

Internal distribution code:

- (A) [-] Publication in OJ
- (B) [-] To Chairmen and Members
- (C) [-] To Chairmen
- (D) [X] No distribution

**Datasheet for the decision
of 9 June 2017**

Case Number: T 0296/13 - 3.2.04

Application Number: 04768874.2

Publication Number: 1679956

IPC: A01J5/08, B08B9/00, F16K7/17,
A01J7/04, A01J7/02

Language of the proceedings: EN

Title of invention:
MILKING EQUIPMENT AND METHOD

Patent Proprietor:
An Udder IP Company Ltd

Opponents:
DeLaval International AB
Intellectual Property & Legal Support
GEA Farm Technologies Austria GmbH
Octrooibureau Van der Lely N.V.

Headword:

Relevant legal provisions:
EPC Art. 54(2), 56

Keyword:

Novelty - main request (yes)

Inventive step - main request (yes)

Decisions cited:

Catchword:



Beschwerdekammern
Boards of Appeal
Chambres de recours

European Patent Office
D-80298 MUNICH
GERMANY
Tel. +49 (0) 89 2399-0
Fax +49 (0) 89 2399-4465

Case Number: T 0296/13 - 3.2.04

D E C I S I O N
of Technical Board of Appeal 3.2.04
of 9 June 2017

Appellant:
(Opponent 2)
GEA Farm Technologies Austria GmbH
Dr. Hans-Lechner-Siedlung 2
5301 Eugendorf (AT)

Representative:
Heine, Christian Klaus
KNH Patentanwälte Kahlhöfer Neumann
Rößler Heine PartG mbB
Postfach 10 33 63
40024 Düsseldorf (DE)

Respondent:
(Patent Proprietor)
An Udder IP Company Ltd
1 Camelia Court
Shellbridge Road
Slindon
West Sussex
BN18 0LT (GB)

Representative:
Ashton, Gareth Mark
Baron Warren Redfern
1000 Great West Road
Brentford TW8 9DW (GB)

Party as of right:
(Opponent 1)
DeLaval International AB
Intellectual Property & Legal Support
P.O.Box 39
147 21 TUMBA (SE)

Representative:
Bennett, Adrian Robert J.
A.A. Thornton & Co.
10 Old Bailey
London EC4M 7NG (GB)

Party as of right:
(Opponent 3)
Octrooibureau Van der Lely N.V.
Weverskade 110
3147 PA MAASSLUIS (NL)

Decision under appeal: Interlocutory decision of the Opposition
Division of the European Patent Office posted on
4 December 2012 concerning maintenance of the
European Patent No. 1679956 in amended form.

Composition of the Board:

Chairman A. de Vries
Members: G. Martin Gonzalez
W. Van der Eijk

Summary of Facts and Submissions

I. The appeal lies against the opposition division's interlocutory decision of 4 December 2012 to maintain the patent EP 1 679 956 in amended form. The appellant opponent 2 (GEA Farm Technologies Austria GmbH) filed the appeal on 30 January 2013 and paid the fee simultaneously. The grounds followed with letter of 4 April 2013.

Three oppositions were filed, based inter alia on Article 100(a) in conjunction with Articles 52(1), 54 and 56. In its written decision the opposition division found the third auxiliary request (the first and second auxiliary requests were abandoned) to be compliant with the EPC in respect of added subject-matter and sufficiency of disclosure. The opposition division also held that independent claims 1 and 11 of auxiliary request 3 were new and inventive having regard to the following documents and common general knowledge of the skilled person:

- (D1) Journal of Dairy Research (1989) vol. 56, pages 579-585: Automatic application of teat disinfectant through the milking machine cluster", R. Grindal, D. Priest.
- (D2) Proceedings of the International Symposium on Machine Milking; NMC, 21-23 February 1978; pages 417-426; "The Development of Equipment for the Mechanisation of Manual Operations in Machine Milking", D.N. Akam.
- (D4) DD-A1-261 300
- (D13) WO-A-98/28969
- (D15) WO-A-03/077645
- (D16) EP-A-0 277 396
- (D17) GB-A-918 766

II. The Board has considered the following further document filed by the appellant-opponent 2 with the statement of grounds of appeal:

(D22) DD 38 942

III. Oral proceedings were held on 9 June 2017 in the absence of Opponents 1 and 3 as parties as of right and who had indicated by letter of 24 May 2017 and 12 April 2017, respectively, that they would not attend.

IV. The appellant opponent 2 requests that the decision be set aside and the patent be revoked in its entirety.

The respondent proprietor requests dismissal of the appeal and maintenance of the patent as upheld by the opposition division (main request), or on the basis of one of auxiliary requests 1 and 2 filed with the statement of grounds.

Opponents 1 and 3 as parties as of right have not made any requests or submissions.

V. The wording of the independent claims 1 and 11 of the main request (as upheld by the opposition division) reads as follows:

1. "Milking equipment including one or more teat cups (1), the or each of which comprises a flexible liner (3) for engaging about a teat of an animal to be milked, the liner having a head portion (6), at one end, provided with a mouth (7) through which the teat is engageable with the liner, a milk discharge passageway (4a) at the opposite end, nozzle means (13)

arranged to discharge fluid into the head portion (6) of the liner, and control means for initiating supply of treatment fluid to the nozzle means of the or each of the teat cups, as the teat cup is withdrawn from the teat, so that withdrawal of the teat cup wipes the fluid down the teat, characterised in that the nozzle means (13) of the or each teat cup is arranged to discharge fluid in a direction towards the discharge passageway (4a) of the associated liner (3)."

11. "A method of milking comprising the steps of applying a teat cup (1) to a teat of an animal to be milked, said teat cup including a flexible liner (3) engaging about the teat, and having a head portion (6), at one end, provided with a mouth (7) through which the teat is engaged with the liner, a milk discharge passageway (4a) at the opposite end, and nozzle means arranged to discharge fluid into the head portion of the liner, activating the cup to perform a milking operation and, when the milking operation is terminated, discharging treatment fluid into the head portion (6) of the liner (3) via the nozzle means and onto the teat as the teat cup is withdrawn from the teat, and utilising withdrawal of the teat cup to wipe the fluid down the teat, characterised by allowing the teat cup to fall into an inverted position, after withdrawal from the teat, with the head portion (6) of the teat cup being directed downwardly, flushing the interior of the liner (3) with treatment fluid, washing and/or drying fluid discharged upwardly into the liner from the head portion (6) via the nozzle means, and draining the fluid downwardly through the mouth of the liner."

VI. The appellant (opponent) argued as follows:

- (a) Novelty of claim 1 is challenged against D1 and D4. In particular, the feature that the nozzle means of the teat cup are arranged to discharge fluid in a direction towards the discharge passageway only requires that some liquid (not all) exiting the nozzle is directed towards the discharge passageway. This feature is thus of such a broad formulation that the nozzles of D1 and D4 can be considered to anticipate it.
- (b) With respect to inventive step of claim 1 the skilled person starting from either D1 or D2 and in order respectively to improve wetting of the teat by the disinfecting fluid during the downwardly teat cup withdrawal of D1 or to improve the flow of disinfecting fluid downwards during disinfection in D4, would obviously modify the orientation of the nozzle in order to achieve said desired effects without the need of inventive skill.

Alternatively starting from D4 and learning from D1 or D2 that disinfectant remnants should be flushed away (see e.g. D2, page 424, paragraph 1), he would modify the discharge direction of the nozzle of D4 in order to be able to apply this teaching to the known device according to D4, arriving at the claimed subject-matter without the need of inventive skill.

In the alternative, taking the middle embodiment in figure 5 of D2 (page 423) and applying the teachings of D1 or D2, that the nozzle can be located at the head, he would modify that embodiment by changing the location of the nozzle but maintaining the discharge direction of the

middle embodiment of figure 5-D2 arriving at the combination of features of claim 1.

- (c) For claim 11, starting from D1 or D2 and confronted with the problem to clean the inverted teat cups after withdrawal and knowing from his common general knowledge or from D22 that cleaning fluid can be supplied through the head portion, the skilled person would apply this knowledge to solve the problem to clean the inverted cups, and would necessarily arrive at the combination of features of claim 11 without exercising inventive skill.

In a similar way the skilled person arrives at the method of claim 11 starting from D4 and applying the teachings from D22 or from his own common general knowledge for the cleaning steps of the teat cup in inverted position. The skilled person would equally arrive at the subject-matter of claim 11 using D22 as closest prior art and applying the teachings of D4.

VII. The respondent (proprietor) argues as follows:

- (a) Novelty of claim 1 is given because neither D1 nor D4 clearly and unambiguously disclose nozzle means arranged to discharge fluid in a direction towards the discharge passageway in the sense of the patent in suit - i.e. that the direction of fluid flow out of the nozzle must be towards the discharge passageway.
- (b) The subject-matter of claim 1 involves an inventive step because the skilled person, starting from any of the cited prior art documents, would not be motivated to arrange the D1, D2 or D4 nozzles to

discharge fluid in a direction towards the discharge passageway and, furthermore, this feature is neither taught nor suggested by any of said documents.

Similar reasoning applies to claim 11 that requires a step of flushing with fluid discharged upwardly into the liner from the head portion of the teat cup which is in inverted position via the nozzle means, which nozzle means is defined in the pre-characterising portion as being used in a previous step for the treatment fluid discharge.

Reasons for the Decision

1. The appeal is admissible.
2. Background of the invention.

The invention relates to milking equipment. In particular to the application of treatment (disinfecting) fluid to the teats during withdrawal of the cup after milking is completed, and subsequent automatic cleaning of the cup inner flexible liner using the same fluid discharge nozzle for both operations, thereby simplifying the equipment and process (see paragraphs [0001] and [0007]).

To that effect, in claim 1 as upheld (combining granted claims 1 and 4) the discharge nozzle is arranged to discharge fluid into the head portion of the liner and is directed towards the opposite end of the liner. During withdrawal, the disinfecting fluid jet is wiped down the teat. After withdrawal, the cups fall into the inverted position and the claimed discharge orientation of the nozzle allows flushing the inner liner using the same discharge nozzle with cleaning liquid, draining the fluid downwardly through the mouth. (see paragraphs [0009] and [0011]).

3. Novelty - main request
- 3.1 Only novelty of claim 1 against D1 or D4 has been challenged. Claim 1 requires that the nozzle means is arranged to discharge fluid into the head (mouth) portion of the liner and the characterising feature stating that said nozzle means "is arranged to discharge fluid in a direction towards the discharge

passageway of the liner" (located at the opposite end to the head portion).

3.2 Both documents D1 and D4 disclose nozzle means arranged to discharge fluid into the head portion. In fig. 1 of D1 a "disinfectant entry to mouthpiece chamber" in the form of a nozzle is indicated, that (as is understood from text and figure) discharges fluid into the head portion of the liner. D4 similarly discloses nozzles ("Durchgänge") 9 (see fig. 2) discharging cleaning liquid into the head portion shown at the top of the liner.. However, neither D1 nor D4 discloses clearly and unambiguously that the relevant nozzle is arranged to discharge fluid in a direction towards the other end (the discharge passageway) of the associated liner. The Board therefore concludes that the subject-matter of claim 1 is new in the sense of Article 54(2) EPC in view of the adduced evidence.

3.3 The appellant (opponent) contends that the claimed feature

"...the nozzle means (13) of the or each teat cup is arranged to discharge fluid in a direction towards the discharge passageway (4a) of the associated liner (3)"

only requires that some liquid (not all) exiting the nozzle is directed towards the discharge passageway. Thus the nozzles of D1 and D4 would anticipate this feature in its broadest meaning.

In this respect, according to the appellant (opponent), although the fluid jet main discharge direction of the nozzle depicted in fig. 1 of D1 is perpendicular to the longitudinal axis of the cup and the liner, said nozzle would satisfy the above feature because due to the conical nature of the nozzle jet part of the fluid is

directed in a direction towards the discharge passageway.

In the opinion of the Board there is no explicit disclosure in D1 as to the discharge direction of the nozzle, other than what might be inferred from the figure, which appears to show a discharge direction perpendicular to the cup axis. The discharged fluid in D1 is intended to bathe the teat of the animal during cluster removal (see page 580 last paragraph and page 581 first paragraph). The skilled person can consequently only infer therefrom that the liquid must be directed towards the teat (perpendicularly to the longitudinal axis of the liner) with the intention to wet it. He further learns that iodine contamination (disinfectant fluid contamination) of the milk due to carry-over of disinfectant remnants within the milking cup to the following cow is undesirable and therefore to be prevented (see sections headed "Iodine content of milk", "Iodine contamination of the milk" on pages 582 and 584). Accordingly it appears likely that fluid discharge is such as to avoid directing fluid towards the liner inner walls, especially towards the milk discharge passageway to avoid carry-over contamination. With respect to the fluid jet conical shape, D1 only describes (see page 581) that the nozzle means is a stainless steel nozzle of 1.5 mm internal diameter. From this dimension the skilled person cannot infer that the jet emerging from the nozzle is expressly conical in shape, much less a conical opening angle of the discharged jet. In view of the above, the only clear and unambiguous disclosure for the skilled person that is derivable from D1 is that the discharge direction of the nozzle should prevent directing fluid towards the liner walls and towards the milk discharge passageway. Thus, the skilled person derives from the

document that any discharge of a part of the fluid in the device of D1 towards the milk discharge passageway is incidental.

3.4 Per contra, an incidental liquid discharge toward the milk discharge passageway does not anticipate the disputed feature in claim 1 of the contested patent. The skilled person when reading claim 1 of the main request will try to arrive at an interpretation of the claim which is technically sensible and takes into account the whole disclosure of the patent (see Case Law of the Boards of Appeal, 8th. Edition, II.A.6.1 - Interpretation of claims - General principles). Accordingly, a feature requiring that

"the nozzle means (13) of the or each teat cup is arranged to discharge fluid in a direction towards the discharge passageway (4a) of the associated liner (3)"

is understood as a fluid discharge that is *intentionally* and *mainly* directed towards the discharge passage. This requires a substantial amount of fluid in that direction, in particular so as to have the technically meaningful effect disclosed in the patent, namely (specification paragraph [0011]) to flush the interior of the liner with fluid discharged upwardly when the cup is in its inverted downward position. On the contrary, the incidental fluid discharge of D1 in the direction of the milk discharge passageway of the liner does not correspond to the intentional and main discharge required in that direction nor does it achieve the stated technical effect. Therefore, the nozzle means disclosed by D1 does not anticipate the claimed feature in the sense of the patent-in-suit.

3.5 The Board also does not find convincing the submission that the nozzle 9 described by D4 and discharging

liquid in a direction towards the mouth of the cup with the fluid subsequently flowing down the liner interior due to gravity and vacuum, as fulfilling the claimed feature.

The nozzle 9 is clearly arranged to discharge liquid upwardly toward the liner mouth - i.e. the opposite direction to that claimed by claim 1 of the main request. In the milking cup of D4 the liquid discharged by the nozzle may subsequently change direction e.g. after impacting the top sealing section of the liner head. However, this does not correspond to the required intentional and main discharge by the nozzle in the direction of the discharge passageway.

The Board adds, that document D4 also does not describe the feature of the pre-characterising portion that supply of treatment (disinfecting) fluid to the nozzle means is initiated as the teat cup is withdrawn from the teat, so that withdrawal of the teat cup wipes the fluid down the teat. The treatment fluid discharge in D4 is performed while the cup is engaged with the teat and vacuum is still applied at the milk discharge passageway (see D4, page 2, last two paragraphs).

3.6 The Board thus concludes that the subject-matter of claim 1 is new over D1 and D4.

4. Inventive step - main request

4.1 Document D1 describes milking equipment including teat cups with a flexible liner as in the contested patent (see page 580 and fig. 1 on page 581). The teat cups further comprise nozzle means arranged to discharge disinfectant or treatment fluid into the head or mouth portion of the liner (see fig. 1 - "disinfectant entry

to mouthpiece chamber" and associated description in page 581). The nozzle means supply disinfecting fluid as the teat cup is withdrawn from the teat, so that withdrawal of the teat cup wipes the fluid down the teat (see page 581 - "Description of the automatic teat disinfection apparatus"). Document D1 also teaches that the above disinfecting method is a major source of milk contamination due to carry-over of disinfectant to the following cow and that it can be prevented with a cluster flushing operation (see D1, page 584, "Discussion" - paragraph 3)

Document D1 also identifies the problem of milk contamination by carry-over of disinfectant fluid to the following cow, which is one of the objects solved by the flushing effect of the claimed nozzle.

- 4.1.1 In claim 1 of the main request the discharge nozzle is arranged to discharge fluid in a direction towards the milk discharge passageway. As stated in patent specification paragraphs [0011] and [0012] after cup withdrawal from the teat, the cups fall into the inverted orientation so that using the claimed nozzle the interior of the liner may be flushed with fluid discharged upwardly after which the fluid , drains away downwardly through the mouth. Thus the same nozzle used to clean the teat is used to subsequently clean the teat cup liner. Method claim 11 explicitly requires that after withdrawal of the cups the interior of the liner is flushed by fluid discharged upwardly (i.e. towards the milk discharge passageway) by the same nozzle means, draining the fluid downwardly through the mouth.

Accordingly a subsequent automatic cleaning of the cup inner flexible liner after withdrawal for avoiding

carry-over contamination can be performed in the claimed equipment of claim 1 and in the method of claim 11 using the same fluid discharge nozzle as the nozzle for treatment or disinfecting. The problem to be solved by the claimed invention can therefore be seen as the simplification of the known milking equipment and process (see paragraphs [0001] and [0007] of the patent specification).

- 4.1.2 D2, D4, D16 or D17 describe milking equipment with nozzles for treatment or disinfecting fluid. None of these documents discloses a nozzle discharging the fluid in a direction towards the discharge passage of the cup. These documents describe either nozzles oriented toward the mouth or in a perpendicular direction to the liner longitudinal axis. D16 and D17 are not concerned with cleaning the teat cup subsequent to teat cleaning. Therefore they can provide no hint to adapt the discharge direction towards the discharge passageway so that the nozzle can be beneficially used for both teat cleaning and subsequent cup flushing.

Only D2 and D4 describe cleaning of the teats and subsequently flushing the teat cup by back-flushing of liquid from the same nozzle (D2, page 424, 1st paragraph; D4, page 2, last paragraph: "durch Überlaufen" or by overflow). However back-flushing only requires the teat cup to be in an upright position. There is no need to discharge the fluid in any other than the directions shown in these documents. In particular, there is no suggestion in either document, nor is this obvious per se, to flush the teat cup in inverted position.

The skilled person further knows (e.g. from D1, page 584, "Discussion" - paragraph 3) that final flushing

away of disinfectant residues on the liner is advantageous. He is also aware - e.g. from page 2 of D4 or common general knowledge - that during the teat cleaning or disinfecting phase in this kind of equipment the liquid must flow downwardly towards the discharge passage of the liner. However, these teachings do not suggest to the skilled person to modify the discharge direction of the nozzle, as would be necessary in order to arrive at the subject-matter of claims 1 or 11.

Document D22 particularly teaches additional equipment in the form of jetter cups ("Spülaufnahme") for flushing away residues after cluster removal with the cups in inverted position. Thus, D22 teaches using a separate, dedicated device with associated nozzle for the final, subsequent flushing of the cup in inverted position and not the same discharge nozzles used for the disinfecting jets. Furthermore when the liner is positioned on the jetter it discharges fluid in a direction which is perpendicular to the longitudinal axis of the cup liner. Accordingly, neither using the same nozzles nor modifying their discharge direction is suggested by D22.

The Board thus concludes that the skilled person would not have been prompted by the submitted prior art combinations of teachings to modify or adapt the device and method of D1 in the direction of either claim 1 or claim 11 of the present main request.

- 4.1.3 The Board is further not convinced by the argument that the skilled person, seeking to improve wetting of the teat in D1 would obviously, based on common general knowledge, change the discharge angle of the nozzle to that end. Firstly, there is no hint in D1 that wetting

might need improvement, see e.g. page 584, "Discussion", paragraphs 2,3, that mentions good disinfectant coverage of the teat as effective as dipping. If the skilled person nonetheless would want to improve wetting , there are a variety of different possible ways that might spring to mind: increase flow-rate or pressure, change the shape of the nozzle, teat cup or jetter, different materials or composition of cleaning liquid, change discharge duration, intensity or direction, etc. To arrive at the invention the skilled person must not only choose to change discharge direction from among these many possibilities but he must then decide to change it so that it is specifically directed towards the discharge passageway. In the Board's view failing any hint or prompt to make this specific choice the skilled person would not do so as a matter of obviousness. This goes well beyond his average skills and knowledge.

The appellant (opponent) further puts forward that the skilled person would try to improve the downwards flow of the disinfecting fluid in D4 and would arrive at the claimed subject-matter of claim 1. Similarly as for D1, document D4 already describes that the downward fluid flow is entirely satisfactory thanks to momentary admission of ambient air into tubing 13 and to the pulsing movement of the liner (see D4, page 2 last paragraph). Thus, the skilled person is also not prompted to improve the downward fluid flow in D4. Even if he would do so, he would still have to specifically choose from a wide variety of possibilities to arrange the nozzle to discharge fluid in a direction towards the discharge passageway, without any prompt to do so.

4.2 In an alternative attack starting from either D1 or D2, the appellant (opponent) argues that the skilled

person, knowing from any of those documents that flushing away of disinfectant residues is advantageous (see D1, page 584, "Discussion" - paragraph 3; see D2, page 424, paragraph 1), would, using his common general knowledge or the teachings of D22, modify the nozzle for supplying disinfecting fluid of D1 or D2 in order to flush away residues from the liner in inverted position, arriving at the subject-matter of claims 1 and 11 in an obvious manner. Alternatively, the skilled person starting from the middle embodiment in figure 5 of D2, page 423, would as a matter of obviousness move the nozzle from the bottom part to the head of the liner, as taught by e.g. D1, while however maintaining the discharge direction toward the lower part of the teat.

It is however the opinion of the Board that all these lines of attack overlook the inventive insight of using the same nozzle for first cleaning the teat with disinfecting fluid and subsequently to flush the teat cup after removal from the teat with a different liquid. These necessary steps to arrive at the subject-matter of claims 1 and 11 of the main request are neither taught nor suggested by any of the alleged prior art teachings. Consequently, the further step of changing the discharge direction of the nozzle is also not rendered obvious by any of these combinations.

4.3 This conclusion applies also to the final attack starting from D22 as closest prior art. In the view of the Board, this line of attack must in any case fail because D22 describes a jetter-cup, which is a specific separate device on which the teat cups are placed in inverted position in order to flush them with cleaning liquid after milking. Modifying a jetter device so that it becomes a teat cup and is essentially no longer a

jecter goes well beyond the average skills of the skilled person.

- 4.4 The Board thus concludes that the subject-matter of both claim 1 and claim 11 of the main request involves an inventive step in the sense of Article 56 EPC.
5. As all the objections raised by the appellant opponent fail the Board confirms the findings of the Opposition Division.

Order

For these reasons it is decided that:

The appeal is dismissed.

The Registrar:

The Chairman:



G. Magouliotis

A. de Vries

Decision electronically authenticated