BESCHWERDEKAMMERN DES EUROPÄISCHEN PATENTAMTS

BOARDS OF APPEAL OF THE EUROPEAN PATENT OFFICE

CHAMBRES DE RECOURS DE L'OFFICE EUROPEEN DES BREVETS

Publication in the Official Journal Yes / No

File Number: T 12/89 - 3.2.1

Application No.: 85 904 609.6

Publication No.: WO 86/01494

Title of invention: Hydraulic rotate system for swing crane

Classification: B66C 23/86

D E C I S I O N
of 17 September 1991

Applicant: Krøll Fridtjof Berg

Headword:

EPC Article 123(2) and Article 56

Keyword: "added subject-matter (no, after amendment)" - "inventive step (yes, after amendment)"

Headnote

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Beschwerdekammern | Boards of Appeal | Chambres de recours

Case Number : T 12/89 - 3.2.1

D E C I S I O N
of the Technical Board of Appeal 3.2.1
of 17 September 1991

Appellant : Krøll, Fridtjof, Berg
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Decision under appeal : Decision of Examining Division 071 of the European Patent Office dated 5 August 1988 refusing European patent application No. 85 904 609.6 pursuant to Article 97(1) EPC.

Composition of the Board :

Chairman : P. Delbecque
Members : P. Alting van Geusau
W. Moser

Summary of Facts and Submissions

I. European patent application No. 85 904 609.6 filed as an international application PCT/DK85/00086 on 6 September 1985 and published on 13 March 1986 under the publication number WO 86/01494 was refused by a decision of the Examining Division on 5 August 1988.

The decision was based on the single claim filed with the letter of 24 May 1988.

II. The reason given for the refusal was that the subject-matter of that claim included subject-matter which extends beyond the content of the application as filed (Article 123(2) EPC) and lacked an inventive step in view of the prior art disclosed in US-A-4 013 174 (D1) and the general knowledge of the skilled person (Article 56 EPC). It was further set out that the newly filed description also included added subject-matter.

III. An appeal was lodged against this decision on 5 October 1988 and the appropriate fee was paid on 6 October 1988.

With the Statement of Grounds of Appeal filed on 1 December 1988 the Appellant filed a new amended claim in order to overcome the objection made by the Examining Division. As regards the objections with respect to Article 123(2) EPC he submitted that the specification had only been adapted to take account of the additional reference numerals added to the drawing and that the relevant features could be derived from lines 5 to 10 on page 2 of the specification as originally filed. However, in view of the Examiner's remarks the last paragraph of the specification was omitted.

Concerning the lack of inventive step objection, the Appellant argued that D1 did not give any incentive how to arrange the hydraulic crane drive system so that the system not only provided a brake function but in addition to that enabled a more or less powerful start of movement.

IV. In communications of 18 January 1991 and 20 June 1991 the Board drew attention to a number of amendments to the description and claims in order that the application documents would be in line with the requirements of the EPC in particular as regards Article 123(2) and Article 56 EPC.

With replies dated 12 March 1991 and 14 August 1991 the Appellant filed new application documents.

V. The Appellant requests, by implication, that a patent be granted on the basis of the following documents:

- single independent claim filed with letter dated 14 August 1991

- description, pages 1 and 2 filed with letter dated 14 August 1991

- drawings, page 1/1 filed with letter dated 12 March 1991.

VI. The valid claim reads as follows:

"Hydraulic rotational drive system for a swing-crane, comprising a hydraulic circuit between a hydraulic pump (D) and a hydraulic motor (A), a by-pass (7) by-passing said motor (A) and valve means (C) for opening said by-pass, to allow the crane to rotate according to the wind

and for closing said by-pass, characterized in that throttling means (b) having a throttling passage (8) are incorporated in said by-pass (7) and that the valve means (C) are selectively operable to close the by-pass thus ensuring a brake function when the oil supply from the hydraulic pump (D) is interrupted and to open the by-pass to provide a reduced start function when the supply is applied to the motor (A)."

Reasons for the Decision

1. The appeal is admissible.

2. Amendments.

2.1 The valid claim is based on the original Claims 1 and 2 and includes further details with respect to the hydraulic circuit disclosed in relation to the original drawing. The feature relating to a reduced start function is disclosed on page 2, last paragraph, of the originally filed description. The claim further includes a number of linguistic reformulations of features disclosed in the original claims and description in order to comply with Article 84 EPC as regards clarity.

2.2 The amendments made to the description and drawing are only for the purpose of adapting the description to the current version of the claim, indicating the prior art as well as removing inconsistencies and linguistic ambiguity.

2.3 Therefore the current version of the application does not contravene Article 123(2) and Article 84 EPC.

3. Novelty.

3.1 The pre-characterising part of the valid claim (Rule 29 EPC) is correctly based on the disclosure of D1 which comes, in the Board's opinion, closest to the subject-matter of Claim 1.

3.2 The single other document cited in the international search report, AT-C-301 802 (D2), concerns an under-carriage for a crane with its hydraulic circuit and for the question of novelty of the subject-matter of Claim 1 is not considered relevant.

3.3 The system according to the valid claim thus differs from what is disclosed in D1 by its characterising features and is therefore deemed novel (Article 54 EPC).

4. Inventive step.

4.1 Considering the disclosure of D1 more in detail, there is disclosed an hydraulic rotate system for a swing crane comprising a by-pass circuit for the hydraulic motors of the swing drive in which circuit valves are automatically biased to the open position when the crane main-drive is shut down. The back pressure in the by-pass circuit is dependent only upon the internal flow restrictions so that the crane is free to move with the direction of the wind when the crane is out of use.

4.2 Starting from this prior art, the characterising features of Claim 1 under consideration provide the additional functions of controlled speed of the crane arm when the arm is allowed to rotate freely, a reduced start function of the hydraulic swing drive as well as the possibility of braking and locking the crane arm when the crane is in use.

4.3 In view of the additional effects, the underlying objective problem to be solved by the present application thus basically relates in general terms to an improvement of the known hydraulic circuit such as to provide a more versatile rotational drive system.

4.4 Considering whether D1 could give the skilled person further indications for solving this problem it is noted that the system of D1 is restricted to automatic activation of the valves provided in the by-pass lines.

Although D1 mentions the fact that the back pressure in the lines to the hydraulic swing drive motor and by-pass "depend upon this internal flow restriction" which means that these lines themselves have a "throttling" effect, this reference alone is, in the Board's opinion, not sufficient to give the skilled person any assistance or lead to arrive at the proposed solution.

To arrive at this solution recognition of the simple but advantageous interaction of a throttling passage sufficiently small to allow for braking and reduced start functions and valve means controlled in accordance with these wanted further functions were necessary.

Neither of these further incentives can be derived from D1 nor from D2 which lies further away from the claimed subject-matter and concerns the different problem of starting a number of hydraulic motors each with a different initial load which is solved by providing a hydraulic differential lock.

4.5 Having regard to the Examining Division's objections with respect to inventive step, the Board notes that the present claim is substantially different from the single claim as considered by the first instance. Consequently, these objections are not relevant any more.

4.6 In view of the foregoing considerations it is concluded that no lead to the subject-matter of the valid claim can be derived from the cited documents. The hydraulic rotation drive system according to this claim is therefore considered to imply an inventive activity (Article 56 EPC).

5. It follows that the valid claim is acceptable under Article 52(1) EPC. The description and the drawings also comply with the requirements of the EPC and are thus also suitable for the grant of a patent.

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 with the order to grant a patent on the basis of the following documents:

- single independent claim: filed with letter dated 14 August 1991
- description: pages 1 and 2 filed with letter dated 14 August 1991
- drawing: page 1/1 filed with letter dated 12 March 1991.

The Registrar: The Chairman:

S. Fabiani P. Delbecque

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