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**Datasheet for the decision
of 19 November 2024**

Case Number: T 1385/22 - 3.2.08

Application Number: 18162098.0

Publication Number: 3361124

IPC: F16H7/08, B60K25/00, F02B67/06,
F16H55/36, F16H7/02, F16H7/20

Language of the proceedings: EN

Title of invention:
ORBITAL TENSIONER ASSEMBLY

Patent Proprietor:
Litens Automotive Partnership

Opponent:
WijnstraWise Patents B.V.

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - (yes)



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Case Number: T 1385/22 - 3.2.08

D E C I S I O N
of Technical Board of Appeal 3.2.08
of 19 November 2024

Appellant: WijnstraWise Patents B.V.
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Decision under appeal: **Decision of the Opposition Division of the
European Patent Office posted on 18 March 2022
rejecting the opposition filed against European
patent No. 3361124 pursuant to Article 101(2)
EPC.**

Composition of the Board:

Chairman C. Vetter
Members: M. Foulger
C. Schmidt

Summary of Facts and Submissions

I. The opponent has filed an appeal against the decision of the opposition division to reject the opposition.

The appellant (opponent) requests that the patent be revoked in its entirety.

II. The respondent (patent proprietor) requests that the appeal be dismissed, or in the alternative that the patent be maintained in amended form according to the first auxiliary request filed with the reply to the appeal on 5 December 2022.

III. Oral proceedings took place before the Board on 19 November 2024.

IV. Main request

Claim 1 as granted reads (appellant's numbering added):

"**(1)** A tensioner (10) for an automotive engine accessory drive belt system,
(1.1) which system includes an endless belt (914b) entraining at least two pulleys, one pulley (912) being connected to a crankshaft (910) and one pulley (954) being connected to a motor-generator unit (MGU; 916), the tensioner (10) comprising:
(2) a base (12) mountable to the MGU (916);
(3) a ring (14) having an inner diameter larger than the diameter of the MGU pulley (954),
(3.1) the ring (14) being slidably mounted to the base (12), the base (12) retaining the ring (14) axially and guiding the ring for rotation

(3.2) about an axis that is substantially coincident with a rotational axis of the MGU pulley (954);

(4) a bushing (26, 28) disposed between the ring (14) and the base (12) for damping the rotational movement of the ring (14) relative to the base (12);

and **characterized by**

(5) a tensioner arm (16)

(5.1) pivotally mounted to the ring (14) for pivotal movement about an arm pivot axis

(5.2) that is offset from the ring rotational axis;

(6) a first tensioner pulley (18) rotatably mounted to the tensioner arm (16),

(6.1) the first tensioner pulley (18) positioned for engaging an outside surface of a first belt span on one side of the MGU pulley (954);

(7) a second tensioner pulley (20) that is rotatably mounted to the ring (14) for rotation about a rotational axis that is fixed relative to the ring (14) and offset from the ring rotational axis,

(7.1) the second tensioner pulley (20) positioned for engaging an outside surface of a second belt span on another side of the MGU pulley (954); and

(8) a torsion spring (52)

(8.1) acting between the ring and the tensioner arm (16) for biasing the tensioner arm (16) towards the first belt span

(8.2) and for biasing the first and second tensioner pulleys (18, 20) to move towards one another, thereby tending to increase the wrap of the belt around the MGU pulley (954);

(9) wherein the ring (14) is rotatable in response to hub loads received by the first and second tensioner pulleys (18, 20) that occur as a result of the first and second tensioner pulley engagements with the first and second belts spans."

V. The following documents are relevant for this decision:

D1: US 2009/0298631 A1

D2: US 7,494,434 B2

D3: US 611,170 A

D4: DE 10 2011 084 680 B3.

VI. The essential arguments of the parties may be found below in the Reasons for the Decision.

Reasons for the Decision

1. Inventive step

1.1 D1 in combination with the teachings of D2

1.1.1 D1 discloses a tensioner in which the contact between belt and MGU pulley is maximised by wrapping the belt as much as possible around the pulley (cf. patent, claim 1, feature 8.2). As in the claimed tensioner (cf. patent, claim 1, feature 3.2), the tensioner ring is mounted coaxially with the MGU pulley.

1.1.2 It is undisputed that D1 does not disclose feature 5.2 according to which the arm pivot axis is offset from the ring rotational axis.

1.1.3 The appellant considers the objective technical problem as being the reduction of the likelihood of belt slippage while reducing the average belt tension. The appellant argued that the solution according to feature 5.2 was made obvious by the teaching of D2. D2 was also concerned with the above problem. Furthermore, D2 provided an arm pivotably mounted on the carrier (which according to the appellant was functionally equivalent to the ring of the invention).

According to the appellant, the skilled person would have applied the above teaching of D2 to the tensioner known from D1 and thereby arrived at the subject-matter of claim 1 without using inventive activity.

The appellant further argued that the skilled person would know that a tensioner can be mounted either on the MGU itself or on the engine. Thus, it was an obvious alternative.

- 1.1.4 The Board however considers that the skilled person would not combine the teachings of D1 with those of D2.

In fact, this would go against the purpose expressed in M8.2 of increasing the wrap of the belt around the MGU pulley. In the arrangement of D1 the tensioner is mounted on the MGU and both pulleys pivot about the MGU axis. In the arrangement of D2 the tensioner is however mounted on the engine. It is thus clearly more distant from the MGU pulley and hence the skilled person would consider that it would reduce the wrap of the belt around the MGU pulley which would in turn increase the belt slip.

The skilled person would thus be dissuaded from applying the teachings of D2 to the tensioner of D1.

For the same reasons the skilled person would also not have considered that mounting the tensioner on the engine is an appropriate alternative to the mounting position of the tensioner as taught in D1.

- 1.1.5 Thus, the subject-matter of claim 1 involves an inventive step in the light of the teachings of D1 combined with those of D2 or the common general

knowledge.

1.2 D2 in combination with the teachings of D1

1.2.1 The appellant argued that the subject-matter of claim 1 differed from the disclosure of D2 in that the base was mountable to the MGU, the tensioner comprised a ring having an inner diameter larger than the diameter of the MGU pulley, and the base guided the ring for rotation about an axis that is substantially coincident with a rotational axis of the MGU pulley (features 2, 3 and 3.2).

The appellant formulated the following technical problem: "how to modify the tensioner of D2 so as to be able to mount the tensioner on the MGU, in case of space constraints". They then argued that D1 disclosed this feature and the skilled person would recognise that this solved the above problem. Hence, according to the appellant, the skilled person would combine the teachings of D2 and D1 and would thereby arrive at the subject-matter of claim 1.

1.2.2 The Board considers that this argument suffers from the use of hindsight because it contains elements of the solution, i.e. the mounting of the tensioner on the MGU, in the problem. Also, D2 cannot be regarded as the closest prior art because of the different use to which the tensioner of D2 is put. If the skilled person wished to arrive at an arrangement wherein the tensioner was mounted on the MGU, they would start from an arrangement such as that disclosed in D1 and try to improve that arrangement.

1.2.3 The subject-matter of claim 1 therefore involves an inventive step over document D2 in combination with the

teachings of D1.

1.3 D1 in combination with the teachings of D3

1.3.1 As stated above, the subject-matter of claim 1 differs from the disclosure of D1 by feature 5.2.

1.3.2 The appellant argued that the skilled person would apply the arm known from D3 to the tensioner of D1 and thereby arrive at the subject-matter of claim 1.

1.3.3 The Board considers that the skilled person would not combine the teachings of D1 and D3 because the tensioner of D3 acts in an outward direction (i.e. two sides of the belt are pushed apart) as opposed to that of D1 which acts to push the sides together. The kinematic of D3 is therefore not compatible with the concept of D1 and the patent in suit which, as stated above, endeavour to increase the wrap of the belt around the pulley.

1.3.4 The subject-matter of claim 1 involves an inventive step in light of the teachings of D1 and D3.

1.4 D4 in combination with the teachings of D2

1.4.1 D4 discloses a belt tensioner with a pulley which is supported via an arc spring. The arc spring pushes the pulley into contact with the belt. Due to the form of the spring, the pulley travels in an arc around the axis of the MGU.

1.4.2 It is common ground that D4 did not disclose feature 5.2 according to which the arm pivot axis is offset from the ring rotational axis.

1.4.3 The appellant considers the objective technical problem as being the reduction of the likelihood of belt slippage while reducing the average belt tension. The appellant argued that the skilled person would have taken this feature from D2 and thereby arrived at the subject-matter of claim 1.

1.4.4 The Board considers that the skilled person would not consider combining the teachings of D4 and D2 because these are very different arrangements. In D4, the tensioner is mounted on the MGU and the tensioner pulley is biased by the arc spring around the axis of the MGU.

As discussed above under point 1.1.4, D2 has the tensioner arranged spaced from the axis of the MGU.

To mount the tensioner pulley on an arm that is spaced from the axis of the MGU would change the kinematic of the arrangement of D4 and would result in less wrapping of the belt around the MGU pulley because the tensioner pulley would be further away from the MGU pulley axis.

Thus, the skilled person confronted with the problem of reducing belt slip would not look to D2 for a solution to this problem.

1.4.5 The subject-matter of claim 1 consequently also involves an inventive step over document D4 in combination with the teachings of D2.

1.5 Thus, none of the inventive step objections raised by the appellant prejudice the maintenance of the patent as granted.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



C. Moser

C. Vetter

Decision electronically authenticated