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Datasheet for the decision of 11 October 2023

Case Number: T 1758/21 - 3.2.07

Application Number: 16002238.0

Publication Number: 3162516

IPC: B25J9/16, B25J17/00, B25J13/08

Language of the proceedings: EN

Title of invention:
DRIVING MECHANISM, ROBOT APPARATUS MEASUREMENT METHOD, ROBOT APPARATUS CONTROL METHOD AND COMPONENT MANUFACTURING METHOD

Patent Proprietor:
Canon Kabushiki Kaisha

Opponent:
Brandes, Antje

Headword:

Relevant legal provisions:
EPC Art. 54, 100(a), 123(2)
RPBA 2020 Art. 12(1)(a), 12(2), 12(3), 12(4), 12(5), 13(2)

Keyword:
Novelty - main request (no) - auxiliary requests 2 and 16 (no)
Amendments - added subject-matter (yes) - auxiliary requests 1,8,9,15
Discretion not to admit submission - requirements of Art. 12(3) RPBA 2020 met (no) - auxiliary requests 6,7, 10-14
Amendment to case - amendment overcomes objection (no) - auxiliary requests 3-5 - reasons for submitting amendment in appeal proceedings (yes) - auxiliary requests 15 and 16
Amendment after summons - exceptional circumstances (no) - auxiliary requests 1a,2a,2b,15a,16a,16b

Decisions cited:
T 1041/21

Catchword:

Europäisches Patentamt
European Patent Office
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Case Number: T 1758/21 - 3.2.07

D E C I S I O N
of Technical Board of Appeal 3.2.07
of 11 October 2023

Appellant: (Patent Proprietor)	Canon Kabushiki Kaisha 30-2, Shimomaruko 3-chome Ohta-ku Tokyo (JP)
Representative:	WESER & Kollegen Patentanwälte PartmbB Radeckestraße 43 81245 München (DE)
Appellant: (Opponent)	Brandes, Antje Sonnenstrasse 27 80331 München (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 9 August 2021 concerning maintenance of the European Patent No. 3162516 in amended form.**

Composition of the Board:

Chairman	G. Patton
Members:	S. Watson
	R. Cramer

Summary of Facts and Submissions

I. Appeals were filed by both the patent proprietor and the opponent against the decision of the opposition division maintaining European patent No. 3 162 516 in amended form according to auxiliary request 8.

Since both parties to the proceedings are both appellant and respondent, for the sake of simplicity they will continue to be addressed as patent proprietor and opponent in this decision.

II. In preparation for oral proceedings, the board gave its preliminary opinion in a communication pursuant to Article 15(1) RPBA, which took into account both parties' statements of grounds of appeal and their respective replies as well as the opponent's submissions of 28 June 2023.

III. Both parties responded to the board's communication. The patent proprietor with submissions of 11 September 2023 and the opponent with submissions of 6 September 2023 and 5 October 2023.

IV. Oral proceedings before the board took place on 11 October 2023.

V. At the conclusion of the proceedings the decision was announced. Further details of the oral proceedings can be found in the minutes.

VI. The final requests of the parties are as follows:

The patent proprietor requested that the decision under appeal be set aside and the patent be maintained

according to the main request first filed on 20 July 2020 and re-filed with the statement of grounds of appeal, or according to one of auxiliary requests 1 to 14 filed with the statement of grounds of appeal, or auxiliary requests 15 or 16, filed with the reply to the opponent's appeal, or one of auxiliary requests 1a, 2a, 2b, 15a, 16a or 16b filed with the patent proprietor's submissions of 11 September 2023.

The opponent requested that the decision under appeal be set aside and that the patent be revoked in its entirety.

VII. The arguments of the parties relevant for the decision are dealt with in detail in the reasons for the decision.

VIII. The following document is referred to in this decision:

D5: US 2011/0239788 A1.

IX. Independent claim 1 of the main request reads as follows:

"A driving mechanism for driving a first link (210) and a second link (220) relative to each other, the driving mechanism comprising:
a driving apparatus (230) that drives the second link relative to the first link;
a part to be driven by the driving apparatus;
a constraining part (240) that includes a first supporting part (243) and a second supporting part (242) and constrains the first link and the second link so as to be movable in a predetermined direction, wherein
the driving apparatus is fixed to the first link;

the first supporting part is fixed to the first link;
the second supporting part is fixed to the part to be driven; and
characterized by comprising a force sensor having a first part (251) and a second part (252), whereby the first part is fixed to the part to be driven, and the second part (252) is fixed to the second link."

X. Independent claim 1 of auxiliary request 1 has the following additional features introduced at the end of claim 1 of the main request (feature labeling as used by the parties in their appeal cases):

1.5 wherein a force detected by the force sensor is transferred via the part to be driven, the force sensor and the second link (220) as a path where the force is transferred, and

1.5.1 this path extending through the force sensor is the only path of transfer of force between the first link and the second link.

XI. Independent claim 1 of auxiliary request 2 has the following additional feature introduced at the end of claim 1 of the main request:

"and wherein a pathway extending through the force sensor is an only pathway of transfer of force between the first link and the second link".

XII. Independent claim 1 of auxiliary request 3 has the following additional feature introduced at the end of claim 1 of the main request:

"wherein a force detected by the force sensor is transferred via the part to be driven, the force sensor and the second link (220) as a path where the force is transferred, and
a path extending through the force sensor is an only path of transfer of force between the first link and the second link."

XIII. Independent claim 1 of auxiliary request 4 has the following additional feature introduced at the end of claim 1 of the main request:

"wherein a force detected by the force sensor is transferred via the part to be driven, the force sensor and the second link (220) as a path where the force is transferred, and
a path extending through the force sensor and the second link is an only path of transfer of force between the first link and the second link."

XIV. Independent claim 1 of auxiliary request 5 reads as follows (amendments shown with respect to claim 1 of the main request):

"A driving mechanism for driving a first link (210) and a second link (220) relative to each other, the driving mechanism comprising:
a driving apparatus (230) that drives the second link relative to the first link;
a part to be driven by the driving apparatus;
a constraining part (240) that includes a first supporting part (243) and a second supporting part (242) and constrains the first link and the second link so as to be movable in a predetermined direction, wherein
the driving apparatus is fixed to the first link;

the first supporting part is fixed to the first link;
the second supporting part is fixed to the part to be driven via a connecting member (244); and
characterized by comprising a force sensor having a first part (251) and a second part (252) and a spring part (253) linking the first part and the second part, whereby the first part is fixed to the part to be driven via the connecting member (244), and the second part (252) is fixed to the second link, wherein
a force detected by the force sensor is transferred via the part to be driven, the force sensor and the second link (220) as a path where the force is transferred, and
a path extending through the force sensor is an only path of transfer of force between the first link and the second link, with the second supporting part (242) fixed to the part to be driven via the connecting member (244), and with the connecting member (244), the force sensor and the second link (220) provided to be integrally movable in a prescribed direction by the second supporting part (242)."

XV. Independent claim 1 of auxiliary request 8 has the following additional features introduced at the end of claim 1 of the main request:

"wherein a force detected by the force sensor is transferred via the part to be driven, the force sensor and the second link (220) as a path where the force is transferred, and
no bearing is disposed between the force sensor and a link."

XVI. Independent claim 1 of auxiliary request 9 differs from claim 1 of auxiliary request 8 in that the final feature reads as follows:

"no bearing is disposed between the force sensor and ~~a~~ the first link."

XVII. Independent claim 1 of auxiliary request 15 reads as follows (amendments shown with respect to claim 1 of the main request):

"A driving mechanism for driving a first link (210) and a second link (220) relative to each other, the driving mechanism comprising:
a driving apparatus (230) that drives the second link relative to the first link;
a part to be driven by the driving apparatus;
a constraining part (240) that includes a first supporting part (243) and a second supporting part (242) and constrains the first link and the second link so as to be movable in a predetermined direction, wherein
the driving apparatus is fixed to the first link;
the first supporting part is fixed to the first link;
the second supporting part is fixed to the part to be driven via a connecting member (244); and
characterized by comprising a force sensor having a first part (251) and a second part (252), whereby the first part is fixed to the part to be driven via the connecting member, and the second part (252) is fixed to the second link, wherein
a force detected by the force sensor is transferred via the connecting member, the force sensor and the second link (220) as a path where the force is transferred, and

this path extending through the force sensor is the only path of transfer of force between the first link and the second link."

XVIII. Independent claim 1 of auxiliary request 16 reads as follows (amendments shown with respect to claim 1 of the main request):

"A driving mechanism for driving a first link (210) and a second link (220) relative to each other, the driving mechanism comprising:
a driving apparatus (230) that drives the second link relative to the first link;
a part to be driven by the driving apparatus;
a constraining part (240) that includes a first supporting part (243) and a second supporting part (242) and constrains the first link and the second link so as to be movable in a predetermined direction, wherein
the driving apparatus is fixed to the first link;
the first supporting part is fixed to the first link;
the second supporting part is fixed to the part to be driven via a connecting member (244); and
characterized by comprising a force sensor having a first part (251) and a second part (252), whereby the first part is fixed to the part to be driven via the connecting member, and the second part (252) is fixed to the second link, and wherein
a pathway extending through the force sensor is an only pathway of transfer of force between the first link and the second link."

XIX. As the wording of the claims of auxiliary requests 1a, 2a, 2b, 6, 7, 10 to 14, 15a, 16a and 16b are not

relevant to this decision, it is unnecessary to reproduce them here.

Reasons for the Decision

1. *Main request - claim 1 - lack of novelty - Article 54 EPC*

1.1 The opposition division found that the subject-matter of claim 1 of the main request was not novel with respect to document D5.

1.2 The patent proprietor argued that the findings of the opposition division were incorrect as document D5 did not disclose first and second links, nor did it disclose a part to be driven which is fixed to the second supporting part of the constraining part and to the first part of the force sensor.

1.3 *First and second links*

1.3.1 According to the patent proprietor a first and a second link are not directly and unambiguously disclosed in document D5. The casing 10 in document D5, identified as the first link in the decision under appeal, could form a base stand at the beginning of a robot arm and might therefore not be connected to any link. The skilled person would understand the term "link" in the context of the technical field of the patent as contributing to the extension of a robot arm beyond a joint.

1.3.2 The board notes that claim 1 of the main request makes no mention of robot arms or joints and that it is established case law that a term (here a "link") should not have limitations read into it which are present

only in the description (see Case Law of the Boards of Appeal (CLB), 10th edition 2022, II.A. 6.3.4).

1.3.3 However, the board in any case follows the reasoning in the decision under appeal and the arguments of the opponent, that as paragraph [0039] of D5 discloses that,

> "*The actuator unit 1 is applied to articulations of an articulated robot apparatus, for example, to articulations of the hands, the legs, the neck, the waist, and the like*",

there is a disclosure of first and second links, even if "link" is understood narrowly, as suggested by the patent proprietor.

1.3.4 In light of the board's opinion that D5 shows first and second links, it is not necessary to consider the opponent's contention that the first and second links do not form part of the claimed subject-matter.

1.4 *Part to be driven*

1.4.1 The patent proprietor argued that the part to be driven in document D5 must be considered to be the driving shaft 11a, shown in figure 1 of document D5. However, this part is not connected to either the constraining part (bearing B2) or the force sensor (13) as required by the claim.

1.4.2 The board disagrees and follows the interpretation of "part to be driven by the driving apparatus" given by the opposition division (albeit in relation to then auxiliary request 8), namely that the part to be driven

can be any part intended to be driven by the actuator, it is not limited to a driving shaft.

As set out above, it is established case law that the scope of a claim cannot be narrowed by implying into it more restrictive features which appear only in the description.

Therefore, even if the driving shaft 11a of D5 were considered to correspond to component 232 in figure 2 of the contested patent, as argued by the patent proprietor, this does not restrict the interpretation of the feature "part to be driven by the driving apparatus" in claim 1 of the main request.

In D5, figure 1 and paragraph [0043] indicate that the rotation-transmitting member 15 is rotated by the driving apparatus, and is fixed to both the input end of the torque sensor 13 and to the bearing B2 so that the feature "part to be driven" is disclosed in documents D5.

1.5 The patent proprietor has therefore not convincingly demonstrated the incorrectness of the opposition division's findings that the subject-matter of claim 1 of the main request lacks novelty over D5.

2. *Auxiliary request 1 - claim 1 - Article 123(2) EPC*

2.1 The opposition division found that auxiliary request 1 (then auxiliary request 8) met the requirements of Article 123(2) EPC. It reasoned that paragraph [0121] of the description as originally filed disclosed feature 1.5.1 and linked it "with the joints of the robots being configured as in figures 1 and 2, so feature 1.5 is necessary to define the joint

consistently with the mechanical arrangement shown in particular in figure 2 and defined in the remaining features of the claim" (see the decision under appeal, point 6.1, first paragraph and point X. above).

2.2 The opponent argued that the opposition division was incorrect as it did not apply the correct standard when assessing compliance with Article 123(2) EPC, namely that the amended subject-matter must be directly and unambiguously derivable from the application as filed.

Even if an added feature were found to be consistent with a disclosed embodiment, this alone would not be sufficient to demonstrate compliance with Article 123(2) EPC. According to the opponent, there was no basis in the application as originally filed for features 1.5 and 1.5.1 in combination.

2.3 *Admittance of opponent's objection*

2.3.1 The patent proprietor argued that the opponent's objection under Article 123(2) EPC to features 1.5 and 1.5.1 as such, was an amendment to the opponent's appeal case and should not be admitted into the appeal proceedings, according to Article 12(2) and (4) RPBA.

According to the patent proprietor the opponent had not contested the basis of feature 1.5.1 or the connection between the paths of features 1.5.1 and 1.5 at the oral proceedings before the opposition division.

2.3.2 The board notes that point 7.1 of the minutes of the oral proceedings before the opposition division mentions only objections to clarity, novelty and inventive step with respect to the then auxiliary

request 8, which was filed for the first time at the oral proceedings before the opposition division.

However, the decision under appeal clearly deals with objections and arguments relating to insufficiency of disclosure and added subject-matter, in addition to clarity and patentability (see decision under appeal, section 6, final paragraph). Therefore it appears that objections to an extension of subject-matter of the claims of the then auxiliary request 8 were indeed raised during the oral proceedings. The patent proprietor did not contest that an objection under Article 123(2) EPC to feature 1.5.1 was raised, but argued that it related only to an intermediate generalisation and feature 1.5 had not previously been objected to.

2.3.3 The patent proprietor argued further that it would be unfair for an opponent to be able to raise an objection for the first time in appeal proceedings based on a positive statement of the opposition division that a claim fulfilled Article 123(2) EPC.

The board notes that as then auxiliary request 8 was filed during oral proceedings before the opposition division, any objections raised were only made orally and the minutes of the oral proceedings do not set out precisely which objections were raised and considered.

However, the decision under appeal does explicitly give the opposition division's findings regarding the basis of the amendments for features 1.5 and 1.5.1.

Feature 1.5.1 is directly linked to feature 1.5 in the claim, as the same path is referred to in both

features, therefore the basis for disclosure for each of these features cannot be considered in isolation.

2.3.4 The opponent directly contests the opposition division's findings and reasoning in the decision under appeal regarding the appropriate criterion to use when assessing added subject-matter, and regarding whether paragraph [0121] and figures 1 and 2 disclose the features in combination.

Her objections are therefore directed to the facts, arguments and evidence on which the decision under appeal was based (Article 12(1)(a) and (2) RPBA) and the objection is not regarded as an amendment to the opponent's case.

2.4 *Substantive considerations*

2.4.1 It is well-established case law that amendments can only be made within the limits of what a skilled person would derive directly and unambiguously from the documents as originally filed (CLB, *supra*, II.E.1.1), consistency with the original disclosure is not sufficient (CLB, *supra*, II.E. 1.3.5 a)).

The opponent argued that features 1.5 and 1.5.1 were not directly and unambiguously disclosed in combination in the application as originally filed. Paragraph [0121] of the application as originally filed disclosed only that "a pathway extending through a force sensor is an only pathway of transfer of force between two links joined via the joint", it did not disclose that this pathway must be via the part to be driven, the force sensor and the second link.

2.4.2 The patent proprietor gave paragraph [0121] as well as figures 1 and 2 as the basis for the combination of features of claim 1 of auxiliary request 1 and argued that there was a direct and unambiguous disclosure of the combination because feature 1.5.1 was explicitly disclosed in paragraph [0121] and this paragraph described the embodiment shown in figures 1 and 2. Figure 2 illustrated in detail the driving mechanism and it was implicit from the remaining features of the claim and from figure 2, due to basic mechanics, that the force transfer from the first to the second link is only via the part to be driven and the force sensor.

The patent proprietor further argued that there could be no other force pathways because paragraph [0121] explicitly mentioned that in the conventional joint configurations there were other pathways of force transfer between two links.

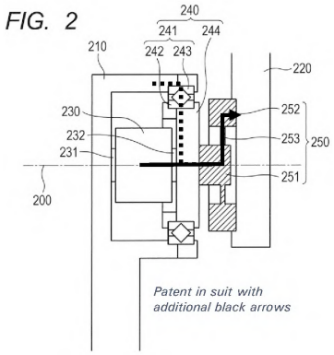
2.4.3 The board agrees with the patent proprietor that for the purposes of fulfilling Article 123(2) EPC, no literal disclosure of the features together with the further features of the claim is required (CLB, *supra*, II.E.1.3.2, fourth and fifth paragraphs).

However, for a disclosure to implicitly, directly and unambiguously, disclose a combination of features, it must necessarily be implied by the disclosure in the sense of being unambiguously inherent.

Figures 1 and 2 of the patent application are highly schematic drawings of the driving mechanism, with no indication of any paths of transfer of force. The description referring to these figures also makes no mention of paths of transfer of force, and in particular there is no disclosure that the only pathway

transferring force from a first to a second link is via the part to be driven and the force sensor. The implicit disclosure relies on the absence of any other connections than those shown in the figure. However, due to the schematic nature of the figure, with no indication of how parts are connected or of any housings or seals, it is not directly and unambiguously disclosed where the path of force is transferred. The absence of an explicit disclosure of further connections in the mechanism of schematic figure 2 cannot be understood as an inherent disclosure that there are no further connections.

2.4.4 In any case, even if the force transfer paths through figure 2 are understood as being those annotated by the patent proprietor in figure 2 of the patent in suit (figure reproduced on page 15 of the decision under appeal and shown below), there is no direct and unambiguous disclosure of the only path of transfer of force between the first and second link being via only the part to be driven and the force sensor, as there is a path passing through the bearing forming the constraining part (240), and both paths pass through the connecting member (244).



With respect to paragraph [0121], as argued by the opponent, there is no disclosure in this paragraph that

the only path of transfer of force between the first and second link is via the part to be driven and the force sensor.

The cited passage of paragraph [0121] refers only to a pathway through a force sensor as "an only pathway of transfer of force between two links" but makes no mention of this pathway passing only through the part to be driven and the force sensor. The reference that in a "conventional joint configuration" force is transferred "via mechanical elements such as a cross roller bearing and/or an oil seal" is not a direct and unambiguous disclosure that the only pathway of transfer of force between the first and second link is via the part to be driven and the force sensor.

2.4.5 Therefore, the skilled person would not directly and unambiguously derive features 1.5 and 1.5.1, in combination with the remaining features of claim 1, from the application documents as originally filed, contrary to the requirements of Article 123(2) EPC.

2.5 Claim 1 of auxiliary request 1 therefore does not fulfil the requirements of Article 123(2) EPC.

3. *Auxiliary requests 1a, 2a, 2b, 15a, 16a and 16b - admittance - Article 13(2) RPBA*

3.1 The patent proprietor filed auxiliary requests 1a, 2a, 2b, 15a, 16a and 16b with its submissions of 11 September 2023, after notification of the board's communication pursuant to Article 15(1) RPBA and the summons to oral proceedings.

3.2 The opponent requested that they not be admitted into the appeal proceedings.

3.3 The consideration of these requests in the appeal proceedings is governed by Article 13(2) RPBA, which sets out that amendments to a party's appeal case made after notification of a summons to oral proceedings shall, in principle, not be taken into account unless there are exceptional circumstances, which have been justified by cogent reasons by the party concerned.

3.4 The patent proprietor argued that the possible admittance into the appeal proceedings of the alleged new objection under Article 123(2) EPC raised against features 1.5 and 1.5.1 for the first time with the opponent's statement of grounds of appeal, as well as the unusual interpretation of claim 1 used by the board to assess in particular novelty of the subject-matter of claim 1 of auxiliary request 2 over D5, in conflict with the claim's context, were exceptional circumstances to which the patent proprietor could not have reacted earlier.

3.5 However, the board notes that even if the objection under Article 123(2) EPC raised against claim 1 of auxiliary request 1 were to be seen as an amendment to the opponent's appeal case with respect to the opposition proceedings (see point 2 above), or if claim 1 was regarded as being interpreted out of context with regard to auxiliary request 2 as to justify in particular the filing of auxiliary requests 2a and 2b for restoring novelty over D5 (see board's communication dated 31 July 2023, point 15.3.3), neither the objection nor the interpretation was raised for the first time in the board's preliminary opinion. Both were set out in the opponent's statement of grounds of appeal (see paragraphs 11 to 36 and 267) or in her reply to the patent proprietor's statement of

grounds, paragraph 23, so that their presence in the board's preliminary opinion cannot be seen as an exceptional circumstance (see CLB, *supra*, V.A.4.5.6 c) and h)).

3.6 Therefore, in the absence of any exceptional circumstances justified by cogent reasons, the board does not admit auxiliary requests 1a, 2a, 2b, 15a, 16a or 16b into the appeal proceedings (Article 13(2) RPBA).

4. *Auxiliary request 2 - novelty (Article 54 EPC) - claim 1*

4.1 Auxiliary request 2 in appeal proceedings corresponds to auxiliary request 9 filed, but not decided upon, at the oral proceedings before the opposition division.

4.2 In auxiliary request 2, feature 1.5 has been deleted and feature 1.5.1 amended as follows (feature 1.5.1'):

> "~~a force detected by the force sensor is transferred via the part to be driven, the force sensor and the second link (220) as a path where the force is transferred, and~~
> ~~this~~ a pathway extending through the force sensor is ~~the~~ an only pathway of transfer of force between the first link and the second link".

4.3 The opponent argued that in the driving mechanism of figure 1 of document D5, the pathway extending through the force sensor is an only pathway of transfer of force between the first link and the second link. According to the opponent this is illustrated by the patent proprietor's annotated drawing of figure 1 of D5

(reproduced on page 15 of the decision under appeal, shown here below).

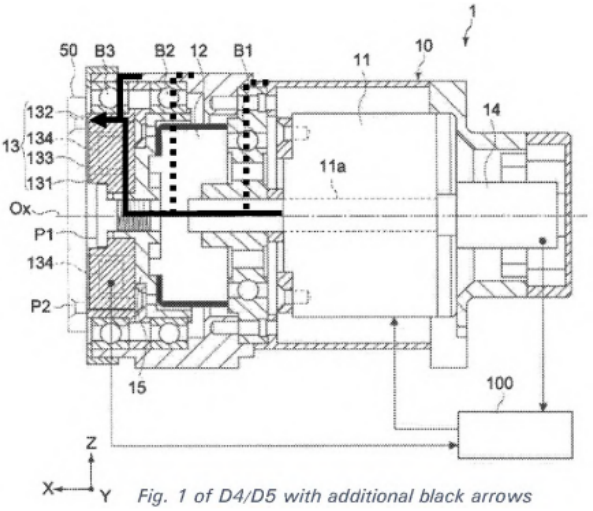


Fig. 1 of D4/D5 with additional black arrows

4.4 The patent proprietor argued that the subject-matter of claim 1 of auxiliary request 2 is novel with respect to D5 because, although there is a pathway of transfer of force from the bearing B3 to the second link (50) which passes through the outer ring 132 of the force sensor, this is not transferred through and detected by the force sensor.

The patent proprietor put forward the argument that the skilled person, using their common general knowledge, would understand that a pathway extending through a force sensor must be understood as a pathway of force which is measured by the force sensor because the claim must be considered in context, together with the description and drawings, and read with a mind willing to understand.

4.5 However, as noted above, it is established case law that limitations not found in the explicit wording of a claim cannot be read into a claim based on the description (CLB, *supra*, II.A.6.3.4). The board

therefore follows the opponent's argument that feature 1.5.1' has to be interpreted broadly and, in the absence of any limitation in the claim wording, cannot be limited to a pathway which passes through both the first part and the second part of the force sensor and is measured by the sensor. It is sufficient that it extends through any part of the force sensor.

4.5.1 The patent proprietor relied on the term "extending" implying an increase or enlargement of the expression "through the force sensor", so that the skilled person understands the feature as covering multiple components of the force sensor, in particular the part which detects a force. According to the patent proprietor, the term "extending" cannot be ignored in the interpretation of the feature as it adds the information that the path refers to a path of transfer of force that can be detected by the force sensor.

The board does not agree that the use of the word "extending" indicates that the term "through" refers to multiple components of the force sensor. The term "extending" in claim 1 of auxiliary request 2 does not imply any "enlargement" of the path which would lead the skilled person to understand it as necessarily passing through multiple components of the force sensor. The use of "extending" in the claim does not limit the skilled person's interpretation as it can be understood merely as "continuing".

The description and drawings of the patent in suit also do not contradict the broader understanding of this feature. Paragraph [0121] does not refer to the path of transfer of force passing through multiple components of the force sensor. As set out above (point 2.4.3), the absence of an explicit disclosure of further

connections in the mechanism of figure 2 cannot be understood as an inherent disclosure that there are no further connections. Therefore figure 2 also does not disclose that the path must necessarily extend through all parts of the force sensor.

4.6 Therefore the subject-matter of claim 1 of auxiliary request 2 is not novel (Article 54 EPC).

5. *Auxiliary requests 3 to 5*

Auxiliary requests 3 to 5 were filed for the first time with the patent proprietor's statement of grounds of appeal.

The opponent requested that these requests not be admitted into the appeal proceedings.

According to Article 12(4) RPBA, a party should identify each amendment, give reasons for submitting it in the appeal proceedings and indicate the basis for any amendment in the application as filed. Amendments to a party's case may be admitted only at the discretion of the board. This discretion should be exercised taking into account the complexity of the amendment, the suitability to address the issues which led to the decision under appeal and the need for procedural economy.

As set out in the preliminary opinion of the board (point 16.), all three auxiliary requests 3 to 5 contain feature 1.5 in addition to modified versions of feature 1.5.1 (see points XII to XIV above). The patent proprietor argued that these requests overcome the objection against auxiliary request 1 (see point 2.4 above), as feature 1.5.1 was amended such that it

referred to "a" path, rather than "this" path. The patent proprietor did not elaborate on why this amendment overcame the objection.

As feature 1.5 refers to "a force detected by the force sensor is transferred...as a path where the force is transferred" and as according to modified feature 1.5.1 a path extending through the force sensor is the only path of transfer of force between the two links, it appears that it is still claimed and provides a new technical teaching to the skilled person that the only path of transfer of force between the first and second link can also be via the force sensor and the part to be driven alone, so that the objections considered above in point 2.4 still apply.

Therefore, in the absence of argumentation clearly setting out why the amendment overcame the objection raised against auxiliary request 1, and as none of auxiliary requests 3 to 5 appears suitable to address this objection, the board does not admit these requests, using its discretion under Article 12(4) RPBA.

6. *Auxiliary requests 6, 7 and 10 to 14 - admittance*

Claim 1 of auxiliary requests 6 to 14 in appeal corresponds to claim 1 of auxiliary requests 1, 1a, 2, 2a, 3, 4, 5, 6 and 7, respectively, in opposition proceedings, which were all found not to meet the requirements of Article 123(2) EPC.

6.1 The opposition division found that claim 1 of the then auxiliary request 1 did not meet the requirements of Article 123(2) EPC because the amendments made to the claim were said to have their basis in paragraph [0121]

which stated "very explicitly that i) the path of transfer of force concerns transfer of force between two links that can be attached to the joint, and that ii) the path extending through the force sensor is the only path" (see decision under appeal, point 4.1, final paragraph). As claim 1 of the then auxiliary request 1 did not contain these restrictions, the opposition division found that the amendment to the claim represented an unallowable intermediate generalisation.

6.2 The opposition division further found that none of the then auxiliary requests 1a, 2, 2a, 3, 4, 5, 6 and 7 fully addressed the issues in i) and ii). In particular auxiliary requests 1a and 2 did not address missing feature ii).

6.3 In its statement of grounds of appeal the patent proprietor presented arguments specifically relating to auxiliary requests 8 and 9 (auxiliary requests 2 and 2a in opposition proceedings).

For auxiliary requests 6, 7 and 10 to 14 of the appeal proceedings, the patent proprietor referred, without citing any specific passages, to its written and oral submissions in the opposition proceedings.

6.4 The opponent requested that auxiliary requests 6, 7 and 10 to 14 not be admitted into the appeal proceedings as the patent proprietor had not objected to the decision under appeal for these requests.

6.5 According to Article 12(3) RPBA, a party should present its complete appeal case by setting out clearly and concisely the reasons why it is requested that the decision under appeal should be reversed and should specify expressly all arguments relied on.

According to Article 12(5) RPBA a board has discretion not to admit any part of a submission which does not fulfil the requirements of Article 12(3) RPBA.

It is established case law that general references to earlier submissions are generally not sufficient to substantiate grounds of appeal (CLB, *supra,* V.A. 2.6.5 and V.A.4.3.5 b)). As the patent proprietor did not clearly and concisely set out why the opposition division was incorrect in finding that the then auxiliary requests 1, 1a, 3, 4, 5, 6 and 7 did not fulfil the requirements of Article 123(2) EPC, it would be necessary for the board to consider all the submissions made in opposition proceedings and put together the patent proprietor's case. This is not the task of the board and would be prejudicial to its required neutrality (CLB, *supra,* V.A.1.1, final paragraph; T 1041/21, Reasons Nr. 5.1.2).

Therefore the board does not admit auxiliary requests 6, 7 and 10 to 14 as they are unsubstantiated (Article 12(3) and (5) RPBA).

6.6 *Auxiliary requests 8 and 9*

The opposition division found that claim 1 of auxiliary requests 8 and 9 (2 and 2a in opposition proceedings) contained an unallowable intermediate generalisation.

In its statement of grounds of appeal, the patent proprietor argued that the opposition division did not use the correct basis in the application as originally filed, when considering whether claim 1 of the then auxiliary requests 2 and 2a fulfilled the requirements of Article 123(2) EPC.

According to the patent proprietor, the amendments to these claims were based on paragraphs [0013], [0014] and [0016] of the application as originally filed, independently from paragraph [0121] indicated by the opposition division.

6.6.1 Auxiliary requests 8 and 9 both comprise feature 1.5, but feature 1.5.1 is replaced by the feature:

"*no bearing is disposed between the force sensor and a link*" in auxiliary request 8;

and by the feature:

"*no bearing is disposed between the force sensor and the first link (210)*" in auxiliary request 9.

The patent proprietor argued that these features are disclaimers disclosed in paragraph [0013] as originally filed, following directly from the application as a whole where no embodiments are shown in combination with a bearing.

6.6.2 The board, however, agrees with the objection raised by the opponent, that the skilled person does not derive directly and unambiguously from paragraph [0013], which describes the prior art, that there must be no bearing between the force sensor and a link.

Paragraph [0013] of the application as originally filed reads as follows:

"*However, a conventional joint structure such as described in Japanese Patent Application Laid-Open No. 2011-72186, a bearing is disposed between a force sensor and a link, and thus, it is not so*

easy to detect a value of a force in another axial direction."

The skilled person cannot derive from this passage and the following paragraphs [0014] and [0016] the feature that "no bearing is disposed between the force sensor and a (first) link" is disclosed in combination with the further features of claim 1. As the opponent argued, this passage merely poses a problem found in a prior art joint of a robot arm (see paragraph [0007] of the application as originally filed where this document is first introduced), there is no direct and unambiguous disclosure of the combination of features which forms claim 1 of either of auxiliary requests 8 and 9.

Notwithstanding the above, the fact that a feature could be seen as leading to an undesired technical effect in the discussed prior art, as apparently in paragraph [0013] of the application as originally filed, cannot be a clear and unambiguous teaching to the skilled person that the feature had to be automatically absent from the claimed invention, even if it is not disclosed in the disclosed embodiments. Allowing such an automatic disclosure would lead to allowing features to be cherry-picked from the prior art discussed in the patent in order to include them in the claimed subject-matter, be they disclaimers or not.

6.6.3 Therefore, the patent proprietor has not convincingly demonstrated that the opposition division was incorrect in finding that claim 1 of the then auxiliary requests 2 and 2a (now auxiliary requests 8 and 9) did not fulfil the requirements of Article 123(2) EPC.

7. *Auxiliary requests 15 and 16 - admittance*

7.1 The patent proprietor filed auxiliary requests 15 and 16 for the first time with its reply to the opponent's appeal.

7.2 The opponent requested that auxiliary requests 15 and 16 not be admitted into the appeal proceedings.

7.3 The patent proprietor argued that the requests should be admitted because they were filed in direct reaction to objections raised in the opponent's statement of grounds of appeal and the requests could not have been submitted during the opposition proceedings as the opposition division found that the then auxiliary request 8 fulfilled the requirements of the EPC.

The opponent argued that the requests should not be admitted as the objections were raised during opposition proceedings and could and should have been addressed by filing the requests during opposition proceedings.

7.4 According to Article 12(6), second sentence, RPBA, a board shall not admit requests which should have been submitted in the proceedings leading to the decision under appeal.

The board notes that in the present case, then auxiliary request 8 was filed during the oral proceedings before the opposition division in response to a change of opinion of the opposition division leading to a finding that claim 1 of the then first auxiliary request contravened Article 123(2) EPC. As the opposition division then found that auxiliary request 8 did fulfil the requirements of of Article

123(2) EPC, there was no opportunity and no reason for the patent proprietor to file further auxiliary requests, so that it cannot be considered that auxiliary requests 15 and 16 should have been submitted during the opposition proceedings.

It is therefore at the discretion of the board whether to admit these requests into the appeal proceedings (Article 12(4) RPBA).

The auxiliary requests were filed at the first opportunity in the appeal proceedings in reaction to the opponent's statement of grounds of appeal. As the auxiliary requests both include the feature of the connecting member (244), they appear to be a reasonable attempt to overcome the objection under Article 123(2) EPC raised against auxiliary request 1. The amendments made are not complex and the patent proprietor provided reasons why, in its view, the objections had been overcome.

The board therefore decided to admit auxiliary requests 15 and 16 into the appeal proceedings.

8. *Auxiliary request 15 - Article 123(2) EPC*

8.1 Claim 1 of auxiliary request 15 (see point XVII. above) includes the feature of a connecting member connected to the second supporting part of the constraining part and connected between the first part of the force sensor and the part to be driven. Feature 1.5 is modified in claim 1 of auxiliary request 15 in that the force detected by the force sensor is transferred via the connecting member, the force sensor and the second link and feature 1.5.1 is modified such that this path

is the only path of transfer of force between the first and second link.

8.2 The patent proprietor argued that by including the connecting member in the claim, the path is limited to starting from the connecting member, not the part to be driven.

8.3 The board, however, finds that the amendments made to claim 1 of auxiliary request 15 do not overcome the objections raised against auxiliary request 1.

Claim 1 of auxiliary request 15 requires that the only path of transfer of force between the first link and the second link is via the connecting member and the force sensor. Even if figure 2 of the patent in suit were understood, as argued by the patent proprietor, as inherently disclosing paths of transfer of force, there is no disclosure of "the only path of transfer of force between the first link and the second link" which only passes through the connecting member (244) and the force sensor.

8.4 The patent proprietor argued that the term "between the first link and the second link" covered sub-sections of the path of transfer of force, and, considering figure 2 and its associated description, the part of the path from the connecting member (244) to the second link (220), extending through the force sensor (250), is the only path of transfer of force.

The board cannot follow this argument as the claim clearly at least encompasses and explicitly teaches the embodiment where the entire "only path of transfer of force" from the first link (210) to the second link (220) is via the connecting member (244) and the force

sensor (250) alone. However, from figure 2 of the application as originally filed corresponding to figure 2 of the patent in suit, it can be seen that force is transferred between the first (210) and second link (220) via the part to be driven (232) and the constraining member (240), as well as the connecting member (244) and the force sensor (250). As argued by the opponent, even if it were considered that figure 2 discloses that the path extending through the force sensor (250) is the only path of transfer of force between the connecting member (244) and the second link (220), it does not disclose that the only path of transfer of force between the first link (210) and the second link (220) is via the connecting member (244) and force sensor (250) alone.

8.5 Therefore, claim 1 of auxiliary request 15 does not fulfil the requirements of Article 123(2) EPC.

9. *Auxiliary request 16 - Article 54 EPC*

9.1 Claim 1 of auxiliary request 16 includes the feature of a connecting member connected to the second supporting part of the constraining part and connected between the first part of the force sensor and the part to be driven. Feature 1.5 has been removed in this claim (see point XVIII. above).

Therefore claim 1 of auxiliary request 16 corresponds to auxiliary request 2 with the addition of the connecting member feature.

9.2 The patent proprietor argued that the objection of lack of novelty raised against claim 1 of auxiliary request 2 is overcome as the driving mechanism now requires two parts, a part to be driven and a connecting member,

whereby the connecting member is closer to the second supporting part of the constraining part and the first part of the force sensor. According to the patent proprietor, this would require that the rotation transmitting member 15 of document D5 must be supported by a bearing, while the force sensor 13 would not be supported by a bearing.

9.3 The patent proprietor's arguments cannot be followed. As argued by the opponent, the rotation transmitting member 15 of document D5 can be regarded as the connecting member.

Considering figure 1 of document D5, and as already discussed above with respect to the main request (see point 1.4.2), rotation transmitting member 15 is connected to the inner race of bearing B2 (second supporting part of the constraining part) and also connects the speed reducer 12/drive shaft 11a (part to be driven) to the inner ring 131 of torque sensor 13 (first part of the force sensor).

Therefore the amendments made in auxiliary request 16 do not overcome the objection of lack of novelty with respect to the disclosure of document D5 raised against auxiliary request 2.

The patent proprietor's further argument that the claim wording requires that the force sensor is not supported by a bearing cannot be followed. There is no limitation in the claim that the force sensor cannot be supported by a bearing. The final feature of the claim does not confer novelty for the same reasons as given above (see point 4.).

10. As none of the admissibly filed requests of the patent proprietor are allowable, the patent must be revoked.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The patent is revoked.

The Registrar: The Chairman:

G. Nachtigall G. Patton

Decision electronically authenticated