Internal distribution code:

(A) [-] Publication in OJ
(B) [-] To Chairmen and Members
(C) [-] To Chairmen
(D) [X] No distribution

Datasheet for the decision of 31 March 2017

Case Number: T 0986/12 - 3.2.06

Application Number: 03009966.7

Publication Number: 1359088

IPC: B62M25/08

Language of the proceedings: EN

Title of invention:
System for controlling a bicycle transmission

Patent Proprietor:
SHIMANO INC.

Opponent:
SRAM Deutschland GmbH

Headword:

Relevant legal provisions:
EPC 1973 Art. 100(a), 54(2)
RPBA Art. 13(1)

Keyword:
Novelty - main request (no)
Late-filed auxiliary requests - admitted (no)

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern
Boards of Appeal
Chambres de recours

European Patent Office
D-80298 MUNICH
GERMANY
Tel. +49 (0) 89 2399-0
Fax +49 (0) 89 2399-4465

Case Number: T 0986/12 - 3.2.06

D E C I S I O N
of Technical Board of Appeal 3.2.06
of 31 March 2017

Appellant: (Patent Proprietor)	SHIMANO INC. 3-77, Oimatsu-cho Sakai-ku, Sakai City Osaka 590-8577 (JP)
Representative:	Grosse Schumacher Knauer von Hirschhausen Patent- und Rechtsanwälte Nymphenburger Strasse 14 80335 München (DE)
Respondent: (Opponent)	SRAM Deutschland GmbH Romstr. 1 97424 Schweinfurt (DE)
Representative:	Jordan, Volker Otto Wilhelm Weickmann & Weickmann Patentanwälte PartmbB Postfach 860 820 81635 München (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 23 February 2012 revoking European patent No. 1359088 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman M. Harrison
Members: T. Rosenblatt
E. Kossonakou

Summary of Facts and Submissions

I. The appellant (patent proprietor) filed an appeal against the decision of the opposition division dated 23 February 2012 by which European patent No. 1 359 088 was revoked.

II. Concerning the patent as granted, the opposition division considered that the subject-matter of claim 1 was new *inter alia* in view of

E3: DE-A-40 22 473,

but lacked an inventive step.

III. With its grounds of appeal, the appellant defended the patent as granted and filed auxiliary requests 1 to 4.

IV. In its reply to the appeal grounds, the respondent (opponent) refuted *inter alia* the reasons given in the impugned decision in regard to novelty of the subject-matter of granted claim 1.

V. The Board sent a communication in preparation for oral proceedings, informing the parties of its preliminary opinion on the case.

VI. As a reaction to the Board's communication, the appellant submitted with its letter of 15 March 2017 a new auxiliary request, replacing auxiliary requests 1 to 4 filed with the appeal grounds.

VII. Oral proceedings were held before the Board on 31 March 2017.

VIII. The appellant requested that the decision under appeal be set aside and the patent be maintained as granted (main request) or according to the auxiliary request filed with the letter of 15 March 2017.

IX. The respondent requested that the appeal be dismissed.

X. Claim 1 of the patent as granted reads:

"A system (12) for moving an electrically controlled bicycle derailleur (62, 66) from a first sprocket to a second sprocket comprising:
a derailleur position input for receiving a signal indicating a position of the derailleur (62, 66);
a memory (414) storing a first reference derailleur position (470) for the second sprocket (54B);
a motion control circuit (412, 413) that provides a plurality of signals to move the derailleur (62, 66) from the first sprocket (54A) to the second sprocket (54B), wherein the plurality of signals comprise:
a first signal generated when the derailleur (62, 66) initially moves away from the first sprocket; wherein the first signal comprises a continuous drive signal; and a second signal generated when the derailleur (62, 66) is in close proximity to the second sprocket, characterized in that the second signal comprises an intermittent signal generated to position the derailleur (62, 66) at the first reference position (470)."

XI. In claim 1 of the auxiliary request, the following features have been appended to the end of claim 1 of the main request:

"[...at the first reference position (470)]; wherein the first reference derailleur position corresponds to

a position wherein the derailleur (62, 66) is aligned with the second sprocket; wherein the plurality of signals further comprise a third signal to position the derailleur (62, 66) at the first reference derailleur position; and wherein the memory (414) stores a second reference derailleur position, and wherein the motion control circuit (412, 413) generates the second signal when the derailleur (62, 63) is at the second reference derailleur position."

XII. The appellant argued that the novelty objections raised by the respondent in its reply to the appeal grounds could not be considered in the appeal procedure. Citing from a letter of the respondent which had been submitted during the proceedings before the opposition division, the appellant held that novelty of the subject-matter of claim 1 had been acknowledged by the respondent.

In regard to the substance of the novelty objection based on E3, the appellant argued that claim 1 was limited to a system by which the derailleur movement between the first and second sprockets constituted a completed shift operation. The movement of the derailleur for completion of the shift operation required movement control by a first continuous drive signal and by a subsequent second intermittent signal. In contrast, the shift operation performed by the system of E3 was already completed after the derailleur had moved from the first to the second sprocket. The positional feed back control ("*Lageregelung*") was entirely unrelated to the execution of the completed shift from the first to the second sprocket. Consequently, the signals used during the positional feedback control could not be equated with the intermittent second signal of claim 1. Moreover, E3 did

not disclose any details of the signals generated by its control unit.

Concerning the auxiliary request, the appellant submitted that the amendments relied on a combination of granted claims, which had all been attacked in the notice of opposition and considered trivial. Its subject-matter therefore could not introduce any new, unexpected or particularly complex issues into the procedure. A third signal, as now defined in claim 1 had moreover already been present in previous auxiliary request 4. In its written submission accompanying the filing of the auxiliary request, the appellant argued that E3 did not disclose the generation of a third signal prior to the generation of the second intermittent signal. During the oral proceedings before the Board it was further argued that E3 also did not disclose a memory which stored, in addition to the first reference position which corresponded to the position in alignment with the second sprocket, a different second reference derailleur position, nor that the second intermittent signal was generated upon the derailleur reaching that second reference position. As regards the timing of filing the auxiliary request, it was only with the Board's preliminary opinion that lack of novelty of the subject-matter of claim 1 in view of E3 was considered to potentially prejudice maintenance of the patent so that the appellant had to be given a fair chance to overcome this objection.

XIII. The respondent contested that it ever withdrew its objection of lack of novelty. Rather, it had explicitly maintained all its novelty objections.

The respondent furthermore contested the appellant's interpretation of claim 1 that it should be understood

as being limited to the control of a completed gear shifting operation. It also contested the meaning that the appellant ascribed to the terms "continuous" and "intermittent". The control system known from E3 thus anticipated the subject-matter of claim 1.

The respondent objected to the admittance of the auxiliary request, because it substantially changed the subject of the appeal proceedings. Moreover, the appellant's additional arguments presented during the oral proceedings could not have been expected. As to the substance of the amendments, the respondent argued that the novelty objection had not actually been overcome, since the claim did not exclude the coincidence of the first and second reference positions; the performance of a late shift according to E3 thus fell under the wording of claim 1.

Reasons for the Decision

Main request

1. In a written submission during the proceedings before the opposition division, following a communication from the opposition division containing its provisional opinion on the case, the opponent (respondent) had stated the following (underlining as in the original):

> "*Wir bleiben bei unserer Meinung, dass der erteilte Anspruch 1 nicht neu ist gegenüber Druckschrift E1, nicht neu ist gegenüber Druckschrift E3 und nicht neu ist gegenüber Druckschrift E5, wie in unserem Einspruchsschriftsatz vom 20.04.2010 dargelegt. Wir*

verstehen aber auch und akzeptieren die hypothetische Sichtweise der Einspruchsabteilung, nach der ..., so dass mangels klarer und unmittelbarer Offenbarung eines kontinuierlichen Ansteuersignals die Neuheit des erteilten Anspruchs 1 anzuerkennen ist."

2. Although this statement might be seen as somewhat ambiguous because it states that the hypothetical view of the opposition division is understood and accepted, the Board cannot find that it constitutes an unambiguous withdrawal of the opposition ground "lack of novelty", as argued by the appellant, since it also states that the opponent maintained its view that claim 1 was not new over E1, E3 and E5. Moreover, according to the minutes of the oral proceedings before the opposition division, point 3.2, the issue of novelty was at least briefly discussed before the opposition division, with the opponent (respondent) stating, under the heading of "novelty", that it remained by its written arguments.

3. The Board thus concludes that the opposition ground "lack of novelty" has not been withdrawn. The objections raised by the respondent in its reply to the appeal grounds can thus be considered in the appeal proceedings.

4. Interpretation of claim 1

4.1 In its communication sent in preparation for the oral proceedings, the Board explained its preliminary interpretation of the subject-matter of granted claim 1, in particular regarding the expressions "continuous drive signal" and "intermittent signal". The Board stated specifically that these "should be given a broad

interpretation and cannot be seen as being limited to any type of particular signal shown in the preferred embodiments (see also paragraph 21 of the patent)" and that "in contrast to a continuous signal, which would seemingly be understood by the skilled person as being a signal continuously driving a motor or actuator, without being limited to any particular signal shape (AC, DC, PWM; see also paragraph 21 of the patent), an intermittent signal would be understood by the person skilled in the art merely as being a discontinuous signal, without again being limited to a particular signal shape, let alone the particular sequence of ON-OFF-signals, frequency or polarity relations disclosed in the embodiments."

The appellant did not contest this, so that the Board sees no reason to deviate from its provisional opinion and hereby confirms this interpretation.

4.2 Further, the Board can not follow the appellant's interpretation of claim 1, according to which its subject-matter should be understood as being limited to a system for controlling the derailleur movement from the first sprocket to the second sprocket so that a derailleur shift operation has been completed as a result of the two different signals generated.

The expressions "for moving ... from a first sprocket to a second sprocket" and "plurality of signals to move ... from the first sprocket to the second sprocket", each taken on its own or in combination, cannot be understood to be synonymous to "performing a complete derailleur shift from a first to a second sprocket" as the appellant argued. The description, although not limiting the claims, also does not support such a narrow interpretation either.

Moreover, the claim only refers to an undefined "first reference derailleur position for the second sprocket", which could be, but is not limited to, the second sprocket's position (see e.g. dependent claim 2, where only there is it defined that the first reference derailleur position corresponds to a position wherein the derailleur is aligned with the second sprocket). According to the preamble of claim 1, a second signal is generated when the derailleur "is in close proximity" to the second sprocket. "In close proximity" does not exclude alignment with the second sprocket. According to the features in the characterising portion, the intermittent second signal is generated to "position" the derailleur at the first reference position, which, as stated above, encompasses alignment with the second sprocket. The expression "to position" does not limit the system in the sense of necessarily requiring a further movement to finally reach the alignment position and thereby "complete" a shift operation. Rather, it encompasses also the situation in which a previously reached alignment position is maintained.

Claim 1 thus encompasses embodiments of a system where the derailleur, after its initial (continuous) movement phase, is already in alignment with the second sprocket (which could thus also be considered as a complete shift) and in which the intermittent second signal is generated at that position in order to position (or maintain) the derailleur there.

5. Taking into account the above interpretation of claim 1, which is broader than that seen by the appellant but which the Board also finds to be technically logical,

the Board considers that its subject-matter lacks novelty in view of E3 (Article 54 (1), (2) EPC 1973).

5.1 The system disclosed in E3 is suitable for moving an electrically controlled bicycle derailleur (40) from a first sprocket to a second sprocket. It was not disputed that it comprises a derailleur position input (column 6, lines 33-38), a memory for storing a first reference derailleur position for the second sprocket (col. 7, l. 15-18), a motion control circuit (76) providing a plurality of signals to move the derailleur from the first sprocket to the second sprocket, the plurality of signals comprising a first signal generated when the derailleur initially moves away from the first sprocket (col. 6, l. 61 to col. 7, l. 20), and a second signal generated during a positional feedback control phase when the derailleur is in close proximity to the second sprocket (col. 7, l. 21-31).

5.2 The appellant contested however that E3 disclosed first and second signals being of different type, i.e. a continuous drive signal and an intermittent second signal, respectively. This argument is not accepted for the following reasons.

5.2.1 E3 does indeed not explicitly state that a continuous drive signal is generated during an initial phase of movement of the derailleur away from the first sprocket. However, the skilled person would not understand anything different than this when considering the passage in col. 6, l. 61 to col. 7, l. 20, describing the control of the motor for shifting the derailleur. It is stated there that the shaft of the motor is caused to rotate due to the generation of a control signal upon actuation of a switch. This rotation of the motor shaft moves the derailleur away

from the first sprocket. The skilled person would then understand from the mention of "disabling" the control signal ("*unterbindet die Steuereinheit die Ansteuerung des Stellmotors*", col. 7, ll. 19/20) at a moment when the shaft of the derailleur's motor has rotated an amount corresponding to a gear shift, i.e. the derailleur has reached a (first reference) position in close proximity or aligned with the second sprocket, that the signal generated by the motion control unit (76) previously during that phase of derailleur movement away from the first sprocket, continuously moved the derailleur from the first to the second sprocket. There is nothing in the entire passage that would have led the skilled person to consider that the motor, which in this embodiment is a servo-motor, could have generated a discontinuous or stepped derailleur movement. The first signal used during this movement phase performed by the system of E3 is thus a continuous drive signal within the meaning of claim 1 (cf. point 4.1 above).

5.2.2 After having reached the second sprocket position, the control unit according to E3 switches to positional feedback control ("*Lageregelung*", col. 7, l. 21 to 31) in order to maintain the position of the derailleur aligned with the second sprocket. The signals occurring during such a positional feedback are generated when the derailleur becomes displaced from alignment with the second sprocket. The skilled person considers such signals as intermittent signals because they are only generated episodically and on a shorter time scale compared to the time scale underlying the preceding derailleur movement from the first to the second sprocket, as also argued by the respondent. These intermittent signals are suitable to position or

maintain the derailleur at the first reference position corresponding to the second sprocket.

The appellant did not indicate how otherwise a positional feedback control could operate with signals not being intermittent.

5.3 The appellant furthermore argued that the positional feedback control according to E3, col. 7, l. 56-58, was an operational phase independent of the shift operation which had been completed beforehand. This argument fails however in view of the scope of the subject-matter encompassed by claim 1 according to point 4.2 above. The claim is only limited to movement control in relation to sprockets and does not define when a shift operation is complete.

5.4 Consequently no difference can be found between the system defined by the features of claim 1 and the system known from E3.

6. It follows that the opposition ground of lack of novelty (Articles 100(a) and 54 EPC 1973) prejudices maintenance of the patent as granted.

Auxiliary request

7. This request was filed long after both the grounds of appeal and the response to the appeal grounds were filed (Article 12(1) and (2) of the Rules of Procedure of the Boards of Appeal, RPBA) and therefore constitutes an amendment to the appellant's case.

8. According to Article 13(1) RPBA, any amendment to a party's case may be admitted and considered at the Board's discretion. The discretion shall be exercised

in view of *inter alia* the complexity of the new subject-matter submitted, the current state of the proceedings and the need for procedural economy.

In order to be in line with the requirement of procedural economy, amendments should be *prima facie* allowable at least in the sense that they overcome the objections raised against previous requests without giving rise to any new ones.

8.1 In its written submission accompanying the filing of the auxiliary request, the appellant considered novelty over E3 to be established by the added feature relating to the third signal which would have to be generated before the intermittent second signal.

In the oral proceedings, the appellant added to this argument that the second derailleur reference position additionally stored in the memory was also not disclosed in E3.

8.1.1 When submitting the auxiliary request, the appellant did thus not present a complete argument, setting out all features by which it considered the subject-matter of claim 1 to be distinguished over E3. By doing so the other party and the Board were not in a position to immediately judge the impact of the amendment in regard to the outstanding novelty (and inventive step) objection. Rather, the appellant made its case only in reply to further objections against the amendment by the respondent. This way of presenting a case conflicts with the requirement of procedural economy.

8.1.2 Moreover the argument presented during the oral proceedings raises a number of further questions concerning the interpretation of the amended claim

which appeared of particular relevance in view of the disclosure of E3. It would have required for the first time in the proceedings to consider the meaning of the definition of a first and a second derailleur reference positions, and whether these could be the same or different, and what limitation this could possibly imply for the motion control circuit and/or the memory (in case both positions could be identical, as argued by the respondent, which would involve considering the additional question of whether this meant that the memory storing such a single reference position required (necessarily) two storage registers or whether a memory with one storage register could also fall under the wording of the claim) and how such interpretation would affect the outstanding novelty objection.

The Board finds that, in consideration of the factors to be considered in Article 13(1) RPBA, these new issues are highly complex and also could not have been expected by the respondent and the Board on the basis of the appellant's written submissions.

Whether the respondent had considered each of the added features in its opposition notice as trivialities is irrelevant in this respect. The particular combination of features, although certainly encompassed by the granted claims, had never been considered before. Even if each individual feature would be trivial in regard to the common general knowledge of the skilled person, this does not necessarily apply for the interpretation of a combination of such features nor for the procedural issues emerging therefrom.

8.2 The amendments also constitute a complete change of the appellant's case. Considering the preceding discussions

in regard to the main request and considering the subject-matter of the previous auxiliary requests 1 to 4 which this request replaces, as well as those requests underlying the impugned decision, these all related in essence to the form of the first and second signals. Several communications had been exchanged on these issues between the parties before the Board informed them of its preliminary opinion in regard to the then outstanding issues. The new auxiliary request focuses now on a third signal, on the sequence of the signals (according to a further argument of the appellant) and on the positions at which these signals are generated.

Although the appellant is correct that the former auxiliary request 4 also defined a third signal, a number of other features, concerning *inter alia* the specific form of the signals as derived from the preferred embodiments, have been deleted, thereby changing the subject-matter of the discussions.

The Board rejects also the appellant's argument that this change should be allowed in view of the fact that the acknowledgement of novelty of granted claim 1 had been denied for the first time by the Board. As set out above, the novelty objection had never been dropped by the respondent. Solely based on the reasoning in the impugned decision and on the unfounded assumption that novelty could be excluded in the discussions before the Board, the appellant should not have taken it for granted that the Board would agree with its arguments.

8.3 Moreover, it appeared questionable to the Board whether the outstanding novelty objection in view of E3 would indeed be overcome by the amendments. As argued by the respondent, a third signal of opposite polarity

(compared to the signal initiating the movement away from the first sprocket) was also generated by the system in E3 in case of a derailleur late shift (see col. 7, lines 32-58). In view of the seemingly encompassed possibility of identity of the first and second derailleur reference positions in amended claim 1, it appeared that similar considerations as for the subject-matter of granted claim 1 would have applied to this request (cf. point 5.2 above). It was therefore at least *prima facie* not clear that the amendments overcame the novelty objection based on E3.

8.4 The Board therefore exercised its discretion according to Article 13(1) RPBA not to admit the auxiliary request into the proceedings.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

L. Malécot-Grob M. Harrison

Decision electronically authenticated