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**Datasheet for the decision
of 27 July 2023**

Case Number: T 1918/21 - 3.2.01

Application Number: 16179516.6

Publication Number: 3269678

IPC: B66F9/06, B66F9/075, B62D5/04,
B66F17/00

Language of the proceedings: EN

Title of invention:
FLOOR CONVEYOR

Patent Proprietor:
Toyota Material Handling Manufacturing Sweden AB

Opponent:
Crown Equipment Corporation

Headword:

Relevant legal provisions:
EPC Art. 54, 56

Keyword:
Novelty - (yes)
Inventive step - (yes)

Decisions cited:

Catchword:



Beschwerdekammern

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Case Number: T 1918/21 - 3.2.01

D E C I S I O N
of Technical Board of Appeal 3.2.01
of 27 July 2023

Appellant: Toyota Material Handling Manufacturing Sweden AB
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Decision under appeal: **Interlocutory decision of the Opposition
Division of the European Patent Office posted on
16 August 2021 concerning maintenance of the
European Patent No. 3269678 in amended form.**

Composition of the Board:

Chairman G. Pricolo
Members: J. J. de Acha González
A. Jimenez

Summary of Facts and Submissions

- I. The appeals of the patent proprietor and of the opponent lie against the interlocutory decision of the Opposition Division to maintain the European patent N° 3269678 in amended form according to the auxiliary request 7 filed during the oral proceedings before it.
- II. The Opposition Division held among others that the subject-matter of granted claim 1 was not new in view of **E1** (EP 2678748 B1).
- III. Oral proceedings before the Board were held on 27 July 2023 in the form of a videoconference with the consent of the parties.

The appellant (patent proprietor) requested that the decision under appeal be set aside and the patent be maintained as granted (main request) or, in the alternative, that the patent be maintained on the basis of any of the auxiliary requests 1, 2, 2A, 3 to 8 wherein the auxiliary requests 1 to 8 are those underlying the decision under appeal and the auxiliary request 2A was filed with the statement of grounds of appeal.

The appellant (opponent) requested that the decision under appeal be set aside and the patent be revoked.

- IV. Claim 1 of the granted patent (i.e. according to the main request) reads as follows (feature numbering according to the contested decision):

1.1 *Floor conveyor (1)*

- 1.2 *comprising a sensor device (2) and*
- 1.3 *a control unit (3), wherein the control unit (3) is operable to control the travel function of the floor conveyor (1), wherein*
- 1.4 *the sensor device (2) is arranged to be able to provide the control unit (3) with sensor data, wherein*
- 1.5 *the sensor device (2) is arranged such that it can detect objects in a plane (4), wherein*
- 1.6 *the plane (4) is extending along a first side (13a) of the floor conveyor (1),*

characterized in that

- 1.7 *the plane (4) comprises a follow section (32) and*
- 1.8 *a steer away section (31), wherein*
- 1.9 *the follow section (32) is preferably positioned outside the steer away section (31) in relation to the floor conveyor (1), wherein*
- 1.10 *the floor conveyor (1) when in travel is arranged to, when a predetermined object (40) is detected in the follow section (32) to follow this object (40),*
- 1.11 *preferably by being arranged to essentially move in a straight line, and*
- 1.12 *being arranged to steer away from the object (40) if detected in the steer away section (31), and*

- 1.13 *preferably steer towards the predetermined object (40) if not detected the steer away section (31) and the follow section (32), wherein*
- 1.14 *the floor conveyor (1) thereby is arranged to be operable to follow an object (40) on one side (13b, 13c) of the floor conveyor (1) by means control of the travel function from the control unit (3), wherein*
- 1.15 *the floor conveyor (1) is arranged to be able to independently by means of a search mode make a choice of which predetermined object (40) to follow, wherein*
- 1.16 *the choice of object (40) is made by providing a search mode by extending the plane (4) outside the follow section (32) with a search section (32x, 32a-e), and thereby determine if an object (40) is positioned outside the follow section (32) and when an object (40) is detected the floor conveyor (1) is arranged to follow the object (40) when in travel.*

Reasons for the Decision

1. *Novelty - Article 54 EPC*

- 1.1 The subject-matter of granted claim 1 is new over the disclosure of E1.

In particular, E1 does not disclose feature 1.16 of claim 1 according to which the choice of an object to follow is made by extending the detection plane of the sensor device outside the follow section to determine if an object is positioned outside the follow section

and when an object is detected, the floor conveyor is arranged to follow the object when in travel.

- 1.2 The Opposition Division and the opponent considered that said search section corresponded to the hug zone 314 of the sensor's 76 detection plane 202, the follow section of the detection plane being the hug line 314A. Accordingly, the hug zone 314 extended outside the hug line 314A as defined in feature 1.16, which, in the search mode -"acquire hug" mode (see paragraph [0137]) - identified which previously determined object to follow.

According to another line of argumentation, the opponent identified the hug zone 314 as being the follow section and the zones which belonged to the history zone 204 and which extended outside the hug zone within the environment 200 as representing the search section, in which objects were searched and selected (see paragraph [0135] of E1) in the same manner as disclosed in the contested patent in the last part of paragraph [0044].

- 1.3 The Board concurs with the patent proprietor that the strategy of the floor conveyor according to the contested patent and that disclosed for the materials handling truck of E1 are different. More specifically, the active scanned zone 202 of the sensor 76 of E1 is a fixed detection plane which does not change in extension for consideration of the controller. The complete active scanned zone 202 is actively scanned by the sensor 76 during operation of the truck. Each section as defined in paragraph [0112] of E1 is monitored and the truck is operated accordingly by the controller under consideration of the sensor data for detection and positioning of objects in the scanned

environment 200. In contrast, in accordance with the present invention, the detection plane of the sensor device recited in feature 1.5 is extended during the search mode in the sense that detection sections of the detection plane extending outside the follow section are then considered by the control unit for detection of objects and subsequent selection or choice of object to follow in the search mode.

The truck of E1 detects objects only in the actively scanned area 202, i.e. the detection plane of the sensor 76, which does not change during operation of the truck even for search (detection and selection) of objects to follow.

Further, an actual detection in the history zone 204 of an object by the sensor is not performed in E1 because the controller is only able to determine - not detect - the positioning of the object in the history zone 204 by dead reckoning, i.e. after active detection in the sensor's detection plane 202 and tracking of the controller under consideration of the subsequent truck movement after detection (see paragraphs [0101], [0109] and [0110] and figures 15A to 15C). Accordingly, the view of the Opposition Division in point 19.1.7 of the contested decision is correct regarding the second line of argumentation of the opponent. The last part of paragraph [0044] of the patent in suit referred to by the opponent does not relate to a detection and selection of an object in the detection plane of the sensor but to a steering of the truck by estimation of the positioning of a previously detected object by dead reckoning.

2. *Inventive step - Article 56 EPC*

2.1 The subject-matter of claim 1 is not rendered obvious by the combination of E1 with common general knowledge of the skilled person.

2.2 The opponent submitted two lines of attack starting from the truck disclosed in E1 in combination with common general knowledge of the skilled person.

The first line considered the hug line 314A to correspond to the follow section of granted claim 1 as mentioned above under novelty.

The second line considered the hug zone 324 to correspond to the follow section of granted claim 1 as mentioned above under the second line of argumentation for novelty.

In both lines the opponent did not see feature 1.16 as representing a difference of the subject-matter of claim 1 from the truck disclosed in E1, since they maintained the above mentioned view presented under novelty.

2.3 Consequently, none of the lines of attack starting from E1 can succeed since the truck of E1 does not disclose feature 1.16 of granted claim 1.

2.4 The opponent did not have any further objections on inventive step. The Board has accordingly no reasons to question the inventive step of the subject-matter of granted claim 1.

3. It follows that the appeal of the appellant (patent proprietor) is allowable.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The patent is maintained as granted.

The Registrar:

The Chairman:



A. Vottner

G. Pricolo

Decision electronically authenticated