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Datasheet for the decision of 7 September 2020

Case Number: T 1874/17 - 3.2.04

Application Number: 09752529.9

Publication Number: 2355652

IPC: A01J7/04

Language of the proceedings: EN

Title of invention:
Method and device for automatically bringing a fluid into contact with the teats of an animal

Patent Proprietor:
GEA Farm Technologies GmbH

Opponent:
DeLaval International AB

Headword:

Relevant legal provisions:
EPC Art. 56

Keyword:
Inventive step - after amendment

Decisions cited:

Catchword:

Europäisches Patentamt
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Beschwerdekammern

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Case Number: T 1874/17 - 3.2.04

D E C I S I O N
of Technical Board of Appeal 3.2.04
of 7 September 2020

Appellant: (Opponent)	DeLaval International AB P O Box 39 147 21 TUMBA (SE)
Representative:	Gray, Helen Mary Zacco GmbH Bayerstrasse 83 80335 München (DE)
Respondent: (Patent Proprietor)	GEA Farm Technologies GmbH Siemensstrasse 25-27 59199 Bönen (DE)
Representative:	Specht, Peter Loesenbeck - Specht - Dantz Patent- und Rechtsanwälte Am Zwinger 2 33602 Bielefeld (DE)
Decision under appeal:	**Interlocutory decision of the Opposition Division of the European Patent Office posted on 29 June 2017 concerning maintenance of the European Patent No. 2355652 in amended form.**

Composition of the Board:

Chairman	A. de Vries
Members:	S. Hillebrand
	W. Van der Eijk

Summary of Facts and Submissions

I. The appeal was filed by the Opponent against the interlocutory decision of the Opposition Division finding that the patent in an amended form according to the main request met the requirements of the EPC.

In particular, the Opposition Division held that the subject-matter of claim 1 involved an inventive step.

II. In a communication pursuant to Article 15(1) RPBA 2007 the Board expressed the preliminary opinion that the subject-matter of claim 1 as upheld by the Opposition Division did not involve an inventive step.

III. Oral proceedings were held on 7 September 2020 before the Board in the presence of all parties.

IV. The Appellant-Opponent requested that the decision under appeal be set aside and that the European patent No. 2355652 be revoked.

The Respondent-Proprietor requested that the decision under appeal be set aside and the patent be maintained on the basis of auxiliary request 3 as filed during the oral proceedings before the Board.

V. The independent claim of auxiliary request 3 has the following wording:
"Dipping device for a milking system, especially for an automatic milking system designed as a milking robot with teat cups (1a -1d) to be placed onto the teats of an animal to be milked, whereby the dipping device (2) is designed to bring the teats of the animal into contact with at least one fluid or several fluids, for

which purpose the dipping device (2) has a dipping valve arrangement (3a -3d), the introduction of the dipping agent to each teat of the animal being controllable separately, characterized by the fact that an inlet line (4a - 4d) for the fluid to be introduced is guided to each teat cup (1a - 1d) and that one of the dipping valve arrangements (3a - 3d) is assigned to each of the inlet lines(4a - 4d) and/or to each of the teat cups (1a - 1d) and that the dipping valve arrangements (3a - 3d) can be controlled separately and by the fact that the inlet lines (4a - 4d) open into ducts (5) of the teat cups (1a - 1d) into an inside chamber of the teat liner of the teat cup through which the fluid or several different fluids can be guided into the inside of the teat cup and by the fact that each of the dipping valve arrangements (3a - 3d) has at least one safety valve arrangement (21) and by the fact that the dipping valve arrangements (3a - 3d) each have three inlets (9a - 9d, 10a - 10d and 11a -11d) for compressed air,the dipping agent and a cleaning fluid, and one discharge (12a - 12d) to which in each case one of the inlet lines (4a - 4d) is connected to the teat cups and by the fact that each of the dipping valve arrangements (3a - 3d) furthermore has at least one double action cylinder (17), whose one cylinder chamber (20) can be filled with dipping agent and whose other cylinder chamber (19) is connected to the particular first inlet (9a - 9d)."

VI. In the present decision, reference is made to the following documents:

D1: EP 0 945 047 A1

D3: D. N. Akam :"The development of equipment for the mechanization of manual operations in machine milking", Proceedings of the international Symposium on Machine Milking, February 1978

D8: WO2005/102035 A2.

VII. The Appellant-Opponent's arguments can be summarised as follows:
When adapting the milking equipment of D8 for quarter milking, its dipping valve arrangement including a safety valve would obviously have to be multiplied. A double action cylinder is a conventional alternative for D8's dipping agent inlet line, which is primed by a non-return valve.

The Respondent-Proprietor's arguments can be summarised as follows:
D8 does not represent the closest prior art, since the claimed invention is for use with milking robots. A multiplication of valve arrangements including expensive safety valves is neither necessary, nor an obvious option for adapting the dipping device of D8 to quarter milking. None of the cited prior art documents discloses or suggests a double action cylinder.

Reasons for the Decision

1. The appeal is admissible.

2. The patent deals with a dipping device of a milking system for introducing a dipping agent, such as a disinfectant, into teat cups and applying it onto animal teats located in the teat cups. Introduction of the dipping agent can be controlled individually for each teat cup of a milking cluster by means of a respective valve arrangement. According to claim 1 of the sole request each valve arrangement includes a safety valve, which prevents unintended introduction of dipping agent, e.g. due to a failure during milking.

Furthermore, each valve arrangement comprises a double piston cylinder allowing to exactly dose and store the desired quantity of dipping agent to be provided to an individual teat cup.

Claim 1 of the sole request combines claims 1 to 7 as filed (corresponding to the combination of granted claims 1 to 6). Claim 1 as amended thus has a clear basis in the original application, Article 123(2) EPC.

3. **Inventive step**

3.1 D8 discloses a dipping device with a dipping valve arrangement, which comprises in particular inlets for compressed air (from valve 122), dipping agent/product 2 (from inlet line 112) and cleaning fluid/product 1 (from inlet line 113), as well as a safety valve 123 (see page 14, lines 9 - 21; figures 1 and 5).

The Board does not see a reason why D8 should be disregarded as a possible starting point. Whilst it is true that D8 relates to conventional milking in a parlour (page 1, lines 5 - 15), this is not excluded by claim 1, which refers only "especially", i.e. optionally to "an automatic milking system designed as a milking robot". By the same token, the effects obtained by the invention are described in paragraph [0009] of the patent specification as being beneficial for a quarter milking system in general, of which a milking robot is merely an example.

3.2 It is undisputed that the subject-matter of claim 1 differs from the dipping valve according to D8 in that:
- the introduction of the dipping agent to each teat of the animal is separately controllable,
- one of the dipping valve arrangements is assigned to

each of the inlet lines and/or to each of the teat cups,
- the dipping valve arrangements can be controlled separately,
- each of the dipping valve arrangements has at least one safety valve arrangement.

In other words, instead of the single dipping valve arrangement of D8, which is located in a distributor 111 connected to four teat cups 1 (see page 13, line 26 - page 14, line 8, Figs. 1, 5), the dipping device of claim 1 comprises four of such dipping valve arrangements (one per teat cup) with corresponding features.

Furthermore, the subject-matter of claim 1 differs from the dipping device known from D8 in that
- each of the dipping valve arrangements has at least one double action cylinder, whose one cylinder chamber can be filled with dipping agent and whose other cylinder chamber is connected to the particular first inlet.

3.3 The problem to be solved defined in paragraphs [0006], [0007], [0009] of the patent specification is associated with another prior art document (EP 1 520 649), but the essential aspects mentioned in these paragraphs apply also for D8. Therefore, the objective technical problem can be formulated as adapting the dipping device of D8 to a quarter milking system, in which the teat cups are removed "one after another when the particular milking process on the teat is completed".

Such milking systems are for example described in D1 (see paragraph [0009]; column 3, lines 6 - 15) and D3

(see page 421, second paragraph; page 423, design (5) in first paragraph). It is known from these documents to remove teat cups individually after the respective udder quarter has been milked out and to start at the same time with the introduction of dipping fluid into the respective teat cup.

3.4 Also in D8 dipping agent is injected via the non return-valve 116 at or immediately after the (common) removal of all teat cups by opening the supply valve 117 and the safety valve 123, page 15, lines 21 - 31, figure 5. In order to solve the above problem, i.e. to enable an individual start of injection following the individual removal of each teat cup, it is arguably a straightforward approach to keep the dipping valve arrangement 117, 116, 123 as it is and to repeat it for every delivery line 116 to a teat cup, so that each has its own safety valve. The first set of differing features discussed above would then be obvious, regardless of whether their implementation might be at increased cost.

3.5 However, the further provision of double action cylinders is neither suggested by any of the cited prior art documents, nor obvious in the light of common general knowledge, as argued by the Appellant-Opponent.

A cylinder with a piston as such may be generally known to a person skilled in the art as a conventional dosing means. However, straightforward application to the dipping valve arrangement of D8 repeated in obvious manner for each line would not result in the claimed arrangement.

In this instance the dosing cylinder is not applied in conventional manner, but as a double action cylinder

whose one cylinder chamber is connected to the first inlet of pressurized control air. The Board is not convinced by the Appellant-Opponent's argument that the use of pressurized air for controlling the safety valve 123 in D8 would obviously prompt a person skilled in the art to incorporate a double action cylinder controlled by the same pressurized air in the dipping valve arrangement of D8 as an equivalent dosing means. Rather, this requires the insight on the part of the skilled person, that instead of using a separate actuating means the pressurized air can advantageously be used to actuate the dosing cylinder, which must then furthermore be realized as a double action cylinder. In the Board´s view such an insight and subsequent modification goes beyond the mere application of common general knowledge.

3.6 For the above reasons the subject-matter of claim 1 involves an inventive step in the sense of Article 56 EPC when starting from the dipping device of D8 and taking into account the teaching of D1, D3 and the general knowledge of a person skilled in the art.

4. The description has been adapted to the amended set of claims according to the third auxiliary request.

The Board is thus satisfied that, taking into consideration the amendments made by the Respondent-Proprietor in auxiliary request 3, the patent and the invention to which it relates, meet the requirements of the EPC, in particular those of Article 56 EPC. The patent can therefore be maintained as amended in auxiliary request 3, Article 101(3)a) EPC.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the opposition division with the order to maintain European patent Nr. 2355652 in amended form as follows:

Claims:
Claims 1-10 of auxiliary request 3 as filed during oral proceedings before the Board

Description:
Pages 2, 3 and 4 as filed during oral proceedings before the Board
Pages 5, 6 and 7 of the published patent specification

Figures:
Figures 1-5 of the published patent specification.

The Registrar: The Chairman:

G. Magouliotis A. de Vries

Decision electronically authenticated