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**Datasheet for the decision
of 11 July 2012**

Case Number: T 0035/09 - 3.2.06

Application Number: 01130987.9

Publication Number: 1219533

IPC: B62M9/10

Language of the proceedings: EN

Title of invention:

Chamfered sprocket assembly

Patentee:

SHIMANO INC.

Opponent:

SRAM Deutschland GmbH

Relevant legal provisions:

EPC 1973 Art. 123(2)

RPBA Art. 13

Keyword:

Admissibility of amendments (main request, second and third
auxiliary requests) - no

Admission into the proceedings (fourth auxiliary request) - no



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Case Number: T 0035/09 - 3.2.06

D E C I S I O N
of the Technical Board of Appeal 3.2.06
of 11 July 2012

Appellant:
(Patent Proprietor)

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Decision under appeal:

**Decision of the Opposition Division of the
European Patent Office posted 23 October 2008
revoking European patent No. 1219533 pursuant to
Article 101(3) (b) EPC.**

Composition of the Board:

Chairman: M. Harrison
Members: G. Kadner
K. Garnett

Summary of Facts and Submissions

I. The mention of grant of European patent No. 1 219 533, on the basis of European patent application No. 01130987.9 filed on 28 December 2001 and claiming two US priorities from 29 December 2000 and from 11 June 2001 respectively, was published on 3 May 2006.

II. Notice of opposition, in which revocation of the patent on the grounds of Articles 100(a) and 100(c) EPC was requested, was filed against the granted patent.

By way of its decision posted on 23 October 2008, the opposition division revoked the European patent. The opposition division held that there was no basis for a correction under Rule 88 EPC 1973 or Rule 139 EPC as requested as a main request. Auxiliary requests 1 to 3 were not allowable because of an inadmissible amendment under Article 123(2) or 123(3) EPC. The subject-matter of claim 1 according to the fourth auxiliary request lacked novelty and that of the fifth auxiliary request did not involve an inventive step.

III. Notice of appeal was filed against this decision by the appellant (patentee) on 29 December 2008, and the appeal fee was paid on the same day. Together with the grounds of appeal, received at the EPO on 26 February 2009, the appellant pursued its main request and filed six auxiliary requests. Corrected fifth and sixth auxiliary requests were filed with letter dated 1 February 2010.

IV. In a communication accompanying the summons to oral proceedings the Board expressed its preliminary view that the main request did not seem allowable, the first

to sixth auxiliary requests appeared to give rise to problems at least in respect of Article 123(2) EPC, and any discussion of novelty and inventive step would require an admissible request on file.

V. On 11 June 2012 the appellant filed new sets of claims according to a main and first to fourth auxiliary requests.

VI. Oral proceedings were held before the Board on 11 July 2012 during which the appellant filed new main, first and fourth auxiliary requests and refiled its previous third and fourth former auxiliary requests as its second and third auxiliary requests.

The appellant requested that the decision under appeal be set aside and the patent be maintained on the basis of the main, alternatively one of the first to fourth auxiliary requests, all as filed during the oral proceedings.

The respondent requested that the appeal be dismissed.

The main request includes the request to allow a correction of Fig. 14 of the patent. Claim 1 according to the main and first auxiliary requests is identical and reads as follows (features numbered according to the appellant's order):

"(1.1) A larger sprocket (40) of a chainwheel sprocket assembly (30)
(1.2) comprising the larger sprocket (40) and a smaller sprocket (50) for engagement with a chain (10),
(1.3) the larger sprocket comprising: a sprocket body (42) having a center (43), a first side facing the smaller sprocket, a second side and a rim (44) on the

outer periphery thereof;

(1.4) a plurality of toothlike projections (45) arranged on the rim (44) of the sprocket body (42) to engage the chain (10);

(1.5) wherein the first side of the larger sprocket body (42) includes a chamfer portion (34)

(1.6) between the toothlike projections (45),

(1.7) the chamfer portion (34) extending from the rim (44) in a direction toward the center (43) of the sprocket body (42); and

(1.8) wherein the chamfer portion (34) includes a crest (35),

(1.9) a first edge (36) and a second edge (37), and

(1.10) wherein the chamfer portion (34) is continuous and does not include sharp edges, and

(1.11) tapers from the crest (35) to the first edge (36) and the second edge (37), respectively, characterized in that

(1.12) on the second side of the larger sprocket body (42), the region between each pair of toothlike projections (45) is beveled, defining a chamfered portion (46) extending from the rim (44) of the sprocket body (42) toward the center (43) of the sprocket body (42)."

In claim 1 of the second auxiliary request (former third auxiliary request) besides minor amendments features (1.3), (1.5) and (1.12) were amended as indicated in the following, and feature (1.13) was added:

"(1.3) the larger sprocket comprising: a sprocket body (42) having a center (43), a ~~first~~ back side (31) facing the smaller sprocket (50), a ~~second~~ front side (41) and a rim (44) on the outer periphery thereof;

(1.5) wherein the ~~first~~ back side (31) of the ~~larger~~ sprocket body (42) includes a chamfer portion (34);

(1.12) on the ~~second~~ front side (41) of the ~~larger~~ sprocket body (42), the region between each pair of toothlike projections (45) is beveled, defining a chamfered portion (46) extending from the rim (44) of the sprocket body (42) toward the center (43) of the sprocket body (42);

(1.13) wherein the chamfered portions (34) on the back side (31) are larger than the chamfered portions (46) on the front side (41)."

Claim 1 of the third auxiliary request (former fourth auxiliary request) is based on claim 1 of the second auxiliary request, with the following features (1.14) and (1.15) being added:

"(1.14) wherein the back side (31) includes a first and a second disengagement-facilitating portion (32, 33), and the back side (31) includes the chamfer portions (34) between each pair of toothlike projections (45) within the disengagement-facilitating portions (32, 33),

(1.15) wherein the back side includes smaller chamfer portions (46) outside of the disengagement-facilitating portions (32, 33)."

Claim 1 of the fourth auxiliary request (newly filed) includes the features of granted claims 1, 4 and 5 and reads:

"A sprocket (60, 40, 50) of a chainwheel sprocket assembly (30) for engagement with a chain (10), the sprocket comprising:

a sprocket body (42) having a center (43), a first side (41), and a rim (44) on the outer periphery thereof; a plurality of toothlike projections (45) arranged on the rim (44) of the sprocket body (42) to engage the chain (10);

characterized in that

the first side of the sprocket body (42) includes a chamfer portion (34, 46, 53) between the toothlike projections (45), the chamfer portion (34, 46, 53) extending from the rim (44) in a direction toward the center (43) of the sprocket body (42); and

wherein the chamfer portion (34, 46, 53) includes a crest (35), a first edge (36) and a second edge (37), and wherein the chamfer portion (34, 46, 53) is continuous and does not include sharp edges, and tapers from the crest (35) to the first edge (36) and the second edge (37), respectively,

wherein the sprocket has a driving direction(D) and the crest (35) of the chamfer is offset towards the driving direction (D) and

wherein the chamfer portion (34, 46, 53) has a radius of curvature (R) at the crest (35) in the range of 1.5 to 3.0 millimeters."

VII. The arguments of the appellant can be summarized as follows:

The amendments made to claim 1 of the main request and first auxiliary request should be allowed since they were clearly disclosed in the application as originally filed. The larger sprocket facing a smaller sprocket was disclosed in the summary (paragraph [0006], corresponding to the same paragraph number in the A-document) without the necessity of a restriction to

three chainwheels. The amendment of feature (1.12) was taken from paragraph [0013] using the identical wording used there. For the skilled person it was clear that a chamfered portion being continuous and having no sharp edges and being bevelled towards the centre of the sprocket body would prevent the adhesion of mud or dirt, thus facilitating the shifting operation. Since this disclosure was clear and unambiguous, the amended claim should be admitted into proceedings. In regard to the second and third auxiliary requests, these also contained this feature, albeit in a slightly amended and clarified form.

At the very least, the fourth auxiliary request should be admitted into the proceedings because this was the last chance of the patentee to save its patent. The subject-matter of its claim 1 was novel and inventive with respect to all prior art documents on file and should therefore be allowable. None of them disclosed any dimension of the chamfered portions for facilitating the disengagement of the chain.

VIII. The respondent argued that the amendments to the respective claims 1 of the main, first and second and third auxiliary requests did not comply with the requirement of Article 123(2) EPC because the isolation of added features, which had been disclosed in a particular embodiment, led to an inadmissible intermediate generalisation. Furthermore, the amendment in respect of "bevelled" lacked clarity (Article 84 EPC), particularly in view of an extension from the "rim" towards the centre of the sprocket body since figures 2 to 6 as described in paragraph [0013] did not show such an extension. The term "beveled" used in the claims was a very common expression for any slanted face. Therefore the skilled person was unable to

determine where the chamfered portions 46 defined by a bevelled region should be situated.

The fourth auxiliary request was very late filed and should not be admitted into the proceedings under Article 13 RPBA since it was directed to new subject-matter which had never been within the appeal proceedings.

Reasons for the Decision

1. The appeal is admissible.
2. *Main request, first auxiliary request (Article 123(2) EPC 1973)*
 - 2.1 The basis for the amendment made to claim 1 of these two requests, by adding feature (1.12), was said to be found in the passage of the description at paragraph [0013] of the patent (corresponding with that of the A-document) having the wording:

Figures 2 through 6 depict a preferred embodiment of the larger sprocket 40 of the present invention. As shown in Figure 2, the front side 41 of the larger sprocket includes a sprocket body 42, having a center 43, and sprocket rim 44 around the periphery thereof. A plurality of toothlike projections 45 are arranged on the rim 44 of the body 42 and configured to engage the drive chain (not shown). The region between each pair of toothlike projections 45 is preferably beveled, defining a chamfered portion 46. The chamfered portion 46 preferably extends from the rim 44 of the sprocket body 42 toward the center 43 of the sprocket body 42 ...

- 2.2 The only other reference to chamfered portions 46 is to be found in Figure 2, where three faces of the sides of the teeth are marked by that reference. However these chamfered portions 46 do not extend from the rim 44 (which can only be understood to be the circumferential portion on which the teeth are arranged in accordance with paragraph [0013]) towards the centre 43 of the sprocket body but instead they extend from the tips of the toothlike projections 45 towards the rim 44. Regarding the other Figures, chamfered portions can be determined sloping from the tips of the toothlike projections radially inwardly. No bevelled region between each pair of toothlike projections defining a chamfered portion 46 extending from the rim 44 of the sprocket body 42 toward the centre 43 of the sprocket body 42 can be derived from that particular embodiment described in paragraph [0013]. Indeed, the "chamfered" portions 46 shown in the Figures, to which [0013] specifically relates, are shown to have a very specific shape and are formed for example in a continuous curving manner.
- 2.3 Feature 1.12 is an essential feature forming the characterizing portion of claim 1. However this feature is not clearly and unambiguously disclosed in the manner claimed because it is impossible for a skilled person to know where the chamfered portion is situated. Moreover, the chamfer is defined very generally, even though the Figures disclose a very specific shape of same. It follows that protection is sought for subject-matter which is not clearly and unambiguously disclosed in the application as originally filed, with the consequence that the amended claim is *prima facie* not allowable (Article 123(2) EPC). These late-filed requests were therefore not admitted into the proceedings.

3. *Second and third auxiliary requests Article 123(2) EPC*

Claim 1 of each of the second and third auxiliary requests was amended to include *inter alia* the same feature (1.12) as in the previous requests, albeit slightly reworded with respect to the definition of the face of the chainring concerned. The change from "second side" to "front side (41)" does not alter the position and extension of the "chamfered portion (46)". For the same reasons these requests are also *prima facie* not allowable and, having been filed late, were not admitted into the proceedings.

4. *Fourth auxiliary request (Article 13 RBPA)*

4.1 In Article 13(1) of the Rules of Procedure of the Boards of Appeal (RBPA) it is stated that it is within the Board's discretion to admit and consider any amendment to a party's case after it has filed its grounds of appeal or reply. The discretion shall be exercised *inter alia* in view of the complexity of the new subject-matter submitted, the current state of the proceedings and the need for procedural economy.

Further, Article 13(3) provides that amendments sought to be made after oral proceedings have been arranged shall not be admitted if they raise issues which the Board or the other party cannot be reasonably be expected to deal without adjournment of the oral proceedings.

4.2 Claim 1 of this request includes the features of granted claims 1, 4 and 5. The appellant argued that the original disclosure was unambiguous and that, since it was the last chance to defend its patent, the request should be admitted into the proceedings.

4.3 Given that the amended features are presumably intended to contribute to the solution of the original technical problem, an entirely different subject-matter is now claimed, having features which had not previously been part of the discussion during appeal proceedings at all. At least for the reason that this would require the discussion of new and complex issues of the case, going in a different direction to those addressed in the written submissions, the Board exercised its discretion not to admit the fourth auxiliary request into the proceedings.

5. There being no admissible requests on file for maintenance of the patent, the appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



M. H. A. Patin

M. Harrison

Decision electronically authenticated