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Datasheet for the decision of 6 August 2009

Case Number: T 0122/08 - 3.2.01

Application Number: 98108377.7

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Language of the proceedings: EN

Title of invention:
Hub transmission for bicycle

Patentee:
SHIMANO INC.

Opponent:
SRAM Deutschland GmbH

Headword:
-

Relevant legal provisions:
-

Relevant legal provisions (EPC 1973):
EPC Art. 100(c)

Keyword:
"Opposition grounds - extension of subject-matter (yes)"

Decisions cited:
G 0001/93

Catchword:
-

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number: T 0122/08 **-** 3.2.01

D E C I S I O N
of the Technical Board of Appeal 3.2.01
of 6 August 2009

Appellant: (Opponent)
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Decision under appeal:
Interlocutory decision of the Opposition Division of the European Patent Office posted 23 October 2007 concerning maintenance of the European patent No. 0876952 in amended form.

Composition of the Board:

Chairman: S. Crane
Members: J. Osborne
S. Hoffmann

Summary of Facts and Submissions

I. The opponent's appeal is directed against the interlocutory decision posted 23 October 2007 according to which account being taken of the amendments made by the patent proprietor during the opposition proceedings, the patent and the invention to which it relates were found to meet the requirements of the EPC 1973.

II. In the decision under appeal the opposition division found *inter alia* that amendment to claim 1 prior to grant of the patent did not extend the subject-matter of the patent beyond the content of the application as filed.

III. At oral proceedings held on 6 August 2009 the appellant requested that the decision under appeal be set aside and the patent revoked. The respondent requested that the appeal be dismissed.

IV. Claim 1 as approved by the opposition division reads:

"An internal hub transmission for a bicycle comprising:
a hub axle (21) having an axle axis for retaining the transmission to a bicycle frame;
a driver (22) rotatably supported relative to the hub axle (21);
an output member (23) rotatably supported relative to the hub axle (21);
a power transmission mechanism disposed between the driver (22) and the output member (23) for communicating rotational force of the driver (22) to the output member (23) through a plurality of transmission paths;

an operation mechanism (25) disposed at least partly in the hub axle (21) for movement in the direction of the axis to select among the plurality of transmission paths;
an actuating mechanism (70, 71, 73, 74) mounted on the hub axle (21) inboard of a free end of the hub axle for moving the operation mechanism (25) in the direction of the axle axis;
the actuating mechanism (70, 71, 73, 74) is a bell crank mechanism (26),
characterized in that said bell crank mechanism (26) being arranged to be disposed between the driver (22) and the rear dropout (2a) of the frame body (2) of the bicycle."

Claim 1 differs from its form as originally filed essentially by the addition of the final six lines as presented above.

V. The appellant's submissions in as far as relevant to the present decision may be summarised as follows:

Claim 1 was amended pre-grant to specify that the actuating mechanism is arranged to be disposed between the driver and the rear dropout. It is evident that this reference to the dropout in the claim relates to its inner surface and that the plain meaning of the words used requires that the actuating mechanism in its entirety is disposed between the driver and that inner surface. In the application as originally filed it is explicitly disclosed that the bell crank is "mounted to the inside" of the dropout. However, there is no statement regarding the relative positions of the components. The bell crank comprises the link member 71

including the strike component 71d which in figures 2, 3 is clearly shown in a position which is not between the driver and the rear dropout. Indeed, the inner surface of the dropout was not originally disclosed as being of any significance to the invention. Moreover, there is no basis for the claim to be interpreted as defining an optional condition.

The offending feature also does not fall within the exception set out by decision G 1/93. The feature results from an amendment made in order to establish novelty during pre-grant examination and is the basis for the problem and solution consideration when judging inventive step. It therefore cannot be considered as offering no technical contribution.

VI. The respondent's rebuttal was essentially that:

Claim 1 does not specify the inner surface of the dropout and so is consistent with the position of the strike component in figures 2, 3. Moreover, that position was not disclosed as being essential to solving the set problem of avoiding damage when the bike topples and merely represents a particular adjustment condition. The claim is to be understood as meaning that the actuating mechanism fits between the driver and the dropout, thereby to avoid damage when the bicycle topples. The clear and explicit disclosure of the application as originally filed was that the bell crank mechanism including the strike component was mounted to the inside of the rear dropout and therefore arranged to be disposed between the driver and the dropout.

As regards the exception in accordance with decision G 1/93, the problem of avoiding damage is solved by locating the actuating mechanism within the length of the axle. The additional restriction now claimed avoids state of the art cited during pre-grant examination without solving any further problem and therefore provides no technical contribution.

Reasons for the Decision

1. The patent relates to a hub transmission for a bicycle and particularly to the actuating mechanism for converting movement of a gear selector cable into movement along the axis of the hub axle in order to select gear ratios. The problem as set out in the application as originally filed was that in earlier arrangements the actuating mechanism protruded from the end of the axle and was therefore susceptible to damage when the bicycle toppled. The solution as originally claimed was to provide the actuating mechanism inboard of the end of the axle. In response to the citation of state of the art during pre-grant examination claim 1 was amended to specify that the actuating mechanism is "arranged to be disposed between the driver and the rear dropout." It is this amendment which the appellant argues to have no basis in the application as originally filed.

2. The sections of the application as originally filed which are of relevance to the disclosure of the contested feature and on which the parties relied in their submissions are:

(i) Acknowledgement of state of the art in the paragraph bridging pages 2 and 3: "Regardless of which type of actuating mechanism is used, since the actuating mechanism protrudes from the hub axle end, the actuating mechanism is susceptible to damage if the bicycle falls over. Such damage to the actuating mechanism can in some cases preclude shifting. There is also the danger that the protruding actuating mechanism will hit or snag on objects while the bicycle is being ridden."

(ii) Description of a preferred embodiment on page 11, lines 3 to 6: "The bell crank 26 is mounted to the inside of the rear dropout 2a in a state in which the hub axle 21 is mounted on the frame body 2, as shown in Figures 3, 7, and 8. The bell crank 26 comprises a support bracket 70 mounted at the chamfered components 21c and a link member 71 swingably supported by the support bracket 70."

(iii) Figure 3 which shows in an enlarged partial view of figure 2 the actuating mechanism in one end position.

(iv) Figures 9 and 10 which correspond to figure 3 but with the actuating mechanism in an intermediate position and the other end position respectively.

2.1 It is evident that an essential feature of the teaching of the application as originally filed was that the actuating mechanism be placed inboard of the end of the axle. This feature was included in claim 1, implied in the discussion of problems arising in the state of the art in the referenced section (i) and shown in all of figures 2, 3, 9 and 10. This feature remains in present

claim 1. However, present claim 1 includes the further feature added during pre-grant examination that the actuating mechanism is "arranged to be disposed between the driver and the rear dropout." Original disclosure of the position of the actuating mechanism relative to the driver is not disputed and the matter to be determined is only whether there was an original disclosure of the actuating mechanism being disposed inboard of the dropout.

2.2 The subject-matter of the claim is a "hub transmission for a bicycle" and therefore does not include a bicycle frame, although the feature of the rear dropout in claim 1 is a part of a frame. Nevertheless, the position of the inner surface of the dropout would be determined by an abutment surface on the transmission assembly. The board therefore interprets the reference to a dropout in the contested wording as referring to the inboard face. This is also consistent with the wording of the claim requiring the actuating mechanism to be "between" the driver and the dropout. In agreement with the appellant the board understands this requirement as referring to the actuating mechanism in its entirety. No other interpretation is appropriate in the context and, indeed, none was argued by the respondent.

2.3 It is evident that the further the actuating mechanism as a whole is located from the end of the axle, the more it will be protected not only by the axle but also possibly by the frame of a bicycle to which the transmission would be fitted. This is reflected in the following wording added prior to grant of the patent (paragraph [0007] of the patent specification):

"A bicycle internal hub transmission according to preamble of claim 1 is known … according to this prior art the actuating mechanism is mounted inboard of a free end of the hub axle a protective housing has nevertheless to be provided, which encloses the actuating mechanism."

However, claim 1 was amended to include a reference to a particular datum, namely the dropout, and the matter at issue is whether that datum was disclosed in the application as originally filed as being of significance.

2.4 In the application as originally filed the preferred embodiment of the actuating mechanism is described in the above-referenced section (ii) as being "mounted to the inside of the rear dropout" and that is consistent with figures 2, 3 showing the actuating mechanism mounted on the axle with the mounting components such as mounting band 72 inboard of the dropout. It is that disclosure upon which the respondent primarily relies as providing a basis for the contested feature added to claim 1. However, a statement that the actuating mechanism is mounted inboard of the dropout is not tantamount to a teaching that the mechanism as a whole be disposed inboard of the dropout. Indeed, figures 2, 3 show one part of the actuating mechanism, the "strike component" 71d which engages with the operating mechanism in the axle, extending outwards beyond the inboard face of the dropout, albeit only in a position corresponding to one of the gear ratios.

2.5 In the absence of an explicit textual disclosure of the contested feature a basis in the application as originally filed for the contested feature can only be in the drawings or implicit from the whole disclosure.

2.5.1 In accordance with consistent case law of the EPO features derivable only from a drawing may be considered as being disclosed only if they do not contradict other parts of the disclosure. Whilst figures 9, 10 do show all parts of the actuating mechanism including the strike component inboard of the inner face of the dropout, this contrasts with the content of figures 2, 3. In view of the contradictory teaching as regards the contested feature of figures 9, 10 on the one hand and figures 2, 3 on the other the drawings cannot serve as a disclosure of the feature.

2.5.2 The extent to which the actuating mechanism would be protected from damage by the frame of a bicycle would depend in part on the form of the frame itself, a subject on which the present case is silent. However, in all of the illustrated positions of the strike component it is positioned within and protected by the axle so that its location relative to the dropout would be of no importance. The skilled person therefore would have no cause to implicitly understand that the strike component might when in the outermost extreme position remain inboard of the inner face of the dropout. The board cannot accept the argument of the respondent that figures 2, 3 show merely the result of a particular adjustment condition since there is no factual basis for such an assertion. For that reason there is no implicit teaching that the disposition of the actuating

mechanism relative to the inboard face of the dropout would be of any relevance.

2.6 The board concludes from the foregoing that the specification in claim 1 that the actuating mechanism is disposed between the driver and the rear dropout extends the content of the patent specification beyond the application as originally filed (Article 100(c) EPC 1973).

3. In decision G 1/93 (OJ EPO 1994, 541) concerning the relationship between the requirements of Article 123(2) and 123(3) EPC it was found that:

"If a European patent as granted contains subject-matter which extends beyond the content of the application as filed within the meaning of Article 123(2) EPC and which also limits the scope of protection conferred by the patent, such patent cannot be maintained in opposition proceedings unamended, because the ground for opposition under Article 100(c) EPC prejudices the maintenance of the patent. Nor can it be amended by deleting such limiting subject-matter from the claims, because such amendment would extend the protection conferred, which is prohibited by Article 123(3) EPC. Such a patent can, therefore, only be maintained if there is a basis in the application as filed for replacing such subject-matter without violating Article 123(3) EPC.”

The Enlarged Board also found an exception to this rule by stating that:

"A feature which has not been disclosed in the application as filed but which has been added to the application during examination and which, without providing a technical contribution to the subject-matter of the claimed invention, merely limits the protection conferred by the patent as granted by excluding protection for part of the subject-matter of the claimed invention as covered by the application as filed, is not to be considered as subject-matter which extends beyond the content of the application as filed within the meaning of Article 123(2) EPC. The ground for opposition under Article 100(c) EPC therefore does not prejudice the maintenance of a European patent which includes such a feature."

The board has examined whether this exception is applicable in the present case but has found it not to be so for the reasons set out below.

3.1 As set out above the board considers that in the application as originally filed there is no disclosure of a technical significance in the relative dispositions of the actuating mechanism and the inboard face of the dropout. As a result, it is the statement of this relative disposition in claim 1 which is the unallowable extension of subject-matter. However, that relative disposition was the sole characterising feature in claim 1 as granted and was argued to establish both novelty and an inventive step in the subject-matter with respect to state of the art. It therefore cannot be concluded that the feature provides no technical contribution. The respondent argues there to be no technical contribution in the contested feature because it was not essential to solving the

problem as set out in the application as originally filed. Whilst the board agrees with the respondent's view as to the feature's essentiality in this respect, the conclusion that it offers no technical contribution does not follow. The feature amounts to a technical teaching which was not present in the application as originally filed, namely that disposing the actuating mechanism between the driver and the inboard face of the dropout would reduce the risk of damage while obviating the need for a protective housing, cf. point 2.3 above.

3.2 The board therefore finds that the exclusion provided for in decision G 1/93 (*supra*) is not applicable in this case.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar: The Chairman:

D. Sauter S. Crane