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D E C I S I O N
of 5 June 1998

Case Number: T 0399/97 - 3.2.2

Application Number: 93109132.6

Publication Number: 0577986

IPC: B25J 9/16

Language of the proceedings: EN

Title of invention:

Automatic pickup method and unit for cylindrical objects

Applicant:

G. D. Societa' per Azioni

Opponent:

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Headword:

-

Relevant legal provisions:

EPC Art. 54

Keyword:

"Novelty (yes, after amendments)"
"Remittal to the first instance"
"Reimbursement of the appeal fee (no)"

Decisions cited:

-

Catchword:

-



Case Number: T 0399/97 - 3.2.2

D E C I S I O N
of the Technical Board of Appeal 3.2.2
of 5 June 1998

Appellant: G. D. Societa' per Azioni
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Representative: Jorio, Paolo, Dr.Ing.
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Decision under appeal: Decision of the Examining Division of the
European Patent Office posted 9 July 1997
refusing European patent application
No. 93 109 132.6 pursuant to Article 97(1) EPC.

Composition of the Board:

Chairman: W. D. Weiss
Members: M. Noël
C. Holtz

Summary of Facts and Submissions

I. European patent application No. 93 109 132.6 (publication No. 0 577 986) was refused on 9 July 1997 by decision of the Examining Division for the reasons that the subject-matter of the main claims was not novel having regard to the prior art document

(1) US-A-4 723 884

II. The appellant (applicant) lodged an appeal on 5 September 1997 against the decision of the first instance. A statement of grounds received on 12 November 1997 was accompanied by a new set of amended claims 1 to 8.

III. Independent method claim 1 and device claim 5 in this version read as follows:

"1. An automatic pickup method for cylindrical objects, particularly reels (2) with a tubular central core (3); each said object (2) having a central axis (55) and a cylindrical outer surface (53), and being engaged by a self-propelled pickup head (32); the method being **characterised** by comprising moving said head (32) over said object (2) in such a manner as to individuate, via sensor means (47, 48, 49) on the head (32), the coordinates of at least two distinct points (A, B, C) on said outer surface (53); mathematically processing said coordinates to determine the location of said central axis (55); moving the pickup head (32) into a position coaxial with said central axis (55); and bringing the pickup head (32) into engagement with said object (2)."

"5. An automatic pickup unit for cylindrical objects, particularly reels (2) with a tubular central core (3); each said object (2) having a central axis (55) determined by first coordinates, and a cylindrical outer surface (53); and the pickup unit (7) comprising a pickup head (32), first activating means (10) for moving said head (32) both transversely and parallel to said central axis (55), control means (51) for controlling said first activating means (10); and sensor means (47, 48, 49) on said head (32), for determining second coordinates of points (A, B, C) on said outer surface (53), **characterised** by the fact that said control means (51) comprise a mathematical processor (51), and said sensor means (47, 48, 49) are designed for determining said second coordinates of at least two distinct points (A, B, C); means (50) being provided for transmitting said second coordinates of said two distinct points to said processor (51), which provides for mathematically determining said first coordinates on the basis of the second coordinates of said two distinct points, and for so controlling said activating means (10) as to move said head (32) into engagement with and into a position coaxial with said object (2)."

IV. The appellant requests that the decision under appeal be set aside and that a patent be granted on the basis of the new claims presently on file. He further requests reimbursement of the appeal fee and, on an auxiliary basis, arrangement of oral proceedings.

V. The appellant's arguments are as follows:

- The present invention allows for accurately determining the location of the central axis of a reel to be picked up, by individuating the position of at least two distinct points on the

outer cylindrical surface of the reel, and then by mathematically processing the coordinates of these two points so as to determine the position of central axis of the reel.

- In document (1), the location of the central axis of the reel is determined following a trial-and-error procedure, i.e. by effecting successive approximations by means of sensors arranged in pairs on the pick up head, for sequentially controlling the movements of the head in the suitable direction.

However, such a trial-and-error procedure does not require the use of a processor, the presence of which is never mentioned directly or indirectly in document (1). Therefore, the subject-matter of claims 1 and 5 is novel.

Reasons for the Decision

1. The appeal is admissible.
2. *Amendments*

With regard to the version as refused, the subject-matter of claims 1 and 5 has been amended so as to be more precisely distinguished over the disclosure of the closest prior art document (1), without adding new matter however.

Thus, in device claim 5, the term "processor" was transferred from the preamble to the characterising portion, to meet the requirements of Rule 29(1) EPC, and replaced by the terms "control means", these latter being correctly supported by the application as

originally filed (cf. page 4, lines 8 to 14). Further, the term "mathematical" (line 13 of claim 5) was superfluously added to the term "processor" since, as further specified in that claim (lines 18 to 19), said processor provides for mathematically determining the first coordinates (of the central axis). In the Board's view the term added can stand, however, because it is not detrimental to the clarity of the claim as a whole.

In method claim 1, the verb "to individuate" (line 7) is obviously used within the meaning of "to determine" as stated in the original application (cf. page 3, line 16) and the expression "the coordinate of" added before "at least two distinct points" is fairly supported by the application as filed (cf. page 4, lines 7 to 8 and page 8 line 13). Therefore, the replacement in claim 1 as refused of the expression "mathematically determining" by the expression "mathematically processing said coordinates" in claim 1 in suit is also validly supported by the application as originally filed.

It results from the above that the amendments made to claims 1 and 5 meet all the requirements of Article 84 and 123(2) EPC.

3. *Novelty*

- 3.1 Document (1) discloses an apparatus for unloading reels stacked on a carrier member. An unloading mechanism is supported on a frame of the carrier member 1 so as to be movable thereto by means of driving elements. The pick up head 4 of the unloading mechanism (or unloader) is movable in two directions extending horizontally at right angles relative to one another (Figure 1), in response to at least one pair of sensors 11a, 11b (Figures 5 and 6) for detecting the presence and the

absence of the edge of a reel, respectively (cf. column 4, lines 2 to 11). The sensors are adjustably spaced from the central axis of the head by a distance depending on the radius of the reel so as to position the unloader exactly over the reel to be picked up while the unloader is moved by the driving elements and associated motors 6 and 9 (cf. Figure 4 and column 3, lines 26 to 46). The unloader is moved until the outwardly disposed sensors 11a of each pair of sensors indicate a clear area while the inwardly disposed sensors 11b indicate the presence of a reel. When the cylindrical edge of the reel is positioned between all pairs of sensors, the unloader is in alignment relative to the reel.

The unloader 4 is thus driven and controlled by simple electromechanical elements such as the sensors and the motors mentioned above, in such a way that the various motors are operated successively in one direction or the other according to the signals provided by the sensors until the symmetry axis of the pick up head coincides with that of the reel to be grasped, as shown in Figure 5. In the Board's view this is the only possible understanding of the expression (cf. column 4, lines 4 to 5) "the unloader is moved in a controlled manner".

3.2 However, in the automatic pick up apparatus described in document (1):

- the sensors do not determine the coordinates of points situated on the outer surface of the reel;
- processing means are not used; no mention is made of any calculation of the coordinates of the central axis of the reel. Actually, the centering of the pick up head is obtained empirically by

opposed pairs of sensors diametrically arranged on the head (Figure 5) or by a single pair of sensors supported on a rotating arm (Figure 6).

3.3 With respect to the teaching of document (1), the subject-matter of claims 1 and 5 is distinguished principally by the following features:

- sensor means are designed for determining the coordinates of at least two points (second coordinates) on the outer surface of the reel. As explained in the original application (cf. page 7, lines 11 to 14 and page 8, lines 13 to 17), the coordinates of points A, B, C are determined by the sensors 47, 48, 49 in connection with the processor 51, through lines 50;
- processing means (processor 51) are provided for mathematically determining the central axis of the reel (first coordinates) on the basis of the second coordinates.

Therefore, the subject-matter of claims 1 and 5 is novel within the meaning of Article 54(1) EPC.

4. *Reimbursement of the appeal fee*

In its statement of grounds of appeal the appellant made the following request: "We hereby further request the total reimbursement of the fee for appeal". In the absence of any reasoning by the appellant setting out legal or factual reasons why said request should be allowed, the Board can only examine the procedure before the first instance as it appears from the file.

In the present case the Board is satisfied that no such violation occurred before that instance. For these reasons the request for reimbursement of the appeal fee must be refused.

5. *Remittal to the first instance*

As the reasons for which the Examining Division refused the application no longer apply, the Board takes the view to set aside the decision under appeal. However, since the first instance has not yet considered whether the present application as amended meets the requirement of inventive step, the Board considers it appropriate, in accordance with Article 111(1) EPC, in order to avoid loss of an instance, to remit the case to the first instance for further prosecution.

Order

For these reasons it is decided that:

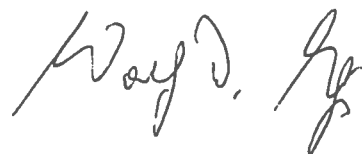
1. The decision under appeal is set aside.
2. The case is remitted to the first instance for further prosecution on the basis of documents filed on 12 November 1997.
3. The request for reimbursement of the appeal fee is rejected.

The Registrar:



S. Fabiani

The Chairman:



W. D. Weiss

