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Datasheet for the decision of 22 November 2016

Case Number: T 1584/12 - 3.2.04

Application Number: 07075417.1

Publication Number: 1872653

IPC: A01J5/04, A01J5/007

Language of the proceedings: EN

Title of invention:
A combination of a teat cup and a flexible milk tube, a coupling piece, and a method of monitoring the integrity of the flexible milk tube

Patent Proprietor:
Maasland N.V.

Opponent:
DeLaval International AB

Headword:

Relevant legal provisions:
EPC Art. 54, 83, 100(a), 100(b), 111(1)

Keyword:
Sufficiency of disclosure - (yes)
Novelty - main request (yes)

Decisions cited:

Catchword:

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Case Number: T 1584/12 - 3.2.04

D E C I S I O N
of Technical Board of Appeal 3.2.04
of 22 November 2016

Appellant: (Patent Proprietor)	Maasland N.V. Weverskade 110 3147 PA Maassluis (NL)
Representative:	Octrooibureau Van der Lely N.V. Cornelis van der Lelylaan 1 3147 PB Maassluis (NL)
Respondent: (Opponent)	DeLaval International AB Box 39 147 21 Tumba (SE)
Representative:	Bennett, Adrian Robert J. A.A. Thornton & Co. 10 Old Bailey London EC4M 7NG (GB)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 3 May 2012 revoking European patent No. 1872653 pursuant to Article 101(3)(b) EPC.**

Composition of the Board:

Chairman	A. de Vries
Members:	S. Oechsner de Coninck
	T. Bokor

Summary of Facts and Submissions

I. The appellant (proprietor) lodged an appeal received on 3 July 2012 against the decision of the opposition division dispatched on 3 May 2012 on the revocation of the patent EP 1 872 653, and simultaneously paid the appeal fee. The statement setting out the grounds of appeal was received on 4 September 2012.

II. The opposition was based on Article l00(a) together with 52(1), 54(1) and 56 EPC and Article 100(b) together with 83 EPC. The opposition division came to the conclusion that the subject-matter of claims 1 and 15 of the patent as granted was not novel. In its decision the division considered *inter alia* the following documents:

D1: DK 94 00044 Y6 and its English translation
D2: US-A-2 425 873
D3: DE 196 36 273 A1
D4: DE 101 14 706 A1.

III. Oral proceedings were held on 22 November 2016.

IV. The appellant requests that the decision under appeal be set aside, and the patent be maintained as granted, i.e. that the opposition be rejected, as main request, or that the patent be maintained in an amended form on the basis of one of the 1st to 4th auxiliary requests filed with the grounds of appeal dated 4 September 2012. A remittal to the department of first instance for a decision on inventive step was requested in the oral proceedings.

The Respondent (opponent) requests that the appeal be dismissed. At the end of the oral proceedings opponent declared that he does not oppose remittal.

V. The wording of the relevant independent claims as granted reads as follows:

"1. A combination of a teat cup (100) and a flexible milk tube (40), the flexible milk tube (40) comprising a main duct (42) and a plurality of secondary ducts (44) separated from the main duct, which main and secondary ducts extend substantially in an axial direction of the flexible milk tube (40) for discharging milk from the teat cup (100) and for applying vacuum in the teat cup, and the main duct (42) being confined by a duct wall (46) extending around the main duct (42), wherein the plurality of secondary ducts (44) are included in the duct wall (46) of the main duct (42), characterized by the plurality of secondary ducts (44) being distributed over the entire circumference of the duct wall (46)."

"12. A method of monitoring the integrity of a flexible milk tube (40), which flexible milk tube (40) comprises a main duct (42) and a plurality of secondary ducts (44, 45) for discharging milk from the teat cup (100) and for applying vacuum in the teat cup (100), comprising the steps of:

applying a pressure on at least a first group (44) of the plurality of secondary ducts, which pressure deviates from an ambient pressure, determining the pressure in the first group (44) of the plurality of secondary ducts, determining a control pressure value defined as the difference between the measured pressure and a reference pressure, comparing the control pressure value with a

predetermined desired pressure value, or a development in time of the control pressure value with a predetermined desired development in time of a pressure value, and
supplying an alarm signal if the control pressure value, or the development in time of the control pressure value, deviates to a predetermined extent from the predetermined desired pressure value, or the predetermined desired development in time of the pressure value."

"15. Use of a flexible milk tube (40) in a milking installation, which flexible milk tube comprises a main duct (42) and a plurality of secondary ducts (44) for conveying milk and for conveying air, the main duct (42) being confined by a duct wall (46) extending around the main duct (42), wherein the plurality of secondary ducts (44) are included in the duct wall (46) of the main duct (42), characterized by the plurality of secondary ducts (44) being distributed over the entire circumference of the duct wall (46)."

VI. The Appellant's arguments are as follows:
- The contested feature "distributed over the entire circumference" is clear for the skilled person with a mind willing to understand: the distribution of the ducts should extend over the whole circumference, in other words there should not be any substantial parts of the circumference that lack a secondary duct. In particular, figure 3 of the patent shows an arrangement of ducts distributed over the entire circumference of the milk duct wall and thus the invention is sufficiently disclosed. The method of claims 12 to 14 is also sufficiently disclosed since at least one of the reference pressures described in paragraph [0045] leads to a workable solution for detecting a leak.

- As for novelty, D1 describes separated pipes that are thus not included in the central milk pipe wall. The description of an embodiment of the prior art on page 1, lines 21-23 of D1 is very brief and does not directly and unambiguously disclose a distribution over the entire circumference of the milk duct wall. A possible realization of this passage could be constituted by a duct with an egg shaped cross section and three adjacent tubes as in e.g. figure 1 of D3. The disclosure of D2 shows secondary ducts around only half of the circumference, D3 around one third or less of that circumference and D4 an embodiment with aligned ducts. Therefore the subject-matter of claims 1 and 15 is novel.

VII. The respondent's arguments are as follows:

- Neither the wording of the claims 1 and 15 nor the overall disclosure give a definition of what should be understood under the expression "distributed over the entire circumference". Without specific information on how the distribution over the entire circumference defined in claims 1 and 15 should be obtained the skilled person would not know which quantum or amount of the circumference can realise the effect sought for in paragraph [12] of the patent to provide a substantially comparable flexibility in different directions. There are only two possible interpretations that would appear logical to the skilled person. In a first interpretation no part of the duct wall would be without secondary ducts, so that only the embodiment of figure 3, but not those of figures 1, 2, 4 and 5 would be covered. In the second interpretation the expression is interpreted broadly to mean that only some of circumference of the duct wall includes secondary ducts.

Also the method of claims 12-14 cannot be performed in the case where the reference pressure is zero (as foreseen in paragraph [0042]) because the measured pressure and control pressure are then equal.
- As to novelty, the particular embodiment depicted in figure 1 of D1 discloses a one-piece duct comprising a main and two secondary ducts. These secondary ducts are included in the main tube wall because of this one piece arrangement. In the prior art embodiment described on page 1, line 21 to 23, the two secondary ducts must necessarily extend over the entire circumference for the duct to be able to bend in the two directions.
D2, D3 and D4 also disclose flexible milk ducts that have a similar flexibility in at least two bending directions, therefore they disclose a distribution over a portion of the circumference falling within the scope of claims 1 and 15.

Reasons for the Decision

1. The appeal is admissible

2. Sufficiency of disclosure - Article 100(b) EPC

2.1 Claims 1 and 15

Claim 1 is directed to a combination of a teat cup and a flexible milk tube, the flexible milk tube comprising a main duct and a plurality of secondary ducts, that according to the characterising portion should be "distributed over the entire circumference of the duct wall". Claim 15 defines the use of the same flexible milk tube wherein the plurality of secondary ducts are also "distributed over the entire circumference of the duct wall". The dispute regarding sufficiency of

disclosure turns on the exact meaning of the expression "distributed over the entire circumference" and whether the skilled person from the whole of the disclosure is given a sufficiently clear and complete understanding of the claimed invention, in particular in relation to this expression, so as to be able to carry out the invention.

2.2 When interpreting the claim language, the skilled person should try with synthetical propensity, i.e. building up rather than tearing down, to arrive at an interpretation which is technically sensible and takes into account the whole of the disclosure of a patent, see Case Law of the boards of Appeal, 8th edition, 2016 (CLBA hereinafter), II.A.6.1. In particular therefore that understanding should fit within the overall disclosure of the patent. Only within that context will it be clear whether the invention is sufficiently clearly and completely disclosed, cf. CLBA II.C.2.

2.3 In the present case the Board has no doubts that the skilled person, when reading the claim and attempting to understand the invention and its effects, will have no great difficulty at arriving at a workable, reasonable and technically meaningful understanding of the requirement that a plurality of secondary ducts is "distributed over the entire circumference". On the basis of the usual meaning of the constituent terms the skilled person can already easily envisage, in a first tentative understanding of the expression, that a "plurality" i.e. a relatively large number (possibly more than merely two) of secondary ducts are provided in the wall of the main duct and surround it on all sides. He will refine this understanding in the light of the description, in particular figures 1 to 5, to include embodiments in which the secondary ducts extend

significantly in circumferential direction (figures 2 and 4) and may be staggered (figure 3). All of these examples doubtlessly demonstrate the desired effect, see specification paragraph [0012], that the milk tube should have substantially comparable flexibility in different directions. In as far as it is not already clear to him from a discrete number of secondary ducts, these figures will lead the skilled person to reject any purely literal and unreasonable or unpracticable interpretations that exclude duct wall sections where there are no secondary ducts.

2.4 In his reasonable, technically meaningful understanding of the claimed invention in the light of whole disclosure, the plurality of secondary ducts should be "distributed over *substantially* the entire circumference".

It may be that the minimum number of secondary ducts that can be distributed over the entire duct wall circumference is not immediately clear from the above expression even when considered in the light of the description. It is conceivable that even two arc shaped secondary ducts that extend circumferentially over close to 180° would fall within the terms of the claim. Other irregular arrangements of two ducts however may not. Whether or not this is so is at best an issue of claim scope. This cannot detract from the fact that the description, figures and claims provide several clear and complete examples as to how to carry out the invention and how to achieve the desired effect.

2.5 In this case the desired technical effect can be clearly realised since the description and drawings at least discloses the details of five different possible embodiments. At least on the basis of any of these

embodiments, the skilled person is able to provide straightforward variants of circular or oblong secondary tubes in staggered or aligned relationship achieving a distribution over substantially the whole circumference, or in other words not leaving a substantial portion of the circumference without these secondary tubes, and which exhibit the desired multidirectional flexibility.

2.6 The Board thus concludes that the patent provides the skilled person with practical instructions that are sufficiently clear and complete for providing a plurality of secondary ducts being distributed over the entire circumference of the duct wall.

2.7 Claims 12-14

According to the respondent, the suggestion in paragraph [0045] of the patent that the reference pressure can equal zero cannot be performed because the measured pressure and control pressure would then be equal.

However, the Board considers that for the skilled person it is perfectly possible by mere implementation of the steps of claim 12 to detect a leak. Indeed even if the measured pressure and control pressure are equal, it is the following step of claim 12 that compares the control pressure with a predetermined pressure value that detects the leak. A deviation with respect to this predetermined value signals a leak irrespective of whether the control pressure is equal to the measured pressure. Therefore the method of claim 12 alone provides sufficient instructions for the skilled person what steps need to be reproduced even

when the reference pressure is zero as foreseen in the above paragraph [0045] of the patent.

2.8 It follows that the ground of opposition based on Article 100 (b) EPC does not prejudice the maintenance of the patent. The board thus confirms the decision's findings in this respect.

3. Novelty

3.1 Novelty has primarily been challenged with respect to D1.

3.1.1 D1 discloses in its sole embodiment according to figure 1 a central milk tube 2 and two vacuum pipes 4 on either side (English translation, page 2, lines 14 to 17). From this passage, the skilled person clearly derives that the tube thus disclosed is in fact composed of three different ducts: the two lateral vacuum pipes and the central milk pipe assembled as one piece. Contrary to the respondent's opinion, the qualification "one piece" does not mean that therefore the two side pipes are included in the wall of the central duct, i.e. that they are formed so that the wall of the central duct surrounds the additional ducts. From the overall context, the skilled person understands each of the pipes to be a separate duct surrounded by its own wall. It is another matter that portions of the duct walls are joined. This is clear from the figure where each of the three ducts and their walls is easily recognizable, but also follows from the information that the one piece pipe should be able to be slit to form separate pipes according to the passage on page 2, lines 1-2. Separate pipes definitely need to have their own walls capable of isolating the conveyed medium from the environment. In addition their

definition as pipes capable of being slit to form separate tubes also allow for a thinner milk wall (page 2, line 19) that belongs to the overall teaching and gives a clear indication that the secondary tubes are not designed to be embedded in such milk pipe wall, as such a thinner wall would not suit that purpose. Thus the feature of claims 1 and 15 whereby the plurality of secondary ducts are included in the duct wall is not disclosed in this embodiment of D1.

3.1.2 D1, see page 1, lines 21 to 23 of the translation, also refers to an embodiment of the prior art where an oval cross-section of the duct is defined to include a duct for milk flow and two ducts for vacuum. Taking this sole brief description of the prior art the skilled person cannot directly and unambiguously derive that the duct of oval cross-section is made of a - central - milk duct with two side ducts distributed over the entire circumference. Several possible implementations of distributions of three tubes within an oval section occur to the skilled person from this brief and incomplete description. In particular the board concurs with the appellant that an arrangement falling within the ambit of this passage of D1 could be constituted by an egg shaped cross section with three adjacent tubes of different cross section as for example depicted in figure 1 of D3. In this irregular arrangement the secondary ducts 10, 11 cannot be said to be distributed over the entire circumference of the duct wall of duct 9. It is then irrelevant whether such an egg shape would also exhibit a similar flexibility in two directions, since this feature is not included in claims 1 or 15.

3.1.3 The subject-matter of claims 1 and 15 is thus novel with respect to both disclosures of D1.

3.2 Novelty - Documents D2, D3 and D4

3.2.1 D2 (column 3, lines 18-25; figure 2) shows a milk tube 33 including air tubes 24c, 25c, 26c and 27c angularly spaced within a concentric circle about a central tube 32a. These plurality of air tubes are compactly grouped on the side face 29 and are depicted as distributed over the upper half of this central milk tube as shown in figures 2 and 4. Therefore they are not distributed over substantially the entire circumference of the duct wall but instead around a half circumference (see figure 2): a substantial part of the lower duct wall (close to 180°) lacks secondary ducts.

D3 (column 2, lines 54-63; figure 1) shows a milk tube 7 of circular cross section with embedded milk duct 9, pulsating vacuum duct 10 and air duct 11 of different cross-section. As depicted in the section view of figure 1 the vacuum and air duct that corresponds to the secondary ducts according to claims 1 and 15 are located in an upper half above and thus to one side of the milk tube 9. As with D2, these secondary ducts can therefore not be said to be distributed over the entire circumference of the duct wall.

D4 (paragraph [024]; figure 1) shows a side view of a milk tube 19 in section. The milk tube includes a milk duct 8, an air duct 6 and a pulsating vacuum duct 21. Since in the sectional view these ducts are located in the same plane and on one side, air and pulsating vacuum ducts 6 and 21 as secondary ducts can also not be said to be distributed around the entire circumference of the (main) duct 8.

3.2.2 With respect to the disclosure of D2, D3 and D4 the respondent submits that each of these ducts has a similar flexibility in at least two bending directions and therefore would fall under the broadest interpretation of the scope of claims 1 and 15: at least two ducts extending over a portion of the circumference that allows similar bending flexibility in at least two directions.

As concluded here above in relation to sufficiency the board does not follow this interpretation of claims 1 and 15. A same or similar effect does not necessarily imply the same features achieving the effect. In this case the relevant limitation is not similar flexibility in several - at least two - directions which is not a feature of these claims, but rather the distribution over - *substantially* - the entire circumference of the milk tube. In the Board's understanding of this feature it is not realised in any of the documents D2, D3 or D4 because a substantial portion ranging from half to two-third of the circumference of a milk tube does not include secondary ducts.

3.2.3 The subject-matter of claim 1 is thus novel with respect to the disclosures of D2, D3 and D4.

3.3 From the above the board concludes that the subject-matter of the claims according to the main request as granted is thus new in respect of the cited prior art (Article 54(1) with 54(2) EPC).

4. Remittal

The Board has considered the opposition ground based on Article 100(b) together with Article 83 and Article 100(a) together with Article 52(1), 54(1) EPC,

decided by the opposition division in the appealed decision and challenged in the appeal, and has reached the conclusion that the claims of the main request are thus allowable in this respect.

However, the opposition division did not examine and decide the ground of inventive step also raised in opposition. The Board therefore considers it appropriate to exercise its discretion under Article 111(1) EPC to remit the case to the first instance, so that it may examine this remaining opposition ground for claims 1 and 10 of the main request. This is particularly so as the appellant requests remittal and the respondent does not object thereto.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.

2. The case is remitted to the department of first instance for further prosecution.

The Registrar: The Chairman:

G. Magouliotis A. de Vries

Decision electronically authenticated