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**Datasheet for the decision
of 28 June 2012**

Case Number: T 0059/09 - 3.2.06

Application Number: 01302277.7

Publication Number: 1134158

IPC: B62M 25/04

Language of the proceedings: EN

Title of invention:
Bicycle shift device

Patentee:
SHIMANO INC.

Opponent:
SRAM Deutschland GmbH

Headword:
-

Relevant legal provisions:
EPC Art. 56, 123(2), 84, 113
EPC R. 106
RPBA Art. 13(1), 13(3)

Keyword:
"Main request: inventive step (no) - reformulation of technical problem - common general knowledge"
"Auxiliary requests 1, 3, 4, 5: extension of subject-matter beyond content of the application as filed (yes)"
"Auxiliary request 2: not prima facie allowable for lack of clarity" - not admitted
"Auxiliary request 6: complex amendments requiring adjournment - not admitted"
"Violation of the right to be heard (no)"

Decisions cited:
-

Catchword:
-



Case Number: T 0059/09 - 3.2.06

DECISION
of the Technical Board of Appeal 3.2.06
of 28 June 2012

Appellant: SRAM Deutschland GmbH
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Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted
3 November 2008 concerning maintenance of
European patent No. 1134158 in amended form.

Composition of the Board:

Chairman: R. Menapace
Members: T. Rosenblatt
G. de Crignis

Summary of Facts and Submissions

I. On 2 January 2009 the opponent (appellant) filed an appeal against the interlocutory decision of the opposition division dated 3 November 2008 in which it found that European patent No. 1 134 158 in an amended form met the requirements of the EPC. The appeal fee was paid on the same date and the statement setting out the grounds of appeal was filed on 3 March 2009.

II. The claims as granted include two independent claims 1 and 2, claim 1 reading:

"A bicycle shift control device (105) which operates a shifting mechanism via a shift control cable (104), the shift control device comprising:

a mounting member (103) for mounting the shift control device (105) to a handlebar (101), the mounting member (103) defining a handlebar mounting axis;

a control body (170) rotatable about an axis (X) for controlling the shift control cable (104), the axis (X) being substantially perpendicular to the handlebar mounting axis;

an operating body (220,130) having an abutment in a position spaced apart from the control body (170) and which is coupled to the shift control device (105) for displacement between a home position and a shift position;

a transmission (150,160) which converts the displacement of the operating body (220,130) from the home position to the shift position into a rotational displacement of the control body (170), wherein the transmission includes a plurality of ratchet teeth (172, 173); and

an interface member (202, 131) movably mounted relative to the operating body (220, 130) and having an operating force receiving surface (203, 132) and an operating force applying surface (204), wherein the operating force receiving surface (203, 132) is adapted to receive an operating force from a rider, and wherein the operating force applying surface (204) applies the operating force to the abutment of the operating body (220,130) for moving the operating body (220,130) from the home position to the shift position."

III. Claim 1 in the amended form found allowable by the opposition division reads (amendments in bold):

"A bicycle shift control device (105) which operates a shifting mechanism via a shift control cable (104), the shift control device comprising:

*a mounting **bracket** (103) for mounting the shift control device (105) to a handlebar (101), the mounting **bracket** (103) **having an annular mounting sleeve (103A)** defining a handlebar mounting axis;*

a control body (170) rotatable about an axis (X) for controlling the shift control cable (104), the axis (X) being substantially perpendicular to the handlebar mounting axis;

*a **linearly** operating body (220) having an abutment in a position spaced apart from the control body (170) and which is coupled to the shift control device (105) for **linear** displacement between a home position and a shift position;*

*a transmission (150) which converts the displacement of the **linearly** operating body (220) from the home position to the shift position into a rotational displacement of the control body (170), wherein the*

*transmission includes a plurality of ratchet teeth (172, 173); and an interface member (202) movably mounted relative to the **linearly** operating body (220) and having an operating force receiving surface (203) and an operating force applying surface (204), wherein the operating force receiving surface (203) is adapted to receive an operating force from a rider, and wherein the operating force applying surface (204) applies the operating force to the abutment of the **linearly** operating body (220) for moving the **linearly** operating body (220) from the home position to the shift position."*

IV. Of the prior art documents referred to in the impugned decision the following are relevant to the present decision:

E3: US-A-5 921 138,

E5: US-A-3 901 095,

E7: EP-A-0 671 317.

Document E3, which is also referred to in the patent in suit as a starting point for the invention, discloses two embodiments of a shift control device. In the following the second embodiment, i.e. Figures 8 to 16 in combination with the corresponding passages of the description, column 8, line 33, to column 11, line 13, is referred to as E3B.

V. With a letter dated 22 September 2009 the respondent (proprietor) replied to the statements of grounds of appeal and submitted the claims forming its main request, which corresponded to the claims found

allowable by the opposition division, and three sets of amended claims as auxiliary requests 1 to 3.

VI. In a communication according to Article 15(1) of the Rules of Procedure of the Boards of Appeal (RPBA), the Board *inter alia* gave a preliminary assessment of the features of claim 1, found allowable by the opposition division, distinguishing it from the device of E3B and opined that the technical problem indicated in the patent did not appear to have been solved, since it appeared from other passages of the description that further features would be required. The objective technical problem based on the identified distinguishing features would need to be defined. Whether the distinguishing features would have been obvious to the skilled person in view of his general knowledge and/or in view of the prior art on file would then have to be discussed.

VII. With a letter received on 25 May 2012, the respondent submitted *inter alia* a translation of a decision reached by the Düsseldorf Court of Appeal in a case concerning infringement of German utility model 201 22 305, which had been branched off from the patent application underlying the patent in suit. It also submitted auxiliary requests 1 to 11.

The appellant, with a letter dated 20 June 2012, submitted *inter alia* a copy of the minutes of the hearing pertaining to the translated decision filed by the respondent.

VIII. During the oral proceedings held on 28 June 2012 the appellant requested that the decision under appeal be

set aside and that the European patent be revoked. The respondent eventually requested that the patent be maintained according to the main request again filed on 25 May 2012, or according to the first auxiliary request which is identical to the tenth auxiliary request, filed on 25 May 2012, or according to the second auxiliary request filed during the oral proceedings, or according to third auxiliary request which is identical to the fifth auxiliary request filed on 25 May 2012, or according to fourth auxiliary request which is identical to the fourth auxiliary request filed on 25 May 2012, or according to the fifth auxiliary request which is identical to the eleventh auxiliary request filed on 25 May 2012, or according to the sixth auxiliary request, filed during the oral proceedings.

The respondent filed a "complaint in the sense of Rule 106 referring to Article 112a(2)c EPC".

At the end of the oral proceedings the Board's decision to dismiss the respondent's objection under Rule 106 EPC and to revoke the patent was announced.

- IX. Compared to claim 1 of the main request, which has the same wording as the claim found allowable by the opposition division, claims 1 of the auxiliary requests 1 to 6 comprise the following amendments (marked in bold).

(a) Auxiliary request 1

"an interface member (202) **pivotably coupled to the mounting bracket (103) and** movably mounted relative to the linearly operating body (220) and having an operating force receiving surface (203) and an operating force applying surface (204), wherein the operating force receiving surface (203) is adapted to receive an operating force from a rider, and wherein the operating force applying surface (204) applies the operating force to the abutment of the linearly operating body (220) for moving the linearly operating body (220) from the home position to the shift position."

(b) Auxiliary request 2

"a linearly operating body (220) having an abutment in a position spaced apart from the control body (170) **which is movably retained to a mounting member** and which is coupled to the shift control device (105) for linear displacement between a home position and a shift position;
a transmission (150)...; and
an interface member (202) **pivotably coupled to the mounting member and** movably mounted relative to the linearly operating body (220) and having an operating force receiving surface (203) and an operating force applying surface (204), wherein the operating force receiving surface (203) is adapted to receive an operating force from a rider, and wherein the operating force applying surface (204) applies the operating force to the abutment of the linearly operating body

(220) for moving the linearly operating body (220) from the home position to the shift position."

(c) Auxiliary request 3

"a linearly operating body (220) having an abutment in a position spaced apart from the control body (170) and which is coupled to the shift control device (105) for linear displacement **along a movement path** between a home position and a shift position;
a transmission (150) which converts the displacement of the linearly operating body (220) from the home position to the shift position into a rotational displacement of the control body (170), wherein the transmission includes a plurality of ratchet teeth (172, 173) **arranged in a plane (T)**; and
an interface member (202) movably mounted relative to the linearly operating body (220) and having an operating force receiving surface (203) and an operating force applying surface (204), wherein the operating force receiving surface (203) **is inclined relative to a horizontal axis (H) parallel to the ratchet teeth plane (T)** and is adapted to receive an operating force from a rider, and wherein the operating force applying surface (204) applies the operating force to the abutment of the linearly operating body (220) for moving the linearly operating body (220) from the home position to the shift position,
wherein the movement path of the linearly operating body (220) is substantially parallel to the plane (T) and the interface member (202) is pivotably mounted so as to be capable of following a path of movement which is not parallel to the plane (T)."

(d) Auxiliary request 4

"an interface member (202) movably mounted relative to the linearly operating body (220) **about a pivot axis offset from the movement path of the linearly operating body (220) between the home position and the shift position** and having an operating force receiving surface (203) and an operating force applying surface (204), wherein the operating force receiving surface (203) is adapted to receive an operating force from a rider, and wherein the operating force applying surface (204) applies the operating force to the abutment of the linearly operating body (220) for moving the linearly operating body (220) from the home position to the shift position."

(e) Auxiliary request 5

"a mounting bracket (103) for mounting the shift control device (105) to a handlebar (101), the mounting bracket (103) having an annular mounting sleeve (103A) defining a handlebar mounting axis, **the mounting bracket (103) comprising an intermediate bracket (227);** a control body (170)...;
a linearly operating body (220) having an abutment in a position spaced apart from the control body (170) and which is coupled to the shift control device (105) for linear displacement between a home position and a shift position, **wherein the linearly operating body (220) is slidably mounted to the intermediate bracket (227);** a transmission (150)...; and
an interface member (202) **pivotably coupled to the intermediate bracket (227) and** movably mounted relative to the linearly operating body (220) and having an

operating force receiving surface (203) and an operating force applying surface (204), wherein the operating force receiving surface (203) is adapted to receive an operating force from a rider, and wherein the operating force applying surface (204) applies the operating force to the abutment of the linearly operating body (220) for moving the linearly operating body (220) from the home position to the shift position."

(f) Auxiliary request 6

"a mounting bracket (103) for mounting the shift control device (105) to a handlebar (101), the mounting bracket (103) having an annular mounting sleeve (103A) defining a handlebar mounting axis, **the mounting bracket (103) having an intermediate bracket (227) attached thereto by a screw (228);**
a control body (170)...;
an arm-shaped linearly operating body (220) having an abutment in a position spaced apart from the controlbody (170) and which is coupled to the shift control device (105) for linear displacement between a home position and a shift position, **wherein the linearly operating body (220) is slidingly mounted to the intermediate bracket (227);**
a transmission (150)...; and
an interface member (202) **in the form of an operating tab** movably mounted relative to the linearly operating body (220) and having an operating force receiving surface (203) and an operating force applying surface (204) **and parallel spaced mounting ears (206, 208), wherein the interface member (202) is pivotably coupled to corresponding parallel spaced mounting ears (210,**

212) on the intermediate bracket (227) through a pivot shaft (216) and a C-clip (217), wherein the pivot shaft extends through openings (222, 224, 226, 228) in the mounting ears (206, 208, 210, 212), wherein the operating force receiving surface (203) is adapted to receive an operating force from a rider, and wherein the operating force applying surface (204) applies the operating force to the abutment of the linearly operating body (220) for moving the linearly operating body (220) from the home position to the shift position."

X. The appellant's arguments may be summarised as follows:

Main request

- (a) The problem formulated in paragraph [0003] of the patent was not solved by the subject-matter of claim 1. The feature "movably mounted relative to" also covered embodiments in which the interface member was arranged in front of the linearly operating body (hereinafter referred to as "**LOB**") so as to perform a linearly sliding movement toward the LOB's abutment. Such a configuration still required precise operation and force application in the direction of movement of the LOB. The patent in suit also did not contain any indication that an increased freedom of design was the objective technical problem. The skilled person was in any case always faced with design considerations. Since no particular technical effects could be attributed to the features distinguishing claim 1 from the device of E3B, the objective technical problem to be solved was

therefore to provide an alternative way to operate the LOB.

- (b) The solution to this problem, which essentially consisted in replacing an integral element by two separate parts movably relative to each other and able to be brought in abutment with each other for force transmission, constituted for the skilled person a well-known alternative to the known design and was thus not inventive.

Auxiliary request 1

- (c) The amendment to claim 1 was not allowable under Article 123(2) EPC. The original claim 7 specified that the interface member was pivotably coupled to the "mounting member (101)". The term "mounting member" was not used in the description, only the term "mounting bracket" was employed, together with the reference sign "103", whereas reference sign "101" designated the handlebar. The description (as published) further only disclosed in paragraph [0007] that the interface member was pivotably coupled to mounting ears on an intermediate bracket through a pivot shaft and a C-clip. There was thus no direct and unambiguous disclosure of an interface pivotably coupled to the mounting bracket.

Auxiliary request 2

- (d) The request should not be admitted since it was late filed and was not *prima facie* allowable. Claim 1 now defined a "mounting bracket" and a

"mounting member", thereby leaving it open whether those terms referred to the same or different feature(s) and so resulting in a lack of clarity. The respondent's statement that the "mounting member" could be any stationary elements of the device was in contradiction of the arguments previously put forward.

Auxiliary requests 3 and 4

- (e) The feature according to which the movement path of the interface member was not parallel to the ratchet teeth plane T allowed all orientations of the movement path but excluded its lying parallel to said plane (auxiliary request 3). There was no direct and unambiguous disclosure in the application as filed for this feature, nor for the resulting exclusion of one plane for the movement path. The application as filed also did not disclose directly and unambiguously an offset of the pivot axis from the movement path of the LOB (auxiliary request 4). The description only disclosed a particular embodiment, column 3, lines 26-35, Figures 4 and 5, in which the pivot axis was realised by a number of other features which had not been added to the claim. There was no indication in the application that the pivot axis could be taken in isolation from the remaining features shown in combination therewith.

Auxiliary request 5

- (f) The amendments could not be considered to be based on original claims 5 and 7, since these claims

referred only to the "mounting member (101)" and not to an "intermediate bracket". The further passages indicated by the respondent in paragraphs [0007] and [0017] of the original description (as filed) disclosed additional features in close functional relation to the feature "intermediate bracket" added to claim 1, which additional features had not however been defined in it.

Auxiliary request 6

- (g) The added features were taken from the originally filed description. Although a number of features from paragraph [0007] of the description (as published) had been added to claim 1, other features disclosed in combination with them had been omitted. For example, the cited passage also specified that the LOB terminated in an abutment, whereas the claim did not define its location. Moreover, in view of the statements made in paragraph [0017], it still appeared that the solution to the problem indicated in paragraph [0003] relied on a number of other features, such as a short LOB movement path or an inclined interface member, which were closely linked to, for example, the ratchet pawl assembly as described in paragraph [0012]. Therefore it was not clear whether the technical problem was solved by the claimed combination of features and whether the requirement under Article 56 EPC could be considered to be met. The changes resulted in an entirely new combination of features which was far too complex to be dealt with at this late stage in the procedure.

XI. The respondent's arguments may be summarised as follows:

Main request

- (a) The skilled person would have recognised from the application as filed that the technical effect achieved by the features distinguishing claim 1 from the device of E3B, was the kinematical "decoupling" of the interface member from the LOB. Compared to the device of E3B, this made it unnecessary to position the operator's thumb precisely in front of the interface member. To achieve this effect no further features, such as a particular form or movement, were required for the interface member, as could be also derived from paragraph [0018] of the original description (as published). All essential features were thus defined in claim 1. Consequently the objective technical problem was to increase the design freedom for force application with the constraint to use an LOB as in E3B to require less precision of thumb placement on the interface member.

- (b) The solution to these problems was not suggested in the documents E5 or E7 and could only be derived with hindsight from the common general knowledge of the skilled person. The shift control device in the patent and E3B was a trigger shifter which was completely different in structure and function from those of the two documents. E5 disclosed a twist grip shifter, E7 a complex dual shifter with a linkage mechanism, so that it was not apparent why the skilled person would have

addressed these documents at all. Neither of the devices disclosed therein employed an LOB; the respective operating bodies performed non-linear movements. In particular, the linear displacement of the LOB implied that the LOB had to be precisely guided at two holes spaced apart in the mounting or intermediate bracket. Consequently, tolerances had to be small, which made it difficult to design the entire structure in a different way. Interface members used together with non-linearly operating bodies in linkage mechanisms (E7) or in twist grip shifters (E5) were not suited to use with an LOB like that of E3B.

Auxiliary request 1

- (c) The amendment to claim 1 was allowable under Article 123(2) EPC, since it was immediately clear to the skilled person from the entire application as filed that the term "mounting member (101)" in original claim 7 could only reasonably be understood as referring to the mounting bracket. The reference sign could not be seen as a limitation and it was moreover immediately clear that it was an error. The only expression used in the application as filed in combination with the term "mounting" was "mounting bracket". Furthermore, the feature originally defined in claim 7 was a functional definition. The interface member only needed to be pivotably coupled to some stationary part of the shift control device to perform the pivoting function required to solve the problem of the application. It was hence clear

for the skilled person that the coupling to the intermediate bracket was only a preferred embodiment and would not have been considered an essential feature of the invention.

Auxiliary request 2

- (d) The request should be allowed since it was based on a combination of claim 1 found allowable by the opposition division and the originally filed and granted claims 5 and 7. It thereby clearly overcame the objection raised under Article 123(2) EPC to the preceding request since it relied on the original expressions, from which only the reference signs had been deleted. The resulting subject-matter essentially appeared already in other auxiliary requests submitted in response to the Board's communication. The subject-matter was clear since the amendment constituted a functional definition of the pivotal coupling so that it was clear that the mounting member could be any stationary element of the device, either the mounting bracket, intermediate bracket or even the handlebar.

Auxiliary requests 3 and 4

- (e) The amendment of claim 1 according to which the movement path of the interface member was not parallel to the ratchet teeth plane (auxiliary request 3) was based on the application as filed as a whole. It had already been considered by the Düsseldorf Court of Appeal not to extend the subject-matter of the corresponding German Utility

model 201 22 305 beyond the content of the European patent application underlying the patent in suit. The Court expert in those proceedings, who could be considered representative of the skilled person, had found this feature to be disclosed in general terms, and not limited to one particular embodiment or structural arrangement. The skilled person derived from the application as filed that the kinematic "decoupling" of the interface member and the LOB was the key feature in solving the technical problem of the patent. For the kinematic "decoupling" it was only required that the interface member's movement path did not lie parallel to or in the movement plane of the LOB. In the same way, the skilled person would have recognised that the offset of the pivot axis to one side of the LOB (auxiliary request 4) was a functionally independent feature and enabled the force transmission of the respective surfaces of the LOB and interface member through the pivoting movement. As found by the Düsseldorf Court of Appeal, the skilled person would not, however, have considered that other features disclosed in Figures 4 or 5 or in the description were necessary to define these functions. If the skilled person were credited with such a limited interpretation of the invention, the Board would be attributing to the skilled person different skills when deciding on disclosure and when deciding on inventive step.

Auxiliary request 5

- (f) The amendment was supported by original claim 7. The skilled person would have clearly understood the feature defined therein as a functional definition. The skilled person would have recognised that this function was achieved by a pivotable coupling of the interface member to the intermediate bracket as also disclosed in paragraph [0007] of the original description (as published).

Auxiliary request 6

- (g) The amendments to claim 1 were based literally on paragraph [0007] of the original description (as published). Consequently, the subject-matter did not extend beyond the content of the application as filed. Moreover, the claim was clear and, as a result of the amendment, the requirement of inventive step was also met. The assessment of inventive step had to rely only on the pivotable coupling between the two elements. The remaining features, such as the mounting ears, did not contribute to the inventive step and had only been added in response to the objection under Article 123(2) EPC. The amendment therefore did not raise any complex issues new to the procedure.

Reasons for the Decision

1. The appeal is admissible.

2. Main request

The main request is not allowable because the subject-matter of claim 1 does not involve an inventive step (Article 56 EPC).

2.1 Essentially, the shift control device defined in claim 1 differs from that known from E3B in that it concerns a construction in which the LOB and the interface member are formed as separate parts which are movably mounted relative to each other so that the interface member may be brought in abutment with the LOB for transmitting a force applied on the interface member to the LOB. In E3B feature 120 comprises a portion which corresponds to an LOB converting a linear movement between a home position and a shift position via a first transmission into a rotational displacement of the control body, i.e. the take up body 170, (see column 6, line 43 and column 9, lines 1-4). The finger-contacting part 122 of feature 120 corresponds to an interface member comprising an operating force receiving surface adapted to receive an operating force from a rider. The LOB portion and the interface member portion 122 form an integral body 120 and are hence not movable relatively to each other and consequently do not comprise the respective abutment and operating force applying surface. The respondent did not contest this finding.

2.2 The technical problem formulated in paragraph [0003] of the patent in suit is not solved by the features of claim 1. The appellant was right in pointing out that the claim does not require, for example, any pivoting movement between the interface member and the LOB. The

claim does indeed cover embodiments in which, for whatever reason, the interface member may be slidingly arranged in front of the LOB's abutment, to be moved under force application linearly along the same direction as the LOB. In such a configuration the thumb of the rider would have to be placed with the same amount of precision on the interface member as in E3B. Moreover, paragraph [0017] of the patent in suit suggests that further features, *inter alia* the short operating path between home and shift position of the LOB and an inclined surface of the interface member, which are not defined in the claim, would be required to solve the technical problem of the patent.

Paragraphs [0018] and [0019] of the patent specification, in contrast, include indications that certain features of the embodiment may be varied and the scope of the invention should not be limited by the specific structures disclosed. However, the features referred to in the first of these two paragraphs do not relate to the functional and structural relation between the interface member and the LOB. The statements in the following paragraph are far too general to conclude that the problem mentioned in paragraph [0003] is solved by a combination of features requiring other or fewer features than those previously disclosed and explicitly referred to in paragraph [0017].

- 2.3 Kinematic "decoupling" is not mentioned anywhere in the originally filed application. Admittedly, the skilled person might consider the arrangement disclosed in the description, broadly defined in claim 1 by the movable mounting of the interface member relative to the LOB and their abutting relationship, to be kinematically

"decoupled", unlike the configuration disclosed in E3B. However, the problem formulated in paragraph [0003] of the patent in suit is not solved only by the kinematic "decoupling" or "relative movable mounting" of said two elements and the provision of an abutment and a force transmitting surface on the respective elements (see preceding paragraph).

2.4 The Board cannot accept the technical problem formulated by the respondent (see end of item XI(a)). The fact that two parts are movably mounted relative to each other in abutting relation does not *per se* "increase the freedom to design" of one of its components or of the whole device. Such a configuration may even introduce further constraints limiting the freedom of design. The application as filed also does not mention that "increasing the freedom of design" of the shift control devices or some of its components was an object of the invention. Nor can the "precision" constraint included in the respondent's statement of the technical problem be accepted. As pointed out above, the aim of reducing the required precision for the placement of the thumb is not achieved by the features of claim 1.

2.5 Unlike the direct force transmission from the thumb of the rider to the LOB in E3B, the force is transmitted according to claim 1 indirectly through an abutment on the LOB and a therewith cooperating surface on the movably mounted interface member. In the absence of any other particular technical effect the Board considers that the technical effect achieved by an interface member which is separated from and movably mounted relative to the LOB and wherein the operating forces

- are transmitted through an abutment and a corresponding surface on the respective elements is just an alternative way of operating the LOB.
- 2.6 The objective technical problem to be solved by the above distinguishing features is hence to provide an alternative way to operate an LOB within a shift control device. The Board notes that this formulation also takes account of the LOB which was included in the respondent's formulation in the form of a constraint.
- 2.7 It belongs to the common general knowledge of the skilled person, who in the present case has knowledge in mechanical engineering and expertise in the development of bicycle components, to replace a unitary element by two (or, if necessary, more) structurally separate elements, movably relative to each other. It also belongs to the common general knowledge to transmit forces between such separate elements by an abutment and a cooperating surface on the respective element. That the provision of separate operating bodies and interface members is generally known in the field of bicycle components is also exemplified by documents E5 and E7. These shift control devices use well-known alternatives to an integral interface member and operating body: either a pivot joint (E5) or an abutment and cooperating surface (E7). It does not require any inventive skill to select one of several alternatives to well-known features and use it for its well-known purpose in place of the structure of the combined interface member/LOB of E3B.
- 2.8 The respondent did not contest that these features belonged to the common general knowledge. Rather the

respondent considered that the use of this knowledge in order to solve the technical problem could only be guided by hindsight. The Board cannot accept this argument because the skilled person faced with the objective technical problem of providing an alternative does not need any incentive to provide a particular solution which belongs entirely to the common general knowledge, at least as long as there are no reasons which would prevent the skilled person from applying a well-known solution in the particular circumstances.

The argument that particular considerations for the force transmission between interface member and operating body would be necessary in the case of linearly operating bodies in trigger shift control devices, e.g. due to required tolerances in the movement of the LOB, which would exclude the application of solutions known to be applied with non-linearly operating bodies in different types of shift control devices, such as in E5 or E7, is not convincing. Neither the description of the application as filed, nor the subject-matter of original or present claim 1, nor E5 or E7 take into account any such particular difficulties. Claim 1 of the main request states only broadly that the interface member is to be movably mounted relative to the LOB, without specifying a direction of movement of the interface member or a relative location of the two elements. The only requirement is that the forces must be transmitted from the operator's thumb through the interface member to the LOB, but it has not been convincingly shown that this would be fundamentally different to a force transmission to a non-linearly operating body, nor can the Board see any reason why that should be so.

2.9 It would thus have been obvious to the skilled person faced with the objective technical problem of providing for an alternative way to operate an LOB in a shift control device, to provide an LOB with an abutment and an interface member movable relatively thereto with a corresponding force transmission surface.

3. *Auxiliary request 1*

Auxiliary request 1 is not allowable because the subject-matter of claim 1 extends beyond the content of the application as filed (Article 123(2) EPC).

3.1 The feature "interface member pivotably coupled to the mounting bracket (103)" added to claim 1 has no literal basis in the application as filed. This has not been contested by the respondent.

3.2 A pivotable coupling of the interface member to other features is referred to in paragraph [0007] and in dependent claim 7 of the application as originally filed (as published).

3.2.1 Paragraph [0007] only discloses a very specific pivotable coupling of the interface member to an intermediate bracket, via a number of structurally and functionally closely interrelated features, the intermediate bracket being itself mounted in a particular way to a mounting bracket, which in turn is mounted with further features to the handlebar. The respondent did not indicate any other part of the description or of the figures from which it could be derived that the features mentioned in this passage are

merely optional features, nor can the Board identify any such basis.

3.2.2 Originally filed dependent claim 7, which is dependent on "any preceding claim", defines the feature "interface member (202) is pivotably coupled to the mounting member (101)" (emphasis added). Originally filed claim 1 does not define any features relating to a "mounting member" (or "bracket"). The expression "mounting member" appears elsewhere in the originally filed application only in dependent claim 5, again with the reference sign 101. The description does not include this term and in the figures and in the corresponding passages of the description the reference sign 101 is consistently attributed to the handlebar. It follows that the term "mounting member" in claim 7 is interpreted by the skilled person in the light of the remaining parts of the application. Although the reference signs are not to be construed as limiting the claim, they are clearly intended to increase the intelligibility of the claim (Rule 43(7) EPC). Thus, they cannot simply be ignored when interpreting the claim. One technically reasonable construction of claim 7, if the reference signs are taken into account, is therefore that the interface member is pivotably coupled to the handlebar 101. The handlebar is also a member mounted stationary relative to the other elements of the shift control device, and that interface members may generally be coupled to a handlebar is state of the art (see for example E7, Figure 12, reference sign 99). Another technically reasonable construction of the claim is that deriving from paragraph [0007] (see above), i.e. the specific pivotable coupling to a specific intermediate bracket.

Neither interpretation therefore leads directly and unambiguously to the subject-matter of claim 1 of auxiliary request 2.

3.3 The argument that the term "mounting" in claim 7 would have led the skilled person to identify the relevant feature as the "mounting bracket" is not convincing. The application further discloses a "mounting sleeve", which is also a stationary element of the shift control device. Therefore, even if it were accepted that originally filed claim 7 contained an immediately apparent error, and that this error was the application of a wrong reference sign (101), it would still not have been possible, due to this further ambiguity arising from the existence of two different features described by the term "mounting", to derive unambiguously that the only possible correction of this error would have been to substitute "bracket (103)" for "member (101)".

3.4 Nor is the Board convinced that the feature of claim 7 represents a functional definition and that the intermediate bracket would not have been identified as an essential feature for this function. The function of a pivotable coupling of the interface member is disclosed only within a specific embodiment, with structurally and functionally closely interrelated features, which does not mention that the intermediate bracket and the features disclosed in combination with it are optional or that the pivotable coupling could be provided with respect to some other stationary part, let alone the mounting bracket.

3.5 For these reasons the application as originally filed does not disclose directly and unambiguously the subject-matter of amended claim 1 of auxiliary request 1.

4. Auxiliary request 2

According to Article 13(1) RPBA any amendment to a party's case after it has filed its grounds of appeal may be admitted and considered at the Board's discretion. The discretion shall be exercised in view of the complexity of the new subject-matter submitted, the current state of the proceedings and the need for procedural economy.

4.1 Auxiliary request 2 was submitted during the oral proceedings before the Board of Appeal, that is at the latest possible stage of the procedure. Compared to claim 1 as originally filed, claim 1 as granted additionally includes the feature "*a mounting member (103) for mounting... defining a handlebar axis*". The opposition division found *inter alia* the replacement of the term "mounting member (103)" by "mounting bracket (103)" allowable, even though the term "bracket" was not in the original or granted claims. Claim 1 of auxiliary request 2 equally comprises this amendment and thus is not a mere combination of granted claims. A further amendment ("*...which is movably retained to a mounting member...*") is based on original claim 5 and, as in the preceding request, the feature of originally filed claim 7 has also been added to claim 1, but using the original and granted terminology, i.e. "mounting member". The reference sign 101 used in originally filed claims 5 and 7 in relation to this feature has

been omitted. Thus, claim 1 now refers to a "mounting member" in addition to the previously defined "mounting bracket (103)". It is unclear by these amendments whether the "mounting member" should be construed as a further limiting feature of the shift control device, in which case its relation with respect to, for example, the "mounting bracket", is unclear, or whether it should be construed as a feature belonging, for example, to the handlebar or some other element, in which case it would be unclear what structural limitation would be imposed on the shift control device.

4.2 The respondent argued that the skilled person would understand the added features as functional features merely defining the pivotable coupling more precisely, so that it was irrelevant to which exact feature the "mounting member" referred and to which feature the interface member was pivotably coupled. It was only required that the "mounting member" be a stationary element, be it the mounting bracket, the intermediate bracket or the handlebar. This argument cannot be accepted. Neither the term "mounting member" nor any other statement in the claim specifies or implies that the mounting member is a stationary element of the shift control device. Moreover, this argument contradicts the respondent's position with regard to the amendments in claim 1 of auxiliary request 1, namely that the term "mounting member" in original claim 7 would have been understood by the skilled person as clearly referring to the "mounting bracket".

4.3 The Board therefore had serious doubts about the clarity of claim 1 (Article 84 EPC), so that the amendments were not *prima facie* allowable. Auxiliary

request 2 was thus not admitted into the proceedings (Article 13(1) RPBA).

5. Auxiliary requests 3 and 4

Auxiliary requests 3 and 4 cannot be allowed, because the subject-matter of the respective claims 1 extends beyond the content of the application as filed (Article 123(2) EPC).

5.1 In auxiliary request 3, the critical amendment is the statement "and the interface member (202) is pivotably mounted so as to be capable of following a path of movement which is not parallel to the plane (T)" (i.e. parallel to the ratchet teeth plane). In auxiliary request 4 the critical amendment is the statement "an interface member (202) movably mounted relative to the linearly operating body (220) about a pivot axis offset from the movement path of the linearly operating body (220) between..." (emphasis added).

5.2 These amendments have no literal basis in the application as filed, a fact which was not contested by the respondent. The respondent instead indicated as a basis for these amendments the application as originally filed in its entirety and as understood by the skilled person.

5.3 As set out before, the application as filed discloses a single embodiment of a shift control device. The pivotable coupling or mounting of the interface member relative to the LOB is disclosed only with respect to a number of other features which are functionally and structurally closely related to the pivoting function

(paragraph [0007] of the description as published). A pivot axis of the interface member and, implicitly, its resulting path of movement are illustrated in Figures 4 and 5. These figures disclose only the arrangement of the features mentioned in paragraph [0007] and thus only a single pivot axis and, implicitly, a single resulting movement path of the interface member relative to the LOB in combination with the very features mentioned in the description. There is no basis in the figures or in the description for an interface member's movement path or a pivot axis which are isolated from the remaining features and their structural and functional relationship as disclosed and, furthermore, generalised to the extent defined in claims 1 of the two auxiliary requests 3 and 4. The respondent did not indicate, nor could the Board find, any basis in the application as filed for any other pivot axis position offset from the LOB or for the teaching that the pivotable mounting of the interface member should generally be such as to allow movement paths in any plane but one. The fact that originally filed claim 7 broadly implied a pivot axis cannot serve as a basis for these features either. Similarly, the statements in paragraph [0017] of the original description (as published) concern possible modifications of other features, and those in paragraph [0018] are far too general for a direct and unambiguous suggestion to alter the orientation of the pivot axis and the movement path.

- 5.4 The finding of the Düsseldorf Court of Appeal that the "not parallel" feature in claim 1 of auxiliary request 3 in a corresponding German utility model does not extend the subject-matter beyond the content of the

(earlier) application is not binding on the Board of Appeal. The Court reached its decision based on an expert opinion obtained in the proceedings before it. The Board by its own considerations (see above) reaches a different conclusion with respect to the question what the skilled person would consider to be directly and unambiguously disclosed in the application as filed. For example, the Board does not concur that the skilled person would derive directly and unambiguously from the figures, in particular Figures 4 and 5, that a single plane for the path of movement, namely the plane which is parallel to the ratchet teeth plane (T), would be excluded. Just turning the pivot axis 216 in Figures 4 about 90° about the horizontal axis H would result in an interface member having its path of movement parallel to the ratchet teeth plane T. If, as submitted by the respondent, the skilled person would have considered that the orientation of the pivot axis was not limited to the orientation and position as shown in Figures 4 and 5 and could therefore be subject to variation - a view which the Board rejects (see above) - it is not comprehensible why the skilled person would then have excluded this simple change in orientation, which in essence would only have required the corresponding mounting ears on the intermediate bracket be rearranged and, therefore, would not appear to be any more difficult than orienting the axis in other directions.

5.5 The Board also cannot accept the respondent's contention that, when examining for the requirement of Article 123(2) EPC, it attributed to the skilled person different knowledge and competences from those it attributed when examining inventive step. For the

purpose of determining the content of the application as originally filed, the skilled person actually cannot be expected to generalise or to find alternative ways of carrying out the invention only by using its common general knowledge where the application does not contain at least an implicit hint to do so, for example in the form of several embodiments showing variations of the relevant features or an indication that a particular feature may be altered. The application as filed does not contain any explicit or implicit indication which would have led the skilled person to consider whether other orientations of the pivot axis or other movement paths of the interface member relative to the LOB are possible ways of achieving the intended effects.

5.6 It follows that the application as filed does not disclose directly and unambiguously the subject-matter of amended claims 1 of auxiliary requests 3 and 4.

6. Auxiliary request 5

Auxiliary request 5 cannot be allowed, because the subject-matter of claim 1 extends beyond the content of the application as filed (Article 123(2) EPC).

6.1 The amendment concerns essentially the introduction of the feature "intermediate bracket" to define the pivotable coupling. However, the description of the application as filed (see paragraph [0007] of original description as published) defines further features which are functionally and structurally closely linked to the intermediate bracket and other features defined in claim 1. These features, like *inter alia* the

mounting ears or the pivot shaft, are not disclosed in this paragraph as optional features. Nor is claim 7 a basis for omitting these features. This claim only mentions a pivotable coupling of the interface member to "the mounting member", and not to an "intermediate bracket". In order to understand the term "mounting member", which was not used in the description and appeared only in claim 5 of the remaining original claims, the skilled person would therefore turn to the description of the single embodiment, in particular paragraph [0007]. There is no indication that the term "mounting member" is synonymous with some general "intermediate bracket" without the features disclosed in the paragraph.

6.2 Therefore the subject-matter of claim 1 is not directly and unambiguously derivable from the application as filed.

7. Auxiliary request 6

This request, submitted during the oral proceedings, could not be admitted since it raises issues which the Board and the appellant could not reasonably be expected to deal with without adjournment of the oral proceedings (Article 13(3) RPBA).

7.1 The amendments to claim 1 define in more detail *inter alia* the pivotable coupling between the interface member, the intermediate bracket and the LOB, based on the features disclosed in paragraph [0007] of the original description (as published). Apart from the fact that the Board again had serious doubts whether these amendments satisfied the requirement of

Article 123(2) EPC, because still some features disclosed in this passage have been omitted without there being any apparent basis for doing so, for example that the LOB "terminates at an end 201 forming an abutment", the resulting subject-matter still does not appear to comprise all features essential to solve the problem indicated in the patent (see item 2.2 above and the Board's communication, item VI above). The objective technical problem solved by this particular combination of features would therefore have had to be re-defined again. It would then have had to be considered whether this entirely new combination of features was obvious in view of the prior art, which might possibly have required a search for additional prior art. Deciding whether or not the subject-matter of this substantially amended claim involved an inventive step would consequently have required the Board and the appellant to consider complex issues which had never been addressed before in the proceedings.

- 7.2 The Board was not convinced by the appellant's argument that the assessment of inventive step did not require consideration of the many details which were added to the claim just for the purpose of complying with the requirement of Article 123(2) EPC. It cannot be excluded from the outset that features such as the mounting ears or the pivot shaft do not contribute to the solution of a still to be defined objective technical problem. Furthermore, whether or not these features would then be obvious cannot be decided in advance without having defined such objective technical problem and without having considered the relevant

prior art for features which have never been considered in the preceding requests.

- 7.3 The issues arising from these amendments were consequently far too complex to be dealt with during the oral proceedings without adjournment and would presumably even have required the remittal of the case to the first instance. According to Article 13(3) RPBA such amendments shall not be admitted into the proceedings.
8. The respondent considered that its right to be heard under Article 113 EPC had been violated by the Board's decision not to admit the auxiliary requests 2 and 6 submitted during the oral proceedings. However, the objections raised by the respondent under Rule 106 EPC in the oral proceedings (see the annex attached to the minutes) do not relate to a violation of its right to be heard. Rather they express the view that the Board's conclusions drawn in the exercise of its discretion to admit amendments to the respondent's case under Article 13(1) and (3) RPBA were wrong. With respect to the auxiliary request 2, the respondent objected in particular that "*[t]he alleged lack of clarity is not justified*", which amounts to nothing more than its disagreement with the Board's judgment on the clarity of the amendments. With respect to auxiliary request 6, the respondent essentially objected that "*[t]he alleged need for a substantive new examination with respect to inventive step was not justified because the patentee acknowledged that the features not present in earlier filed aux. request 11 [above: auxiliary request 5] would not form the basis of any inventive step arguments to [be] made by the patentee*", which again is

nothing more than an objection to the correctness of the Board's negative finding in respect of inventive step.

Therefore, none of the objections which the respondent raised in relying on Rule 106 EPC address a violation of its right to be heard under Article 113 EPC. Consequently, they have to be dismissed.

Order

For these reasons it is decided that:

1. The objection under Rule 106 EPC raised by the respondent is dismissed.
2. The decision under appeal is set aside.
3. The patent is revoked.

The Registrar

The Chairman

M. Patin

R. Menapace