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Datasheet for the decision of 26 March 2024

Case Number: T 0740/21 - 3.2.06

Application Number: 10171707.2

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Language of the proceedings: EN

Title of invention:
Bicycle structure

Patent Proprietor:
Shimano, Inc.

Opponent:
SRAM Deutschland GmbH

Headword:

Relevant legal provisions:
EPC Art. 56, 111(1)
RPBA 2020 Art. 12(3)

Keyword:
Remittal for consideration of inventive step - (no)
Inventive step - auxiliary requests 2, 4 and 5 - (no)

Decisions cited:
G 0007/93, T 1002/92

Catchword:

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Beschwerdekammern

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Case Number: T 0740/21 - 3.2.06

D E C I S I O N
of Technical Board of Appeal 3.2.06
of 26 March 2024

Appellant: (Patent Proprietor)	Shimano, Inc. 3-77 Oimatsu-cho Sakai-ku, Sakai City Osaka Osaka 590-8577 (JP)
Representative:	Sonnenberg Harrison Partnerschaft mbB Herzogspitalstraße 10a 80331 München (DE)
Respondent: (Opponent)	SRAM Deutschland GmbH Romstraße 1 97424 Schweinfurt (DE)
Representative:	Ruttensperger Lachnit Trossin Gomoll Patent- und Rechtsanwälte PartG mbB Arnulfstraße 58 80335 München (DE)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 6 April 2021 revoking European patent No. 2353989 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman	M. Dorfstätter
Members:	M. Hannam
	D. Prietzel-Funk

Summary of Facts and Submissions

I. An appeal was filed by the appellant (patent proprietor) against the decision of the opposition division revoking European Patent No. 2 353 989.

II. With its statement setting out the grounds of appeal, the appellant requested that the decision under appeal be set aside and the patent be maintained in amended form on the basis of auxiliary request 2 (main request) or on one of auxiliary requests 3, 4 or 5 all submitted with the statement setting out the grounds of appeal.

III. In its reply to the appeal, the respondent (opponent) requested that the appeal be dismissed.

IV. The following document is relevant to the present decision:

E5 JP H05 254481 and its translation into English

V. The Board issued a summons to oral proceedings and a subsequent communication containing its provisional opinion, in which it indicated *inter alia* that the subject-matter of claim 1 of auxiliary request 2 appeared not to involve an inventive step when starting from E5 and combining common general knowledge with this. As regards auxiliary request 3, it indicated that the appellant had seemingly failed to substantiate its amendments to this request. As regards the subject-matter of claim 1 of each of auxiliary requests 4 and 5, the Board indicated that the respective amendments appeared not to overcome the lack of inventive step in auxiliary request 2.

VI. Oral proceedings were held before the Board, during which the appellant withdrew auxiliary request 3. At the close of the proceedings, the appellant's requests were thus as indicated in point II. above, except for auxiliary request 3 which was withdrawn. The respondent confirmed its initial request (see point III. above).

VII. Claim 1 of auxiliary request 2 reads as follows:

"A bicycle structure comprising:
A chain (22),
a crankset (14) including a plurality of chain rings, with a largest chain ring (24) of the plurality of chain rings having a plurality of teeth (24a) with teeth bottoms (24b) interposed between adjacent ones of the teeth; and
a front derailleur including a chain guide (32) having a chain guide slot (38) defined by a first chain engagement surface (41) and a second chain engagement surface (42), wherein the first chain engagement surface (41) is configured to contact an inside surface of a chain to perform an upshifting operation and the second engagement surface (42) is configured to contact an outside surface of the chain to perform a downshifting operation, the first chain engagement surface (41) being provided with a first contact area (44) for engaging the chain during a usual chain shifting operation that moves the chain onto the largest chain ring (24) and a second contact area (46) for contacting the chain during an unusual chain shifting operation that moves the chain onto the largest chain ring (24), wherein the unusual chain shifting operation refers to a shifting operation in which the chain gets caught on a tip of one of the teeth of the largest chain ring during a shifting operation from a smaller sprocket, and the usual chain

shifting operation refers to a shifting operation in which the chain does not get caught on a tip of one of the teeth of the largest chain ring during a shifting operation from a sprocket;
wherein the second contact area (46) has a protruding part (48), a transition surface 50 extending between the first contact area and the protruding part, wherein the protruding part (48) protrudes outwardly from the first chain engagement surface into the chain guide slot, the protruding part being disposed at a front edge of the chain guide (34) that forms a chain exit of the chain guide slot (38), wherein the protruding part (48) has a radial inner edge (48a) with a forward point (P1),
wherein, at the forward point (P1) of the inner edge (48a), the protruding part being located away from the teeth bottoms (24b) of the largest chain ring in a radial outside direction of the largest chain ring, the protruding part (48) being located away from the teeth bottom (24b) of the largest chain ring (24) at the forward point (P1) in the radial outside direction of the largest chain ring (24) by a prescribed distance (D2) as measured along a radius (R1), the radius (R1) extending from the rotational axis (Al) of the crankset (14) through the forward point (P1) of the inner edge (48a), said prescribed distance being in a range from 90% to 190% of a maximum chain height of the chain (22), with the front derailleur in the top gear position, so that the chain guide is vertically positioned directly over the largest chain ring,
wherein the protruding part (48) is located above the chain (22) at the area where the teeth (24a) of the largest chain ring (24) enter into link openings of the chain (22) just prior to the teeth (24a) or teeth bottoms (24b) contacting a roller of the chain when the chain is in a fully engaged, non-shifting, position

with the teeth (24a) of the largest chain ring (24)."

Claim 1 of auxiliary request 4 reads as for claim 1 of auxiliary request 2 with the following feature appended:

"wherein the protruding part (48) has an inner edge with a prescribed width extending along a chain travel direction of the first chain engagement surface, the inner edge being within the prescribed distance away from teeth bottoms of the largest chain ring in a radial outside direction of the largest chain ring."

Claim 1 of auxiliary request 5 reads as for claim 1 of auxiliary request 4 with the following feature further appended:

"wherein the protruding part (48) has a dimension of at least one millimeter as measured along a chain travel direction of the first chain engagement surface."

VIII. The appellant's arguments relevant to the present decision may be summarised as follows:

Auxiliary request 2

E5 failed to disclose the protruding part (third pressing portion 11c) being located at the front edge of the chain guide. Particularly Fig. 14 showed the portion 11c being set-back from the front edge of inner guide plate 11. E5 also failed to disclose the third pressing portion 11c being located above the chain since this would be understood by the skilled person as meaning 'directly above' i.e. vertically above the chain. Claim 1 also defined the chain guide as being 'vertically positioned directly over' the largest chain

ring which supported this interpretation. E5 also failed to disclose the protruding part having a radial inner edge. Figs. 22 to 25 could not be relied upon to disclose the inner edge since these related to a different embodiment of E5 than Fig. 16. An edge had to be understood as defining a recognisable limit of a surface, which could not be said of any part of the third pressing portion 11c of E5, which failed to disclose such a recognisable limit of a surface, a continuously curved surface not possibly disclosing such a limit. E5 further failed to disclose an unusual shifting of the chain since all the shifting stages of Fig. 16 depicted a usual, rather than an unusual, chain shifting operation.

The case should not be remitted to the first instance to decide upon the presence of an inventive step since the appellant had always argued that E5 failed to disclose a radially inner edge. Remittal would also adversely affect procedural economy.

The subject-matter of claim 1 involved an inventive step when starting from E5 and combining common general knowledge with this. The provision of an inner edge, rather than a continuously curved surface like the third pressing portion 11c of E5, allowed the protruding part to present the largest possible flat area against which the chain could engage. This eliminated tilting of the chain during the unusual shifting. The claimed range of the prescribed distance further ensured that a sufficient surface of the protruding part contacted the chain to further limit chain tilt. This could not be achieved in E5 since the third pressing portion 11c of E5 was not flat such that contact with the chain would only be along a line of contact rather than over an area.

Incorrect exercise of discretion

E5 should not have been admitted by the opposition division to object to claim 1 of each of auxiliary requests 4 and 5 since claim 1 of these requests included the features of granted claims 5 and 6 respectively, which had not been objected to on the basis of E5 in the notice of opposition. The opposition division had thus exercised its discretion incorrectly.

Auxiliary request 4

The subject-matter of claim 1 involved an inventive step. With the claimed protruding part having an inner edge with a prescribed width extending along a chain travel direction, the edge would assist in limiting skew of the chain during the shifting operation. The skilled person would interpret the inner edge as extending the full width of the protruding part. The inner edge also had to be tangential to the chain travel direction since it had to lie within the prescribed distance. It also had to be formed at the junction of the protruding part and the transition surface.

Auxiliary request 5

The subject-matter of claim 1 involved an inventive step. The claimed protruding part having a dimension of at least one millimeter along a chain travel direction emphasized the effect of the inner edge of the protruding part helping to avoid chain skewing. This feature needed to be read in combination with the inner edge of the protruding part.

IX. The respondent's arguments relevant to the present decision may be summarised as follows:

Auxiliary request 2

E5 disclosed all features of claim 1 save for the 90% to 190% range of the prescribed distance. The line depicted in Fig. 14 was to be seen as a radial inner edge of the protruding part 11c as this divided the third pressing portion 11c from area D. Claim 1 did not define the protruding part to be radially outwards from the first contact area.

The case should be remitted to the first instance for consideration of an inventive step since the Board's conclusion regarding E5 failing to disclose a radially inner edge differed from that of the opposition division and its conclusion regarding the presence of an inventive step was therefore not sound. The Board would be deciding upon this issue for the first time which deprived the parties of a decision before two instances.

The subject-matter of claim 1 lacked an inventive step when starting from E5 and combining common general knowledge with this. The patent attributed no technical effect to the protruding part having a radial inner edge and, with the protruding part not claimed to be planar, this failed to mitigate tilting of the chain during an unusual chain shifting operation. The claimed range for the prescribed distance would also automatically result from wishing to keep the third pressing portion 11c of E5 out of contact with the chain during a usual chain shifting operation. Absent a technical contribution going beyond the disclosure of E5, claim 1 could not be credited with involving an

inventive step.

Auxiliary request 4

The subject-matter of claim 1 still lacked an inventive step. No technical effect was achieved through the radial inner edge having a prescribed width, particularly since this needed to extend only a minimal width, certainly not the entire width of the protruding part. A reduction in tilt of the chain could thus not be recognised.

Auxiliary request 5

E5 implicitly disclosed the protruding part (third pressing portion 11c) having a dimension of at least one millimeter such that the same conclusion to auxiliary request 4 had to be drawn. Even if it were considered to differentiate over E5, such a minimal area of contact with the chain could not mitigate skewing of the chain.

Reasons for the Decision

Auxiliary request 2

1. *Inventive step*

1.1 *Features of claim 1 disclosed in E5*

1.1.1 In its decision, the opposition division found E5 to disclose all features of claim 1 save for:

- said prescribed distance being in a range from 90% to

190% of a maximum chain height of the chain.

1.1.2 Both the appellant and respondent accepted this feature not to be known from E5, the appellant however further maintained that the following features were additionally not known from E5:

- the protruding part being disposed at a front edge of the chain guide that forms a chain exit of the chain guide slot;
- the unusual chain shifting operation;
- the protruding part being located above the chain; and
- the protruding part having a radial inner edge.

1.1.3 As regards the protruding part being disposed at a front edge of the chain guide, in view of the breadth of the expression 'at a front edge of', the Board finds this feature to be anticipated by E5. The Board does not see 'a front edge' to be limited to the very front or the frontmost portion of the chain guide. Fig. 14 of E5 (for example) schematically shows the guide plates 11 (corresponding to the claimed 'chain guide') and the third pressing portion 11c (claimed 'protruding part'), wherein at least a portion of the third pressing portion 11c is located at the convexly curved 'front edge' of the guide plates 11, thus anticipating this feature of claim 1.

1.1.4 The appellant's contention that the portion 11c in E5 was set-back from the front edge of inner guide plate 11 is not accepted. Contrary to the appellant's interpretation, the front edge of the chain guide is not seen to be limited to the sharp edge i.e. the location at which two non-coplanar surfaces meet, rather it is found, at least in the present context of

a front edge of a chain guide, to include areas on the planar surfaces adjacent to the sharp edge.

1.1.5 As regards the unusual chain shifting operation, the appellant argued this to be when the chain rollers sit on the chain wheel teeth. Paragraph [0008] of E5, from line 14 onwards describes just such a situation, 'when the chain is located on the tooth tip without yet meshing with ... gear 1'. The result of this situation is described as being that 'the third pressing portion 11c comes into contact with the chain'. This condition is also depicted in Fig. 16(d), where a roller of chain 5 is depicted above a tooth tip, third pressing portion 11c contacting the chain.

1.1.6 The appellant's contention that all the shifting stages of Fig. 16 depicted a usual, rather than an unusual, chain shifting operation is not supported by the above referenced portion of paragraph [0008] which explicitly discloses that which the appellant indicated to be understood as 'unusual shifting' i.e. when the chain is located on a tooth tip without meshing. Even if it were accepted that the third pressing portion 11c contacts the chain also during the 'usual chain shifting operation' of E5, it is noted that claim 1 does not limit contact of the protruding part with the chain to solely the unusual chain shifting operation.

1.1.7 Regarding the protruding part being located above the chain, Fig. 16 of E5 consistently discloses the third pressing portion 11c being located above the chain 5, the term 'above' being interpreted broadly as 'at a higher elevation' than the chain.

1.1.8 The appellant's argument that 'above' would be understood by the skilled person as meaning

'vertically, or directly above' is not accepted. No indication that 'above' should be understood to mean 'vertically above' is disclosed in the patent. Even claim 1 defining the chain guide as being 'vertically positioned directly over' the largest chain ring does not contradict the Board's conclusion since the protruding part is but a small part of the chain guide, it notably not being claimed that the entirety of the chain guide was positioned directly or vertically over the chain. It is also noted that the claimed protruding part 48 in the patent itself is not depicted in any figure to be located vertically above the chain.

1.1.9 As regards the claimed feature that the protruding part has a radial inner edge, contrary to the finding of the opposition division, this is indeed found not to be known from E5. In the Fig. 16 views of the third pressing portion 11c, this is shown to have an essentially curved surface extending smoothly into the portion labelled 'D' in the figures. Absent any recognisable boundary between the portions 11c and D, or even a defined limit to the curved surface of the third pressing portion, it cannot be concluded that the third pressing portion 11c of E5 includes a radial inner edge.

1.1.10 The respondent referred *inter alia* to Figs. 12 to 14 of E5 where a radial inner edge of the third pressing portion was alleged to be depicted with a clear line. Whilst this could indeed be interpreted as an edge of the third pressing portion 11c, this feature was not reflected in Fig. 16 in which, if such an edge were present, a defined boundary between portions 11c and D would have to be recognisable. E5 thus fails to directly and unambiguously disclose the claimed radial

inner edge of the protruding part.

1.1.11 In summary, therefore, the Board finds E5 to not disclose the following features of claim 1:

- the protruding part having a radial inner edge; and
- the prescribed distance being in a range from 90% to 190% of a maximum chain height.

1.2 *Remittal (Article 111(1) EPC)*

1.2.1 At oral proceedings, the respondent requested that the case be remitted to the opposition division for further prosecution in view of the fact that the Board's conclusion regarding the features differentiating claim 1 over E5 differed from that on which the opposition division based its inventive step decision.

1.2.2 According to Article 11 RPBA, the Board shall not remit a case to the department whose decision was appealed for further prosecution, unless special reasons present themselves for doing so.

1.2.3 In the present case, the appellant had argued that E5 failed to disclose the protruding part having a radial inner edge since the very start of the appeal procedure (see its grounds of appeal page 11, point B). The respondent had thus had the opportunity to fully consider its inventive step objections on the basis of this feature not being known from E5 and present these as part of its complete appeal case (see Article 12(3) RPBA). Neither the Board finding against the opposition division and respondent's view, nor the Board even ultimately finding differently to its preliminary opinion given in its communication under Article 15(1) RPBA, can be seen as 'special reasons' justifying

remittal of the case.

1.2.4 As to the respondent's argument that no document on file showed an inner edge, this is seen, if anything, to support a conclusion that the case should not be remitted, rather that it should be substantively concluded before the Board.

1.2.5 The respondent's further argument that the opportunity to present its arguments before two instances would be lost absent remittal of the case is not persuasive in the present case. It is settled case law of the boards that parties do not have a fundamental right to have their case examined at two levels of jurisdiction. Accordingly, they have no absolute right to have each and every matter examined at two instances. Particularly, in the present case, the issue regarding the protruding part having a radial inner edge had been considered by the opposition division and, despite ultimately having decided differently to the Board, considerations of procedural economy, opined by the appellant to be of importance, were not to be overlooked.

1.2.6 Ultimately the Board held that the parties had been afforded sufficient opportunity, at least during the written part of the appeal proceedings, to develop their arguments to an extent enabling the Board to conclude on the inventive step objections, thus maintaining a procedurally economic outcome of the case. The Board therefore exercised its discretion in refusing the request that the case be remitted for further prosecution (Article 111(1) EPC).

1.3 *E5 in combination with common general knowledge*

1.3.1 Based on the features differentiating claim 1 over E5 (see point 1.1.11 above), the appellant formulated the objective technical problem to be solved as 'how to increase the area of contact between the chain and the protruding part so as to reduce tilting of the chain'. The respondent did not contest this being the technical problem to be solved. Chain tilt was also commonly understood by both parties to be the 'twist' of a chain along its length.

1.3.2 As regards the technical advantage of the claimed protruding part having a radial inner edge, relative to the third pressing portion 11c of E5 lacking such an inner edge, the appellant argued that the edge enabled the contact area between chain and protruding part to be maximised due to the planar protruding part extending radially inwards further than the curved portion 11c of E5 would allow. Irrespective of the effect such an inner radial edge would have on a maximum contact area between protruding part and chain, claim 1 fails to define the protruding part having a planar surface for contacting the chain; the protruding part may, across the scope of claim 1, have a curved surface similar to that of the third pressing portion 11c of E5. Absent a planar surface of the protruding part, the contact between it and the chain will not be across an area, but rather simply along a line of contact. Such a line of contact between the protruding part and the chain would be singularly incapable of correcting any tilt of the chain. It thus follows that a defined radial inner edge of a non-planar protruding part would have no impact on the ability of the protruding part to mitigate chain tilt. The claimed radial inner edge thus fails to provide a technical effect with respect to the claimed chain shifting operation. The appellant notably did not suggest the

radial inner edge to demonstrate an alternative technical effect to this.

1.3.3 As regards the prescribed distance being in a range from 90% to 190% of a maximum chain height, the appellant argued that this contributed to the reduction of chain tilt by ensuring that sufficient contact area between the chain and the protruding part was provided. However, as found in point 1.3.2 above, with the protruding part not necessarily having a flat surface, no area of contact between the protruding part and the chain would occur, but merely a line of contact, such that no mitigation of chain tilt was possible, irrespective of the percentage of maximum chain height that the prescribed distance measured.

1.3.4 Even if there were an area of contact between the protruding part and the chain, the claimed range of prescribed distance fails, as also argued by the respondent, to define an overlap which would mitigate tilting of the chain. At the lower limit of the range (90%), the inner radial edge must lie above the height of the chain in its fully engaged position on the largest chain wheel. Therefore, at the upper limit of the range (190%), the inner radial edge will be located a full chain height higher than the 90% lower limit such that, when unusual shifting results in the chain rollers sitting atop the chain wheel teeth, a mere minimal overlap between the chain and the protruding part will occur. Comparing Figs. 11 and 13 of the patent in this regard, provides a visual indication of the minimal overlap of the chain and the protruding surface which would result at the 190% upper limit. Thus, even if an area of contact between the protruding part and the chain were to be realised in claim 1, the minimal overlap would not be expected from a technical

viewpoint to achieve the alleged mitigation of chain tilting.

1.3.5 It thus follows that neither of the features differentiating claim 1 over E5 makes a technical contribution to the prior art (at least not without further unclaimed features such as a planar surface being present). Consequently, lacking a technical contribution, the differentiating features cannot provide the basis for an inventive step to be recognised. The subject-matter of claim 1 thus lacks an inventive step (Article 56 EPC) when starting from E5 and combining common general knowledge with this.

1.3.6 Auxiliary request 2 is therefore not allowable.

2. *Auxiliary request 4 - Alleged incorrect exercise of discretion by the opposition division*

2.1 Claim 1 of auxiliary request 4 includes the features of granted claim 5 whilst claim 1 of auxiliary request 5 further includes the features of granted claim 6. Granted claims 5 and 6 had not been objected to on the basis of E5 in the notice of opposition. The appellant thus argued that the opposition division should not have admitted the inventive step objections to these requests based on E5 raised for the first time at oral proceedings before the opposition division.

2.2 The inventive step objections to the subject-matter of claim 1 of each of auxiliary requests 4 and 5 based on E5 were raised after the final date for written submissions in preparation for oral proceedings according to Rule 116(1) EPC. The objections were thus late-filed before the opposition division. It is settled case law of the boards (see e.g. T1002/92) that

such late-filed objections should only exceptionally be admitted into the proceedings, if *prima facie*, there are clear reasons to suspect that such late-filed material would prejudice the maintenance of the European patent.

2.3 In its decision, the opposition division found the late-filed inventive step objections on the basis of E5 to *prima facie* be highly likely to change the outcome of the proceedings (see Reasons for the decision, 9.3) and it thus exercised its discretion to admit the objections to the proceedings.

2.4 In such cases where a department of first instance has exercised its discretion, it is not the function of a Board of Appeal to review all the facts and circumstances of the case as if it were in the place of the first instance department, in order to decide whether or not it would have exercised such discretion in the same way. Rather, its competence should normally be limited to establishing whether the first instance department has exercised its discretion in accordance with the right principles and that it has exercised its discretion in a reasonable way (see G7/93, point 2.6).

2.5 In the present case, as indicated in points 2.2 and 2.3 above, the opposition division is found to have exercised its discretion both in accordance with the right principles and in a reasonable way. The Board thus sees no reason to overturn the opposition division's discretionary decision and also no basis on which E5 should be excluded from the proceedings for consideration of auxiliary requests 4 and 5.

3. *Auxiliary request 4 - Inventive step*

3.1 Relative to claim 1 of auxiliary request 2, claim 1 of auxiliary request 4 includes the additional limitation that the protruding part has an inner edge with a prescribed width extending along a chain travel direction of the first chain engagement surface, the inner edge being within the prescribed distance away from the teeth bottoms of the largest chain ring.

3.2 The appellant argued that the prescribed width of the inner edge assisted in eliminating skewing of the chain during an unusual chain shifting operation. Both parties were in agreement that chain skew described the chain not lying parallel to the plains of the chain wheels.

3.3 As also argued by the respondent, the 'prescribed width' of the inner edge of the protruding part has not been quantified in claim 1 to any degree. For the subject-matter of a claim to be credited with involving an inventive step, a technical effect must be demonstrated across the whole breadth of the claim. With the claimed 'prescribed width' including *de minimis* dimensions of the inner edge, it is not technically credible that the inner edge would have an influence with regard to minimising skewing of the chain.

3.4 The appellant's argument that the skilled person would interpret the inner edge having a prescribed width as extending the full width of the protruding part is not accepted. A claim must be interpreted in its broadest, technically reasonable way which, for the 'inner edge with a prescribed width' encompassed a full range of possible inner edge widths, not simply one which extended the full width of the protruding part.

3.5 The appellant further argued that the inner edge had to be tangential to the chain travel direction, since claim 1 defined this to lie within the prescribed distance, and it also had to be formed at the junction of the protruding part and the transition surface; E5 therefore failed to disclose these further features of the inner edge. Whilst E5 indeed does fail to disclose these additional features of the inner edge since it *per se* fails to disclose an inner edge at all, the appellant was unable to show how these features imparted a technical effect to the claimed chain shifting operation. It was also not evident to the Board how the inner edge being tangential to the chain travel direction and lying with the prescribed distance resulted in the inner edge demonstrating a technical effect.

3.6 It thus follows that the amendment made to claim 1 of auxiliary request 4 fails to result in any technical contribution to the prior art being recognised. Lacking a technical contribution, the features differentiating claim 1 over E5 cannot provide the basis for an inventive step to be recognised. The subject-matter of claim 1 thus lacks an inventive step (Article 56 EPC) when starting from E5 and combining common general knowledge with this.

3.7 Auxiliary request 4 is thus not allowable.

4. *Auxiliary request 5 - Inventive step*

4.1 Relative to claim 1 of auxiliary request 4, claim 1 additionally defines that the protruding part has a dimension of at least one millimeter as measured along a chain travel direction.

4.2 The appellant argued that the protruding part having a dimension of at least one millimeter along the chain travel direction emphasized the understanding that skewing of the chain would be mitigated.

4.3 As also argued by the respondent, E5 implicitly discloses the feature newly added to claim 1. The third pressing portion 11c of E5 can be seen in Fig. 14 to directly and unambiguously have a dimension along the chain travel direction of at least one millimeter, in that it extends more than half the 'length' of the guide plate 11. Although no measurements can be taken in the schematic drawings, this is also not needed to conclude from a comparison with other parts depicted in Fig. 14 (such as the seat tube or the chain wheel) that a minimum size of one millimeter is exceeded. Even if portion 11c doesn't directly extend along the chain travel direction, it has a component of extension in the chain travel direction, Fig. 14 unambiguously showing this component of extension having a dimension significantly greater than 1 millimeter. The newly added feature in claim 1 of auxiliary request 5 can therefore not change the Board's finding with regard to claim 1 of auxiliary request 4 that inventive step is lacking.

4.4 Even if this feature were not considered to be known from E5, the protruding part having a dimension of at least one millimeter along a chain travel direction cannot be seen to materially impact on any reduction in skewing of the chain. A line of contact with the chain of slightly greater than one millimeter would essentially behave as a point contact between the protruding part and the chain, a mitigation of chain skew thus being technically unfeasible. The finding of no technical contribution to the prior art would thus

apply to the subject-matter of claim 1 of auxiliary request 5 similarly to that of auxiliary request 4.

4.5 It thus follows that the subject-matter of claim 1 of auxiliary request 5 lacks an inventive step when starting from E5 and combining common general knowledge with this.

4.6 Auxiliary request 5 is thus not allowable.

5. Absent any further requests for consideration, the appeal must be dismissed.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar: The Chairman:

D. Grundner M. Dorfstätter

Decision electronically authenticated