different from the sum of the technical effects of the individual features.

Therefore, since Features A and B represent merely an aggregation of features, it is necessary to assess whether or not each of these features is obviously derivable from the prior art.

3.1 As pointed out by the respondent, the clutch according to E12 discloses wave springs in order to reduce the drag of the plates (see column 3, line 65 to column 4, line 2). Therefore, the partial problem solved by Feature A can be regarded as the provision of an alternative way to reduce losses due to drag when the plates are not engaged with each other. D3 discloses a wet clutch where disc springs (Belleville-springs 40) are used at the inner diameter of the clutch pack to separate the discs and in order to reduce the drag losses and to increase the clutch's efficiency (see page 3, lines 38 to 47, and 115 to 118).

Contrary to the respondent's arguments, the skilled person confronted with the problem above would take E3 into consideration since it addresses the problem of reducing drag losses in a wet clutch. Moreover, the fact that the springs used in E3 are supposed to be too strong for use with the plates according to E12 is not convincing, since neither E12 nor the patent in suit

defines any values of the forces to be applied by the springs.

Therefore, it is obvious for the skilled person confronted with the partial problem above to combine the clutch of E12 with the disc springs of E3, thereby arriving at a wet clutch according to E12 comprising Feature A, without the need of any inventive activity.

3.2 The partial problem solved by Feature B can be regarded as a better distribution of oil between the plates. E8 discloses a wet clutch with plates which comprise slots in order to increase the oil pressure between the plates. Therefore, it is obvious for the skilled person to apply slots as described in E8 in the plates of the clutch described in E12, thereby arriving at a clutch according to E12 comprising Feature B.

3.3 Since the provision of both Features A and B is obvious, the subject-matter of claim 1 of the main request does not involve an inventive step.

4. Auxiliary request 1

Since E8 discloses slots extending from the inner diameter of the plates in the radial direction (see Figure 3), as required by Feature D, the subject-matter of claim 1 of auxiliary request 1 does not involve an inventive step either.

5. Auxiliary request 2

Claim 1 of auxiliary request 2 provides for plates with slots which extend beyond the radial outer edge of the disc springs but end radially inwardly of the friction plates.

E8 does not disclose disc springs. Consequently it cannot suggest any relation between the disc springs and the slots. Moreover, E8 discloses slots which extend up to the outer diameter of the plates (see claim 2). Hence, contrary to the slots according to claim 1, they extend also into the friction plates.

Hence, applying the teaching of E8 to the clutch according to E12 would lead in a direction opposite to that foreseen by the invention.

Therefore, the subject-matter of claim 1 according to the auxiliary request 2 involves an inventive step.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the opposition division with the order to maintain the patent in the following version:

claims 1 and 2 according to auxiliary request 2 filed during the oral proceedings;
description:
columns 1 and 2 as filed on 15 November 2011;
columns 3 and 4 as filed on 10 December 2012;
figures 1 and 2 as granted.

The Registrar: The Chairman:

A. Wolinski T. Kriner

Decision electronically authenticated

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Case Number: T 0681/12 - 3.2.08

D E C I S I O N
of Technical Board of Appeal 3.2.08
# of correcting an error in the decision
of 11 June 2014

Appellant: (Opponent)	BorgWarner, Inc. 3850 Hamlin Road Auburn Hills, MI 48326 (US)
Representative:	Leckel, Ulf LECKEL Patentanwaltskanzlei Postfach 12 11 22 68062 Mannheim (DE)
Respondent: (Patent Proprietor)	Transmisiones y Equipos Mecánicos, S.A. de C.V. Avenida 5 de Febrero No. 2115 Fraccionamiento Industrial Benito Juarez Queretaro, 76120 (MX)
Representative:	Kitzhofer, Thomas Prinz & Partner Rundfunkplatz 2 80335 München (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 25 January 2012 concerning maintenance of the European Patent No. 1630441 in amended form.**

Composition of the Board:

Chairman	T. Kriner
Members:	P. Acton
	C. Schmidt

Line 9 of the order is changed into:

"columns 1 and 2 as filed on 14 October 2011"

The Registrar: The Chairman

V. Commare T. Kriner

Decision electronically authenticated