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Datasheet for the decision of 9 July 2015

Case Number: T 0564/14 - 3.2.08

Application Number: 03251487.9

Publication Number: 1348882

IPC: F16D65/22, F16D65/32

Language of the proceedings: EN

Title of invention:
Air Disc brake assembly

Patent Proprietor:
ArvinMeritor Technology, LLC

Opponent:
Knorr-Bremse
Systeme für Nutzfahrzeuge GmbH

Headword:

Relevant legal provisions:
EPC Art. 123(2), 56

Keyword:
Amendments - added subject-matter (no)
Inventive step - (yes)

Decisions cited:

Catchword:

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Case Number: T 0564/14 - 3.2.08

D E C I S I O N
of Technical Board of Appeal 3.2.08
of 9 July 2015

Appellant: (Patent Proprietor)	ArvinMeritor Technology, LLC 2135 West Maple Road Troy, MI 48084 (US)
Representative:	Jones, John Bryn Withers & Rogers LLP 4 More London Riverside London SE1 2AU (GB)
Respondent: (Opponent)	Knorr-Bremse Systeme für Nutzfahrzeuge GmbH Moosacher Str. 80 80809 München (DE)
Representative:	Specht, Peter Loesenbeck - Specht - Dantz Patent- und Rechtsanwälte Am Zwinger 2 33602 Bielefeld (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 17 January 2014 revoking European patent No. 1348882 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairwoman	P. Acton
Members:	M. Foulger
	C. Schmidt

Summary of Facts and Submissions

I. The patent proprietor lodged an appeal against the decision of the Opposition Division revoking the European Patent 1 348 882, dispatched on 17 January 2014. The Opposition Division held that the main request (patent as granted) and the second auxiliary request contained subject-matter which extended beyond the content of the application as filed, and that the subject-matter of claims 1 and 14 according to the first auxiliary request did not involve an inventive step.

II. The notice of appeal and the statement setting out the grounds of appeal were filed within the given time limits and in due form.

III. Oral proceedings took place before the Board of Appeal on 9 July 2015.

IV. The appellant (patent proprietor) requested that the decision under appeal be set aside and that the patent be maintained as granted or, subsidiarily, in the form of the first or second auxiliary request, both filed with letter dated 22 May 2014.

V. The respondent (opponent) requested that the appeal be dismissed.

VI. Claim 1 of the main request reads as follows:

"A disc brake assembly (10) comprising:
a rotating disc (12) defining a lateral axis of rotation (14) and a first plane (40); a brake caliper (16) supporting a pair of brake pads (20) positioned on opposing sides of said rotating disc;

a first actuator (22) movable in a direction parallel to said lateral axis of rotation to bring said pair of brake pads into engagement with said rotating disc during a braking operation; an air chamber (26) having a second actuator (30) selectively movable in a direction transverse to said lateral axis of rotation in response to an input, and wherein said air chamber defines a second plane (42) that is spaced apart from and generally parallel to said first plane, with said lateral axis of rotation (14) intersecting each of said first and said second planes; an adapter (34) comprising a lever (46) that interconnects said first said and second actuators to translate a brake actuation force applied in the direction transverse to said lateral axis of rotation to a brake application force applied in the direction parallel to said lateral axis of rotation; and an adapter housing (44) substantially enclosing said adapter wherein
[h] said adapter housing is directly attached to said brake caliper and
[i] the air chamber is directly attached to the adapter housing,
characterised in that;
said lever is pivotable about a stationary pivot axis
[k] that is positioned between said first and said second planes."

The references [h],[i] and [k] have been added by the Board.

Independent method claim 14 of the main request reads as follows:

"A method of actuating a disc brake assembly (10) installed in a vehicle comprising the steps of:
providing a rotating disc (12) defining a lateral

axis of rotation and a first plane (40), and a caliper (16) supporting a pair of brake pads positioned on opposing sides of the rotating disc;
positioning an air chamber immediately adjacent to the caliper, the air chamber defining a second plane (42) that is spaced apart from and generally parallel to the first plane, with the lateral axis of rotation (14) intersecting each of the first and the second planes;
applying a first brake input force with a first actuator, which is operably connected to the air chamber, in a first linear direction transverse to the lateral axis of rotation;
translating the first brake input force into a second brake input force applied in a second linear direction parallel to the lateral axis of rotation with a second actuator to bring the pair of brake pads (20) into engagement with the rotating disc during a braking operation;
connecting the first and the second actuators with a lever (46) pivotable about a stationary pivot axis to translate the first brake input force into the second brake input force including connecting a first leg (54) of the lever to the first actuator and connecting a second leg (54) of the lever to the second actuator such that the lever is pivotable about the stationary pivot axis; and
enclosing the lever within a housing (44) having a first end directly attached to the caliper and a second end directly attached to the air chamber,
characterised in that; the stationary pivot axis being positioned between the first and the second planes."

The further requests are not relevant for the present decision.

VII. The following document is referred to in the present decision:

D1 - DE 100 26 690 A1

VIII. The appellant argued essentially the following:

a) Added subject-matter

The ground of opposition of Article 100(c) EPC did not prejudice the maintenance of the patent as granted, in particular, paragraph [0013] of the patent (i.e. paragraph [0016] of the application as originally filed) provided a basis for feature [k] because it explained that the adapter assembly allowed the air chamber body to be moved further away from the disc. Positioning the pivot axis between the planes of the disc and the air chamber meant that it was not positioned closer to the vehicle centre line than the plane of the air chamber as shown in fig. 1. Feature [k] was therefore disclosed in the application as filed. The same reasoning applied to the features of the method claim 14.

b) Inventive step

Starting from D1, fig. 9 as closest prior art, the subject-matter of claim 1 differed in that an adapter housing was provided. However given the awkward nature of the levers of this embodiment, which extend up the side of the housing, it would be difficult to provide a housing to enclose such an adapter. Moreover, none of the housings shown in the prior art (see in particular D1, fig. 6) extended up the side of the air chamber which would be necessary to enclose the adapter as claimed. The subject-matter of claim 1 therefore involved an inventive step.

The same applied equally to the subject-matter of claim 14.

IX. The respondent argued essentially the following:

a) Added subject-matter

The features [h],[i] and [k] of claim 1 were not disclosed in the application as originally filed:

Feature [h] could not be extracted from fig. 1 of the application as originally filed because this figure was merely schematic in nature and did not exclude indirect attachment means. Moreover, although the description disclosed welding as means of attaching the adapter housing to the brake caliper, this was only one specific disclosure of direct attachment. The feature [h] was therefore a generalisation of this specific example and as such was not allowable.

The only basis for feature [i] was fig. 1. Since it was merely of schematic nature it could not be taken from this figure that the air chamber was indirectly attached or indeed that it was not fixed to a bracket on the brake caliper.

Feature [k] was apparently taken from fig. 1. However fig. 1 only disclosed one specific position of the pivot axis while the claim sought protection for all possible positions between the two planes. There was therefore an unallowable generalisation of the teaching of this figure.

The same reasoning applied equally to the corresponding method claim 14.

Hence the main request did not comply with the requirements of Article 123(2) EPC.

b) Inventive step

The disc brake assembly shown in D1, fig. 9 was the closest prior art. This embodiment disclosed all features of claim 1 except the intermediate housing.

The problem to be solved was to provide an air brake wherein the adapter was better protected from the elements.

An intermediate housing is disclosed in D1, fig. 6. It would have been obvious to the skilled person that applying this housing to the embodiment of fig. 9 would protect the adapter from the elements and would therefore solve the problem posed. It would have been within the normal ability of the skilled person either to retain the stirrup actuation of fig. 9 and to adapt the housing to fit or to use a rod and 'L'-lever actuation as shown in figs. 1 and 6. The subject-matter of claim 1 did not therefore involve an inventive step.

The same reasoning applied equally to the corresponding method claim 14.

Reasons for the Decision

1. The appeal is admissible.

2. Added Subject-Matter - Article 100(c) EPC

2.1 Feature [h] of claim 1 requires that "said adapter housing is directly attached to said brake caliper"

Paragraph [0017] discloses that "[t]he housing 44 can be fastened, welded or joined to the caliper 16 by any method known in the art." Of the alternatives listed, at least welding must be regarded as a direct attachment. Moreover, the phrase "by any method known in the art" provides a clear and unambiguous disclosure that a generalisation to cover other attachment means was intended. Thus this feature was clearly and unambiguously disclosed in the application as originally filed.

2.2 Feature [i] of claim 1 requires that "the air chamber is directly attached to the adapter housing"

It is necessary that the air chamber is attached to the housing to prevent the reaction from the brake actuation force from separating housing and air chamber. Moreover, fig. 1 of the application as originally filed shows the air chamber touching the adapter housing. The skilled person would therefore understand that the air chamber is attached directly to the housing as required by feature [i].

2.3 Feature [k] of claim 1 specifies that the lever that interconnects said first and second actuators is pivotable about a stationary pivot axis "that is

positioned between said first and said second planes".

The respondent argued that Fig. 1 of the application as originally filed only disclosed a single position for the axis whereas the claim now covered all possibilities between the two defined planes. Fig. 1 indeed shows that the stationary pivot axis is positioned between the first and second planes. Being merely a schematic representation, it would not be possible to extract a specific teaching regarding the exact position of the lever axis from this figure. The skilled person would therefore understand that the information in this figure was of a general nature and it is such a general teaching from the figure which has been included in the claim. Moreover [0016] of the description of the application as originally filed indicated that a general teaching was intended with regard to the pivot axis rather than one specific point. Consequently there has been no unallowable generalisation.

2.4 Therefore the features of claim 1 as granted were clearly and unambiguously derivable from the application as originally filed and the ground of opposition according to Article 100(c) EPC does not prejudice the maintenance of the patent as granted.

2.5 The same reasoning applies *mutatis mutandis* to the method claim 14.

3. Inventive Step - Article 100(a) EPC in combination with Article 56 EPC

3.1 It is not disputed that the disc brake assembly shown in fig. 9 of D1 is the closest prior art and that it discloses in the example all features of claim 1 with the exception of "an adapter housing (44) substantially

enclosing said adapter wherein said adapter housing is directly attached to said brake caliper and the air chamber is directly attached to the adapter housing".

3.2 The problem to be solved is therefore to provide a disc brake assembly whereby the protection from the elements is improved.

3.3 A solution to this problem is shown in fig. 6 of D1. However the skilled person would recognise that it would not be possible to apply this directly to the disc brake shown in fig. 9 due to the stirrup arrangement. This stirrup arrangement extends around the air chamber and thus the housing of fig. 6 could not be applied directly to the disc brake of fig. 9 without further modification.

Moreover if the skilled person were to use a rod and 'L'-lever adapter as disclosed in the other embodiments of D1 in order to fit the adapter inside the housing of fig. 6, then the pivot axis would not be as claimed because the pivot axis of these other embodiments is not between the first and second planes. Thus the combination of the teachings of figs. 6 and 9 would not lead to the subject-matter of claim 1 without further modifications which are not suggested by the available prior art.

3.4 The above arguments apply *mutatis mutandis* to claim 14.

3.5 The subject-matter of claims 1 and 14 therefore involves an inventive step in the sense of Article 56 EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is maintained as granted.

The Registrar: The Chairwoman:

V. Commare P. Acton

Decision electronically authenticated