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Datasheet for the decision of 17 October 2023

Case Number: T 2068/21 - 3.2.07

Application Number: 16782951.4

Publication Number: 3287397

IPC: B65G15/30, B65G15/32, B29D29/06, F16G1/08

Language of the proceedings: EN

Title of invention:
CONVEYOR BELT SPECIFICATION DETERMINING METHOD

Applicant:
The Yokohama Rubber Co., Ltd.

Headword:

Relevant legal provisions:
EPC Art. 56, 123(2)
RPBA 2020 Art. 12(8), 13(2), 15(1)

Keyword:
Amendment after summons - taken into account (yes) - cogent reasons (yes)
Amendments - extension beyond the content of the application as filed (no)
Inventive step - (yes)

Decisions cited:
T 0641/00, T 1670/07

Catchword:

Europäisches Patentamt
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Beschwerdekammern

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Case Number: T 2068/21 - 3.2.07

D E C I S I O N
of Technical Board of Appeal 3.2.07
of 17 October 2023

Appellant: (Applicant)	The Yokohama Rubber Co., Ltd. 2-1, Oiwake, Hiratsuka-shi, Kanagawa Prefecture, 254-8601 (JP)
Representative:	Dilg, Haeusler, Schindelmann Patentanwaltsgesellschaft mbH Leonrodstraße 58 80636 München (DE)
Decision under appeal:	**Decision of the Examining Division of the European Patent Office posted on 26 April 2021 refusing European patent application No. 16782951.4 pursuant to Article 97(2) EPC.**

Composition of the Board:

Chairwoman	A. Beckman
Members:	S. Watson
	R. Cramer

Summary of Facts and Submissions

I. The applicant (appellant) lodged an appeal within the prescribed period and in the prescribed form against the decision of the examining division refusing European patent application No. 16 782 951.4.

II. In its decision, the examining division held that the subject-matter of claim 1 of the main request and also of claim 1 of auxiliary requests 1 to 4 was not inventive (Article 56 EPC).

III. With its statement of grounds of appeal of 6 September 2021, the appellant requested that the decision under appeal be set aside and a patent be granted on the basis of either the main request or one of auxiliary requests 1 to 4 on which the decision under appeal was based. The appellant also requested reimbursement of the appeal fee.

IV. In response to a communication of the board pursuant to Article 15(1) RPBA, the appellant filed a new main request and new first to fourth auxiliary requests and withdrew all requests filed on 6 September 2021.

V. The appellant's final requests are:

- that the decision under appeal be set aside and
- that a patent be granted on the basis of one of the sets of claims according to either the main request or to one of the first to fourth auxiliary requests, all filed on 6 September 2023.

VI. The present decision refers to the following documents:

D1: "CES EduPack^{TM} 2014 CES EduPack User Manual and Getting Started Guide" Granta Design Limited April 2014 (XP055519215);

D2: "CES Selector Getting Started Guide" Granta Design Limited 2012 (XP055519221).

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

"A conveyor belt specification determination method comprising:
categorizing, into a plurality of categories (C1,..., C5), a severity of use conditions of a conveyor belt (1), using a horizontal energy (EH) and a vertical energy (EV), which are calculated from the use conditions of the conveyor belt (1), as indices, the horizontal energy (EH) and vertical energy (EV) being received by the conveyor belt (1) as a result of objects (S) to be conveyed being fed onto and loaded on an upper cover rubber (3) of the conveyor belt (1) and conveyed;
creating a database (DB1) in which a permissible range of each of prescribed characteristics is set for each of the categories (C1,..., C5), the prescribed characteristics including at least wear resistance and cut resistance of the upper cover rubber (3), and inputting and storing the database (DB1) in a computation device (8);
setting a representative rubber physical property of the upper cover rubber (3) that affects each of the prescribed characteristics;
ascertaining a degree of influence of the representative rubber physical property that is set on the prescribed characteristics;
when determining a specification of the conveyor belt (1), identifying the category (C1,..., C5) of

severity from the use conditions of the conveyor belt (1) on the basis of the database (DB1), wherein the horizontal energy (EH) and the vertical energy (EV) are input into the computation device (8), and from the input horizontal energy (EH), the input vertical energy (EV) and the stored database (DB1), the computation device (8) identifies the category (C1,..., C5);
identifying an appropriate range of the representative rubber physical property for which the prescribed characteristics are in the permissible range in the category (C1,..., C5) that is identified; and
selecting a rubber type, for which the representative rubber physical property is in the appropriate range that is identified, as the upper cover rubber (3)."

VIII. In view of the decision taken, it is not necessary to reproduce the wording of the independent claims of the auxiliary requests here.

IX. The appellant's arguments are discussed in detail in the reasons for the decision.

Reasons for the Decision

1. *Decision in written procedure without oral proceedings*

According to Article 12(8) RPBA, subject to Article 113 and 116 EPC, a board may decide an appeal case at any time after filing of the statement of grounds of appeal.

In the present case, the appellant's request for oral proceedings is subordinate to its request for grant of a patent based on the main request filed on 6 September 2023 and therefore is procedurally inactive in view of the decision taken.

2. *Admittance of the main request*

The main request was filed after the notification of the summons to oral proceedings.

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

In the present case, the appellant reacted to completely new objections raised for the first time by the board in its communication pursuant to Article 15(1) RPBA. The decision under appeal was silent with respect to Article 123(2) EPC and no objections to added subject-matter were made in the examination proceedings.

The appellant thus could not have been expected to have filed these requests at any other time prior to receiving the board's communication pursuant to Article 15(1) RPBA. The amendments made by the appellant are also clearly aimed at overcoming the new objections and do not give rise to any further objections.

Therefore exceptional circumstance, justified with cogent reasons, exist and the main request is admitted

into the appeal proceedings (see Case Law of the Boards of Appeal (CLB), 10th edition 2022, V.A.4.5.5 a), first to third paragraphs).

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

Claim 1 of the main request is based on claim 1 as originally filed together with paragraph [0026], final sentence and paragraph [0033] of the description as originally filed.

The amendments made by the appellant overcome the objections raised by the board in its communication pursuant to Article 15(1) RPBA and the requirements of Article 123(2) EPC are met.

4. *Main request - Article 84 EPC*

In the decision under appeal, the examining division expressly stated that the claims were sufficiently clear and supported by the description. The board sees no reason to depart from this finding.

5. *Main request - claim 1 - inventive step (Article 56 EPC)*

5.1 The examining division reasoned that claim 1 was directed to a computer-implemented invention, which although having technical character as a whole comprised a mixture of technical and non-technical features.

5.2 When assessing the inventive step of a computer-implemented invention, it is established case law that the Comvik approach is to be applied (see CLB, *supra*, I.D.9.2.1).

5.2.1 Applying the Comvik approach a feature can only support the presence of inventive step to the extent that it contributes to the technical character of the invention (decision T 641/00, Headnote 1).

5.2.2 In the present case, the examining division first determined precisely which features contributed to the technical character of the invention, before determining the closest prior art.

However, it appears more appropriate here to determine which features are not disclosed in D1, after a first-glance evaluation of whether technical features are present, and then to determine whether those features make a technical contribution.

This approach is suggested in the Guidelines for Examination at the EPO, March 2023 edition, G-VII.5.4, fifth paragraph. As indicated in example 2 of the Guidelines, it is not always immediately clear which features support the technical character of the invention, particularly in fields outside of business methods, so that it may be necessary to consider the distinguishing features with respect to the closest prior art before determining which features support the technical character (Guidelines, March 2023, G-VII. 5.4.2.2, final paragraph).

5.2.3 The examining division did not have any doubts that the claim as a whole was not excluded from patentability as it contained technical elements, at least due to the use of a computation device. The board agrees.

5.3 Distinguishing features with respect to D1

5.3.1 The examining division found that document D1 disclosed an object specification determination method, as on page 16 of D1 requirement specifications were proposed relating to the environment in which the object would be working, such as maximum service temperature (D1, page 16). D1 further disclosed a step of setting a representative physical property of a material of the object that affects the behaviour of the object in the specific environment (D1, page 17), and D1 also disclosed the selection of a material which is recommended for the desired application (D1, page 18).

5.3.2 The appellant argued that none of these features (as well as all further features of claim 1) were disclosed in D1.

5.3.3 The board agrees with the appellant that these features are not present in document D1.

Document D1 does not show the steps of first setting requirement specifications and then selecting physical properties which play a role or influence behaviour of the object in the specific environment.
Pages 16 and 17 of D1 relate to two exercises for learning alternative ways of searching the database referred to in D1. Page 16 refers to "Exercise 5 Selection using a Limit Stage", whereas page 17 relates to "Exercise 6 Selection using a graph stage". The results of exercise 5 are not used in exercise 6 as the user is told to "delete this stage" at the end of page 16 of D1.

Therefore although D1 does generally disclose how to select materials based on certain requirements, it does

not show that a selection can be based on first inputting a specific parameter representing the conditions of use of an object and then selecting a material based on physical properties which will influence the behaviour of the object during the specific use.

5.3.4 The board finds that the only features known from D1 are the selection of a material with a physical property which is in an appropriate range.

5.4 Features which contribute to technical character

It is then necessary to consider whether the distinguishing features of claim 1 contribute to the technical character of the invention.

5.4.1 The examining division found that the following features contributed to the technical character of the invention:

- inputting and storing the database (DB1) in a computation device;
- when determining a specification of the conveyor belt, identifying the category (C1,..., C5) of severity from the use conditions of the conveyor belt on the basis of the database (DB1), wherein the horizontal energy (EH) and the vertical energy (EV) are input into the computation device, and from the input horizontal energy (EH), the input vertical energy (EV) and the stored database (DB1), the computation device identifies the category (C1,..., C5);
- identifying an appropriate range of the representative rubber physical property for which the prescribed characteristics are in the

permissible range in the category (C1,...,C5) that is identified.

5.5 Objective technical problem

5.5.1 The examining division determined the objective technical problem to be to further automate the method of D1 by storing in advance the requirement specifications of the vertical and horizontal energies and the characteristics of wear and cut resistance.

5.5.2 The board however follows the arguments of the appellant that it is not necessary to reformulate the objective technical problem set out in the application (paragraphs [0008, 0038]), namely to effectively determine the specification of an upper cover rubber with appropriate durability, fit for the use conditions.

The claimed method allows the rubber type to be determined for the upper cover for different categories of severity of use which are themselves determined by considering the actual horizontal and vertical energy received by the conveyor belt for particular use conditions.

5.6 Obviousness

5.6.1 The examining division found that it was obvious for the skilled person, who was determined to be a software engineer, to modify document D1 to receive a certain input and automate the retrieval of results.

5.6.2 However, the board, based on the features considered to be technical, does not regard the skilled person as a software engineer but rather a materials or mechanical

engineer working in conveyors. The claimed invention is in a technical field and the overall effect of the invention is to increase the operating time of a conveyor before the upper cover rubber needs replacing.

The situation is therefore not comparable to cases such as that of T 1670/07 where the overall effect of the method was not technical (see T 1670/07, reasons 6.).

It is not obvious for the skilled person to include in the method of D1 the technical parameter of the permissible ranges of at least both the cut and wear resistance, dependent on categories which are based on both the horizontal and vertical energy received by the conveyor in specific use conditions.

D1 does not teach, even in general terms, to correlate parameters based on conditions of use of a machine with physical properties of a material of a component which give certain prescribed characteristics for the component within a permissible range for the conditions of use.

5.7 Disclosure of D2

The examining division also mentioned document D2 in the decision under appeal.
However, it is referred to only in one place in the reasons for the decision under appeal. After referring to document D1 as being considered to be the closest prior art it is stated that "the same applies with D2" (decision under appeal, page 11, last line to page 12, first line).

Document D2 contains the same information in pages 6 to 7 as document D1, pages 16 to 17. Hence, the subject-

matter of claim 1 is considered not to be obvious with respect to the disclosure of document D2 for the same reasons as set out in sections 5.3 to 5.6 above.

5.8 The appellant has therefore convincingly shown the incorrectness of the decision under appeal and the decision should be set aside.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the examining division with the order to grant a patent in the following version:

Claims:	1 to 7 filed 6 September 2023
Description:	pages 1, 5-19, 21-25 filed with entry into the regional phase before the EPO, pages 2 to 4 filed 6 September 2021, page 20 filed 8 June 2018
Drawing sheets:	1/8 to 8/8 filed with entry into the regional phase before the EPO.

The Registrar: The Chairwoman:

G. Nachtigall A. Beckman

Decision electronically authenticated