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D E C I S I O N
of 12 November 2004

Case Number: T 0486/03 - 3.2.4

Application Number: 95202251.5

Publication Number: 0698340

IPC: A01J 5/017

Language of the proceedings: EN

Title of invention:

An implement for automatically milking animals

Patentee:

MAASLAND N.V.

Opponent:

DeLaval International AB

Headword:

-

Relevant legal provisions:

EPC Art. 100(a)

Keyword:

"Novelty (yes)"

"Inventive step (no)"

Decisions cited:

-

Catchword:

-



Case Number: T 0486/03 - 3.2.4

D E C I S I O N
of the Technical Board of Appeal 3.2.4
of 12 November 2004

Appellant: MAASLAND N.V.
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Representative: Corten, Maurice Jean F.M.
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Respondent: DeLaval International AB
(Opponent) P.O. Box 39
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Representative: Harrison, Michael Charles
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Decision under appeal: Decision of the Opposition Division of the
European Patent Office posted 18 March 2003
revoking European patent No. 0698340 pursuant
to Article 102(1) EPC.

Composition of the Board:

Chairman: M. Ceyte
Members: C. Scheibling
M. Aúz Castro

Summary of Facts and Submissions

- I. By its decision dated 18 March 2003 the Opposition Division revoked the patent because the subject-matter of claim 1 was not considered to involve an inventive step. On 14 April 2003 the Appellant (patentee) filed an appeal and paid the appeal fee simultaneously. The statement setting out the grounds of appeal was received on 15 July 2003.
- II. The patent had been opposed on the grounds based on Article 100(a) EPC (54 and 56 EPC) EPC.
- III. Claim 1 of the patent in suit reads as follows:
- "1. An implement for automatically milking animals, such as cows, using a milking robot (7) comprising a robot arm (8) for automatically connecting teat cups (9) to the teats of the animal to be milked, characterized in that the robot arm (8) is provided with a hinge construction, by means of which at least a part (14) of the robot arm can be swung upwards, which part can be locked in the upwardly directed position through locking means."
- IV. The following documents played a role in the proceedings:
- D1: EP-A-0 313 109
D2: US-A-5 069 160
D3: EP-A-0 535 755
D4: EP-A-0 306 579
D5: EP-A-0 555 895
D6: US-A-3 109 272

- D7: EP-A-0 553 940
- D8: EP-A-0 576 086
- D9: GB-A-803 492
- D10: ISO/TR Technical Report 1200-1: 1992 (E)
- D11: ISO 10218: 1992 (E), International Standard -
"Manipulating industrial robots - Safety"
- D12: "Robots Safety", By GR Ward and SRG Went, 1995
(referring to "Health and Safety at Work Act of
1974")

V. Oral proceedings took place on 12 November 2004.

The Appellant mainly argued that it would not be self-evident for a skilled person to provide the implement with locking means since there are many other solutions possible to ensure that the robot arm will not fall down. Thus, stating that it was common general knowledge to provide locking means to block movement of the robot arm would be typical hindsight reasoning. Furthermore, in D1 the robot arm was such that even if brought in an upright position, it did not give access to the teat cups for maintenance. Consequently, the problem to be solved by the patent in suit did not occur in D1, and therefore, D1, even if taking into account the teaching of one of documents D10 to D12, could not lead to the claimed solution.

The Appellant requested that the decision under appeal be set aside and that the patent be maintained as granted.

The Respondent (opponent) requested that the appeal be dismissed.

The Respondent argued that the subject-matter of claim 1 was not novel with respect to D1, D2, D3, D4, D5, D7 because they did all implicitly comprise locking means, since as indicated in documents D10 to D12 such locking means were compulsory. Furthermore, the subject-matter of claim 1 would at least not involve an inventive step when compared to D1 in combination with D10 or D6, or when compared to D2 or D4 in combination with D10, or when compared to D5 taking into account the general knowledge of a skilled person, or when compared to D7 or D8 in combination with D9.

Reasons for the Decision

1. The appeal is admissible.

2. *Interpretation of claims:*

2.1 Claim 1 comprises *inter alia* the following features:

"... at least a part (14) of the robot arm can be swung upwards, which part can be locked in the upwardly directed position through locking means."

2.2 When interpreting the claims of a patent a skilled person should rule out interpretations which are illogical or which do not make technical sense. He should try to arrive at an interpretation which is technically sensible and takes into account the whole of the disclosure of the patent.

It is clear from the patent specification that the swivelling part has to be kept in the upwardly directed

position in order to provide access to the underside of the milking robot while the maintenance engineer has both his hands free for his work (column 3, lines 22 to 40). The sole feature of claim 1 which can achieve the object of keeping the robot arm in its upwardly directed position is the locking means.

Therefore, in the present case "can be locked ... through locking means" is not an optional feature and has to be construed as meaning that the claimed implement comprises means able to lock the part of the robot arm when it is swung in its upward position. Furthermore, the wording "can be locked" implies that the possibility of locking must be given, whether or not the locking means are effectively activated.

2.3 The term "locking means" normally designates a mechanical device designed for fastening or locking an item and preventing it from opening, turning etc. In the present case, this wording designates a mechanical device used for locking or fastening the robot arm in its upward position. The Board sees no reason for deviating from the normal meaning of "locking means" when interpreting this wording in its context i.e. in the light of the description and the drawings of the patent in suit.

3. *Novelty:*

3.1 With respect to D1:

D1 (figures) discloses an implement for automatically milking animals, such as cows, using a milking robot (column 1, lines 1 and 2; column 2, lines 21 to 24)

comprising a robot arm (27, 29) for automatically connecting teat cups (43) to the teats of the animal to be milked, the robot arm (27, 29) being provided with a hinge construction (28), by means of which at least a part (27, 29) of the robot arm can be swung upwards (Figure 3; column 5, lines 39 to 50).

The Respondent argued that the robot arm is held in its inoperative upward position by a hydraulic or pneumatic operating cylinder and that this cylinder constitutes a locking means.

However, this cannot be accepted, since with respect to section 2.3 above, the cylinder is not a mechanical device which fastens the robot arm in its upward position and there is no indication in D1 that the cylinder would be able to keep the robot arm in its upward position in absence of power supply.

He referred to D11 to evidence that cylinders have a locking action.

However D11 clearly indicates that, with power off, relief valves which are present for safety reasons will depressurize the systems under pressure. This means that when power is off, the relief valves open, depressurize the systems and applied to D1 this would mean that the robot arm would be able to swing downwardly and thus would not be locked in position.

This is confirmed by the second sentence of D11 which reads "manual release of the power actuated brakes provided that weight-balancing exists" which indicates that brakes are provided in addition to the cylinders

to avoid uncontrolled movements of the robot when power is off.

3.2 With respect to D2, D3 and D5:

For the same reasons as indicated with respect to D1 above, the documents D2, D3 and D5 do not disclose locking means within the meaning of the patent in suit either.

3.3 With respect to D4:

The simple fact that D4 uses electrically operated screw jack does not imply that a locking action would take place, since the screw movement could be reversible.

3.4 With respect to D7:

D7 does not disclose any item which could perform the function of locking means.

3.5 The Respondent argued that as indicated in documents D10 to D12 any robot to be marketed had to be provided with safety means and therefore, even robot arms which do not explicitly describe such means, must in fact comprise such means, otherwise they would not fulfil the international standard requirements and thus, could not obtain the necessary agreement to be offered for sale.

However, even if, a skilled person would consider that any robot compulsorily comprises safety means and thus, that safety means are always implicitly present, it is

also known from the documents D10 to D12 that there exist various types of safety means other than locking means within the meaning of the patent in suit.

Therefore, it is not possible to conclude that if safety means are present they are designed in form of locking means.

3.6 Consequently, the subject-matter of claim 1 is novel with respect to the cited prior art documents.

4. *Inventive step:*

4.1 Closest prior art document:

D1 (column 1, lines 2 to 5 and 35 to 39; column 5, lines 39 to 50; Figure 3) is considered to be the closest prior art document.

In addition to the features of the prior art portion of claim 1, D1 also discloses that the robot arm (27, 29) is provided with a hinge construction (28), by means of which at least a part (27, 29) of the robot arm can be swung upwards.

4.2 The problem to be solved by the invention is to provide an implement that enables not very well accessible parts of the robot arm to be reached in a simple and safe manner (patent specification, column 1, paragraph [0004]).

4.3 However, it is a matter of normal design procedure for a skilled person to provide industrial robots with safety equipment so as to not endanger the maintenance personal during maintenance work. This is confirmed by

D12 which refers to the Health and Safety at Work Act 1974, see first page, central column, ultimate paragraph to third column, line 4, where it is indicated that legislation requires that it shall be obligatory to design and construct an article such that it will be safe and without risk at all times when it is being set, used, cleaned or maintained by a person at work; or by D11 section 6.6 which refers to brakes that are active in the absence of power supply.

In this respect D10 discloses *inter alia* to use a mechanical obstacle and D11 and D12 disclose the use of brakes, which all constitute locking means, that is a mechanical device which is able to lock or to fasten the robot arm in its upward position.

Therefore, it is normal design practice for a skilled person to provide a robot arm which can be brought in an upward position with locking means in order to avoid uncontrolled movement of said robot arm during maintenance work, when the arm is in said upward position.

- 4.4 The Appellant argued that many other solutions would be possible in order to ensure that the arm will not fall down. He cited the possibility of detaching parts of the arm.

This, however, would not be an obvious possible solution since it is not an alternative to locking means but a completely different solution, which is incompatible with the object of the patent in suit, which is to provide access to the underside of the

robot arm by bringing it in an upward position and not by detaching parts of it.

The appellant further argued that another possible solution would be to pivot the robot arm over an angle e.g. of 270°. This however would imply to increase the stroke of the cylinder 30 (see D1, Figure 3) and to have the possibility to supply pressure on both sides of the piston of the cylinder, since it would be necessary to actuate the robot arm in the reverse direction so that it moves beyond its upright position and starts its downward movement. Furthermore, this solution is not an efficient safety measure because it would still be possible to move the arm accidentally beyond its upright position.

Therefore, a skilled person would not select a complicated and less efficient solution rather than the obvious and well known solution which consists in providing means to restrain any possible movement, i.e. locking means.

Furthermore, even if there are many obvious solutions to the problem posed, the act of picking one of those obvious solutions does not itself result in an inventive step. In other words, if a solution is obvious per se, it is not rendered non-obvious by the mere fact that there are other obvious solutions to the problem under consideration.

The Appellant argued that in D1 the robot arm, even if brought in an upright position, did not give access to the teat cups for maintenance so that the problem to be solved by the patent in suit did not occur.

However, claim 1 does not imply that the arm is brought in an upright position in order to give access to the sole teat cups. There are other items of a robot arm which can be subject to maintenance, let alone the fact that it is far from being obvious that the teat cups of the robot arm of D1 would effectively be out of access when the arm is in an upright position.

4.5 Consequently, the subject-matter of claim 1 does not involve an inventive step.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:

G. Magouliotis

M. Ceyte