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**Datasheet for the decision
of 10 September 2020**

Case Number: T 0487/17 - 3.2.08

Application Number: 09786334.4

Publication Number: 2406519

IPC: F16F7/09, D06F37/22, D06F37/20

Language of the proceedings: EN

Title of invention:
FRICTION SHOCK ABSORBER

Patent Proprietor:
Aksistem Elektromekanik Sanayi ve Ticaret Ltd.

Opponent:
SUSPA GmbH

Headword:

Relevant legal provisions:
EPC Art. 84, 123(2), 56

Keyword:
Claims - clarity in opposition proceedings
Amendments - allowable (yes)
Inventive step - (yes)

Decisions cited:

G 0003/14

Catchword:



Beschwerdekammern

Boards of Appeal

Chambres de recours

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Case Number: T 0487/17 - 3.2.08

D E C I S I O N
of Technical Board of Appeal 3.2.08
of 10 September 2020

Appellant: SUSPA GmbH
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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
13 December 2016 concerning maintenance of the
European Patent No. 2406519 in amended form.**

Composition of the Board:

Chairman C. Herberhold
Members: M. Foulger
C. Schmidt
A. Björklund
Y. Podbielski

Summary of Facts and Submissions

- I. With the decision posted on 13 December 2016, the opposition division decided that the patent, and the invention to which it related, according to then valid first auxiliary request met the requirements of the EPC.
- II. The opponent filed an appeal against this decision.
- III. The appellant (opponent) requests that the decision under appeal be set aside and the patent be revoked. The appellant argues that the claims are not clear (Article 84 EPC), were not disclosed in the application as originally filed and that their subject-matter does not involve an inventive step.
- IV. The respondent (patent proprietor) requests that the appeal be dismissed.
- V. The Board invited the parties to oral proceedings to take place on 11 March 2020.
- VI. With the letter dated 9 December 2019 the respondent indicated that it would not be attending the oral proceedings.
- VII. With the letter dated 23 January 2020, the appellant informed the Board that it would not be attending the oral proceedings and withdrew its request for oral proceedings.

VIII. The Board cancelled the oral proceedings with the letter dated 3 March 2020.

IX. The following documents have been referred to in appeal proceedings:

D6: DE 103 57 219 A1

D10: CH 694 967 A

D12: Prior use damper type RD18FL:

D12a: Delivery order: 4/1 295099

D12b: Packing note corresponding to D12a

D12c: Invoice Nr. 4/1 271190 corresponding to D12a

D12d: Debtor List corresponding to D12c

D12e: Parts list for damper RD 18 FL 235-165-D100-Z100N, ZNr: 01230235

D12f: Drawing Nr. 012 30235

D12g: Drawing Nr. 162 30056

D12h: Drawing Nr. 062 30057

D12i: Drawing Nr. 061 30047

D12j: Drawing Nr. 061 30058

D12k: Drawing Nr. 062 30061

X. Claim 1 as upheld by the opposition division reads as follows:

"(1) Triple action friction shock absorber (10)

(2) comprising:

- at least one cylindrical shock absorber piston (13);

(3) - at least one shock absorber body (11) that surrounds the shock absorber piston (13), moves telescopically along the same axis (X) with the piston (13), and bears the piston (13) from its end part; whereby

(4) - at least one friction ring (15) is located between the shock absorber body (11) and the piston (13), and moves in the same axis (X) with the body

(11),

(5) - at least one lock ring (20) bears the shock absorber piston (13) on the shock absorber body (11) and prevents the friction ring (15) from getting displaced out of the body (11),

(6) - a friction element (16) is compressed between the inner surface of the friction ring (15) and the outer surface of the shock absorber piston (13),

characterized by

(7) - bearing ribs (17) provided on the outside of the friction ring (15) on the same axis (x) direction and on the same plane to prevent rotation of the shock absorber piston (13) within the shock absorber body (11) around said axis (X), and

(8) - canal ribs located in the inner surface of the body for restricting rotation of the piston within the shock absorber body wherein said bearing ribs (17) move in the X-axis direction between the canal ribs (19), the contact between the bearing ribs (17) and the canal ribs (19) occurring only from the side surfaces (31, 32) of the canal ribs, thus forming a bearing space between the shock absorber body (11) and the friction ring (15)

(9) - flexible bearings (28, 29) which are provided in the inside of the body (11) and ~~or~~ the lock ring (20) and which enable movement of the shock absorber piston (13) within the body (11) perpendicular to the X-axis."

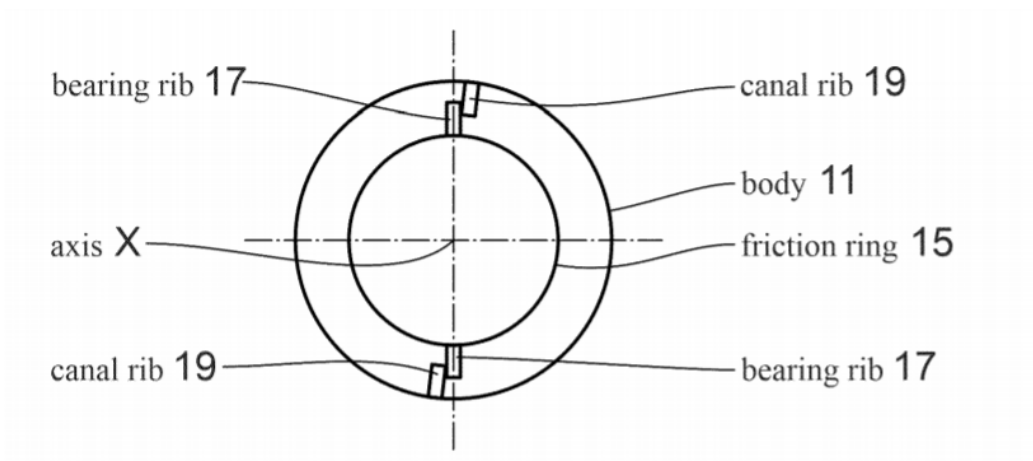
(Feature numbering added in bold by the Board. Additions with relation to the granted claim 1 underlined and deletions struck through.)

XI. The appellant argued essentially the following:

a) Clarity

In the granted patent, it was left open how the bearing ribs should restrict rotation between shock absorber piston and body. By modifying the claim so that it was specified that the bearing ribs were provided on the outside of the friction ring, it was excluded that the bearing ribs were on the inside of the friction ring. Whereas bearing ribs on the inside of the friction ring could prevent rotation of the piston, the now claimed arrangement could at best prevent rotation of the friction ring with respect to the housing, while leaving rotation of the piston within the body possible. Claim 1 was thus contradictory and unclear. Moreover, feature 7 was to be read in conjunction with feature 8 introduced in opposition proceedings. According to feature 8, the canal ribs were in the inner surface of the body 11 in order to restrict rotation of the piston in the housing. The combination of features 7 and 8 excluded that the ribs 17 cooperated with the body as well as the piston. The skilled person was therefore not clearly taught how to achieve the claimed restriction of rotation of the piston within the body.

Feature 8 specified moreover that the bearing ribs cooperated with the canal ribs in order to prevent rotation of the piston in the body.



The above sketch showed a possible embodiment of the teaching of claim 1. According to this embodiment the canal ribs could only prevent a rotation of 180° of the friction ring with respect to the body.

Thus, there was no means specified in the claim that prevented rotation of the piston within the friction ring. Therefore, the claim was self-contradictory and hence not clear.

Furthermore, feature 8 specified that the canal ribs were located "in the inner surface" of the body. It was not clear how ribs could be "in" the surface.

Feature 9 - the arrangement of the flexible bearings provided in both the inside of the lock ring and the body meant that a cooperation between the friction ring and the piston was no longer possible. It was also not clear how and where such flexible bearing inside the lock ring could be foreseen.

Claim 1 as amended was therefore not clear.

b) Added subject-matter

i) Bearing ribs on the outside of the friction ring

This feature was not explicitly mentioned in the application as filed and was only shown in Figs. 3 and 4. The skilled person would have derived from these drawings that the bearing ribs were arranged such that they were diametrically opposite to each other. The skilled person would have further derived from the drawings that the bearing ribs were shorter in the axial direction than the friction ring and that there needed to be a certain angular distance between them. Moreover, in the drawings the bearing ribs were provided with guide surfaces.

The above features had not been included in claim 1 and consequently there was an unallowable intermediate generalisation so that the subject-matter of claim 1 extended beyond that of the application as originally filed.

Although feature 8 was taken directly from the description of the application as filed, when viewed in conjunction with Fig. 5, the disclosure must be understood such that for a bearing rib there were two canal ribs. The wording of claim 1 also covered embodiments with only one bearing rib and one canal rib. Such an embodiment was not disclosed in the application as originally filed.

ii) In feature 9 the "or" alternative had been deleted. The combination of flexible bearings inside the body and the lock ring at the same time was not originally disclosed.

c) Inventive step

The prior use of the damper D12 was the closest prior art. This prior use disclosed features 1 - 6 and 9 of claim 1.

The differentiating features 7 and 8 had the effect of preventing rotation of the friction ring in relation to the body.

The problem to be solved was therefore to provide a friction ring wherein rotation was prevented but was also decoupled from the shock absorber. The skilled person would have found a solution to this problem in either D6 or D10. The mere fact that these documents were classified in other IPC classes did not mean that they could not be combined with the disclosure of D12.

D6 showed that rotation of an axially moving piston could be prevented by provision of guiding projections 425 on the piston 120 and corresponding grooves 456 on the inner surface of the guide part 450, see paragraph [0036] and Fig. 4. Equally, the example shown in Fig. 3 of D6 would have led the skilled person to the subject-matter of claim 1 for the same reasons.

Moreover, D10, Figures 2, 3 and column 3, lines 44-49 disclosed an arrangement with radially projecting wings 18 provided on the piston which engaged in guide slots 19 of the cylinder in order to prevent rotation of the piston with respect to the body. Thus, it provided an explicit reference for the skilled person to apply this to the arrangement of D12. The skilled person would also have been aware that an opening in the housing, as shown in D10, would result in dust entering into the

shock absorber. The skilled person would have therefore included canal ribs in the shock absorber of D12, and so avoided the slots in the side of the housing, as part of their daily work.

Hence, the subject-matter of claim 1 lacked an inventive step with respect to the teaching of D12 when combined with the teachings of either D6 or D10.

XII. The respondent argued essentially the following:

a) Clarity

Only the amendments to the granted claim - as opposed to the granted claim itself - can be examined for clarity. The amendments had not introduced any lack of clarity into the claims.

The term "preventing rotation", interpreted in the context of the description, meant that the rotation was limited or reduced and not that it was completely excluded. "prevent" in the English language included the meanings "suppress" and "impede". In the described embodiment, the piston and friction ring were in frictional engagement such that the friction ring prevented rotation of the piston up to a certain torque. Moreover, the granted claim already contained the term "preventing rotation". The bearing ribs could not be provided between the friction ring and the piston (i.e. on the inside thereof) and bearing ribs on the outside of the friction ring were clearly derivable from the description alone.

Furthermore, the term "in the inner surface" was clear and did not introduce any lack of clarity into the claim.

The alternative that the flexible bearings were in the lock ring and the body was already included in the granted claim so that the deletion of the "or" did not introduce any lack of clarity.

b) Added subject-matter

i) There was no unallowable intermediate generalisation. In the application as originally filed, the following was disclosed:

Claim 1 generally disclosed the arrangement of a shock absorber body surrounding a piston with a friction ring arranged between body and piston and a friction element compressed between the inner surface of the friction ring and the outer surface of the shock absorber piston.

Claim 3 disclosed generally bearing ribs on the friction ring.

Claim 19 disclosed generally a friction ring canal rib. The last two lines on p. 2 indicated that there were canal ribs located on the inside surface of the body for restricting rotation of the piston.

The purpose and action of the bearing ribs were explained on p. 9, 2nd paragraph whereby they were allowed to move axially between the canal ribs and prevent rotation.

Hence, the disclosure of the bearing ribs on the outside of the friction ring was not just derivable from the drawings but was also supported by the description.

The fact the drawings showed further geometric details did not imply that these details were required for achieving the function described on p. 9, 2nd

paragraph.

The subject-matter of the patent has not therefore been extended beyond that of the application as originally filed.

ii) The deletion of the "or" alternative in the originally disclosed "and/or" did not extend the subject-matter of claim 1 beyond that of the application as originally filed.

c) Inventive step

At least features 7 and 8 of claim 1 were not known from D12.

Starting from D12 as closest prior art, the skilled person would not have considered a damper for vehicles as described in D6 and which used magnetic fields and eddy currents in metallic materials to provide the damping effect.

D10 did not disclose that there were canal ribs provided inside the body. To change the damper of D12 would have required substantial modifications which would not have been obvious for the skilled person.

The subject-matter of claim 1 therefore involved an inventive step.

Reasons for the Decision

1. Clarity
 - 1.1 Clarity is not a ground of opposition and therefore the claims of the patent as amended may be examined for compliance with the requirements of Article 84 EPC only when, and then only to the extent that the amendment introduces lack of clarity (G 3/14, EPO OJ 2015, A102, Order).
 - 1.2 In the present case, the appellant has objected to the following amendments to claim 1:

Features 7 and 8 - that the bearing ribs are provided on the outside of the friction ring,
Feature 8 - that the canal ribs are located "in the inner surface" of the body, as well as that the definition of their functional interaction with the bearing ribs in particular in view of their alleged effect to prevent rotation of the shock absorber piston within the shock absorber body was not clear,
Feature 9 - that the "and / or" combination in the granted claim has been changed to an "and" combination.
 - 1.3 The claim as granted included bearing ribs provided on the friction ring to prevent rotation of the shock absorber piston within the shock absorber body. During opposition proceedings, the respondent added that the bearing ribs were provided on the outside of the friction ring. In itself, taken alone, this new feature is not unclear because the skilled person can clearly determine whether this feature was fulfilled in a

particular shock absorber.

- 1.4 The appellant argues however that through the amendment it became unclear how the rotation of the shock absorber piston within the body was prevented.

Allegedly, prevention of such rotation could only be effectuated by providing the bearing ribs on the inside of the friction ring, which was however excluded by the amended claim, thereby rendering the claim unclear.

However, the patent as granted gives no indication whatsoever that the bearing rings could be provided on the inside of the friction ring. On the contrary, throughout the disclosure and in the embodiment shown, the bearing ribs are present on the outside of the friction ring. The person skilled in the art would thus have understood the "prevention of rotation" as claimed already in claim 1 as granted to allow rotation between piston and friction ring if the friction force between the two is overcome. Even if that were to be considered a contradictory and unclear definition (which it is not, see below), it would have been present in the granted claim and is not introduced by the amendment.

It is further clear from the claim feature 8 how the prevention of rotation is achieved, i.e. by the bearing ribs acting in conjunction with the canal ribs in order to hinder a relative rotation between friction ring and body. In combination with the friction element between friction ring and shock absorber piston (see feature 6) a rotation of the piston is prevented up to a certain torque where the frictional engagement is overcome. Hence, it is clear how the claimed rotation prevention is achieved and, moreover, this was in the granted claim so cannot in any case be objected to for lack of

clarity.

- 1.5 The appellant also argues that the interaction of the bearing ribs and the newly introduced canal ribs was not clear, in particular because simply having canal ribs did not necessarily result in relative rotation being prevented. As suggested by the appellant there may be some embodiments with canal ribs that did not prevent relative rotation (or only prevented a rotation of 180° or more). These embodiments would however be excluded from the scope of the claim by the functional requirement that the ribs and canal ribs are "for restricting rotation of the piston within the shock absorber body" (see feature (8)).
- 1.6 The argument that the phrase in feature 8 whereby the canal ribs are located "in the inner surface of the body" is not clear, is also not persuasive because the ribs themselves actually do form part of the inner surface and can therefore be regarded as being "in" the surface. Thus, this feature is clear.
- 1.7 Feature (9), the respondent has changed "and/or" to "and" so although one alternative was optional it was always present in the granted claim. This is comparable to the situation with a dependent claim as discussed in G 3/14, points 82 and 83 of the Reasons. Therefore, this particular modification cannot be objected to under Article 84 EPC.
- 1.8 Hence, the amendments do not introduce any lack of clarity into the claim.

2. Added subject-matter

2.1 Claim 3 as originally filed included the feature whereby bearing ribs were provided on the friction ring. It is common ground that Figs. 3 and 4 of the application show that the ribs are positioned on the outside of the friction ring. Furthermore, page 9, second paragraph, discloses the bearing ribs and their functional interaction with the canal ribs.

As brought forward by the appellant, it is correct that Figures 3 and 4 contain further information e.g. that the bearing ribs are arranged such that they were diametrically opposite to each other, that the bearing ribs were shorter in the axial direction than the friction ring and that the bearing ribs are provided with guide surfaces.

These further details are however incidental in what are indeed schematic drawings which are only meant to convey a general idea of how the elements are arranged in relation to each other. The skilled person would have recognised that page 9, second paragraph, provides a generalized summary of the essential structural and functional features for the claimed prevention of rotation between piston and body by functional interaction of the bearing ribs (which were already part of dependent claim 3 as filed) and the canal ribs (that the canal ribs are located in the inner surface of the body is disclosed on page 2, lines 29, 30 of the application as filed). The paragraph on page 9 discloses bearing ribs on the friction ring on the same (X) axis direction and on the same plane. As these ribs move between the friction ring canal located within the shock absorber body, they are provided on the outside of the friction ring. The paragraph further discloses

that the bearing ribs move in the X-axis direction between the canal ribs, the contact between the bearing ribs and the canal ribs occurring only from the side surfaces of the canal ribs, thus forming a bearing space between the shock absorber body. All the features of page 9, paragraph 2 (apart from the explicitly facultative greasing of the bearing), are indeed part of present claim 1, which thus does not extend over the disclosure as originally filed.

2.2 Feature 9 - by deleting the "or" alternative of the claim, the respondent has merely eliminated alternatives from the scope of the claim. The remaining subject-matter was always comprised in the scope of originally filed dependent claim 4, on which feature 9 is based.

2.3 Therefore, the subject-matter of claim 1 has not been extended beyond that of the application as originally filed.

3. Inventive step

3.1 The public prior use of the damper D12 is the most relevant prior art. This public prior use disclosed features 1 - 6 of claim 1. This has not been disputed. Hence, the subject-matter of claim 1 differs from this public prior use by features 7 and 8.

3.2 These differentiating features have the effect of preventing rotation of the friction ring in relation to the body.

3.3 The problem to be solved is to provide a friction ring wherein rotation of the piston within the body was

prevented.

- 3.4 The skilled person may well have considered neighbouring technical fields but it must be borne in mind that D12, as well as the patent, relate to dampers for washing machines. The skilled person in the field of washing machines would not look to automotive dampers because of the considerable differences in absolute load, loading dynamics and duty cycle. Furthermore, D6 uses magnetic fields and eddy currents to provide the damping effect, i.e. a completely different damping technology. The skilled person would not therefore have considered D6 when looking for a solution to the problem posed.
- 3.5 D10 discloses an arrangement with radially projecting wings 18 provided on the piston which engage in guide slots 19 of the cylinder. However, D10 fails to disclose feature (8) because the disclosed damper does not have any canal ribs. To arrive at the claimed solution the skilled person would have had to combine the teachings of D12 and D6 and then realise that an opening in the housing would result in dust entering into the shock absorber. To then arrive at a solution with the claimed canal ribs would have required further modifications which the skilled person would not have been able to carry out without the exercise of inventive activity.
- 3.6 Hence, the subject-matter of claim 1 involves an inventive step with respect to the teaching of D12 when combined with the teachings of either D6 or D10.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



D. Magliano

C. Herberhold

Decision electronically authenticated