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Datasheet for the decision of 11 March 2021

Case Number: T 2393/17 - 3.2.04

Application Number: 12190128.4

Publication Number: 2586356

IPC: A47L15/42

Language of the proceedings: EN

Title of invention:
Water supply device

Patent Proprietor:
BITRON S.p.A.

Opponent:
TP Reflex Group S.p.A.

Headword:

Relevant legal provisions:
EPC Art. 100(b), 100(a), 56

Keyword:
Grounds for opposition - insufficiency of disclosure (no)
Inventive step - (yes)

Decisions cited:

Catchword:

Europäisches Patentamt
European Patent Office
Office européen des brevets

Beschwerdekammern

Boards of Appeal

Chambres de recours

Boards of Appeal of the
European Patent Office
Richard-Reitzner-Allee 8
85540 Haar
GERMANY
Tel. +49 (0)89 2399-0
Fax +49 (0)89 2399-4465

Case Number: T 2393/17 - 3.2.04

D E C I S I O N
of Technical Board of Appeal 3.2.04
of 11 March 2021

Appellant: (Opponent)	TP Reflex Group S.p.A. Via Cesare Battisti 91 21040 Venegono Superiore (VA) (IT)
Representative:	Metroconsult Srl Via Sestriere, 100 10060 None (TO) (IT)
Respondent: (Patent Proprietor)	BITRON S.p.A. Corso Principe Oddone, 18 10122 Torino (IT)
Representative:	Gerbino, Angelo Jacobacci & Partners S.p.A. Corso Emilia 8 10152 Torino (IT)
Decision under appeal:	**Decision of the Opposition Division of the European Patent Office posted on 25 August 2017 rejecting the opposition filed against European patent No. 2586356 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman	S. Oechsner de Coninck
Members:	C. Kujat
	W. Van der Eijk

Summary of Facts and Submissions

I. The appellant (opponent) lodged an appeal, received on 23 October 2017, against the decision of the Opposition Division dated 25 August 2017 to reject the opposition against the European patent Nr 2 586 356, and paid the appeal fee the same day. The statement setting out the grounds of appeal was filed on 22 December 2017.

II. The Opposition Division held that none of the grounds for opposition raised against the patent prejudice the maintenance of the granted patent, having regard to the following documents in particular:

D3: GB 2 155 316 A
D7: EP 1 023 869 A2
D10: FR 2 534 798 A1
D11: GB 1 166 040 A
D12: GB 1 498 724 A
D13: WO 03/087460 A1
D14: GB 2 111 537 A

III. In a communication in preparation for oral proceedings the Board gave its preliminary opinion on the relevant issues.

IV. Oral proceedings in agreement with the parties were held as a videoconference on 11 March 2021.

V. The appellant requests that the decision under appeal be set aside and that the European patent No. 2 586 356 be revoked.

VI. The respondent requests that the appeal be dismissed and the patent thus be maintained as granted.

VII. The independent claim 1 as granted reads as follows:

"Water supply device for a domestic washing appliance, formed by a body (10) having a bottom wall (14) from the side edge of which a transverse wall (16) rises, and by a cover (12) which has a shape corresponding to that of said bottom wall (14) and is fixed to the upper edge of said transverse wall (16), a cavity (26) being formed between the walls of the body (10) and the cover (12), either said bottom wall (14) or said cover (12) incorporating a first and a second half-conduit (28, 30) tapering at respective ends facing each other, so that they form an air gap device, said first half-conduit (28) constituting the extension of a supply conduit (32) formed by facing side walls (34) which protrude from the bottom wall (14) and are closed by said cover (12), or alternatively protrude from the cover (12) and are closed by said bottom wall (14), said device being characterised in that the tubular facing ends of the first and second half-conduits (28, 30) are arranged along the same straight line."

VIII. The appellant argues as follows:
The patent is not sufficiently disclosed as concerns the half-conduits incorporated in the bottom wall.
Starting from the air gap device of D3 or D7, the skilled person would consider the teaching of D12 suitable for guiding the flow of water from one half-conduit to the other, and adapt the arrangement described therein to provide in an obvious manner the tubular facing half conduits according to claim 1 of the patent. D10,D11,D13 and D14 also provide equivalent teachings as D12.

IX. The respondent argues as follows.
Incorporating half conduits in the bottom wall is sufficiently disclosed.
D7 does not disclose all the features of the preamble of claim 1, therefore any combination with D12 cannot arrive at the claimed subject-matter.

Reasons for the Decision

1. The appeal is admissible.

2. Background of the invention

The patent relates to a water supply commonly known as "air break" in dishwashers (paragraph 0001) that typically comprises a flattened hollow body of plastic material, and adapted to perform various functions of providing a vent for vapour formed in the washing chamber, an air gap for the water supply, or a collector of water for use in forming regeneration brine for the water softener (paragraph 0002). The air gap more particularly provides an interruption of the conduit guiding the supply of fresh water to allow the above functions. In paragraph 0010 the aim to optimise the air gap device, in particular avoiding the need for deflectors or the like is expressed. The core of the solution consists in providing two tubular facing ends of the first and second half-conduits attached to either the bottom or cover of the device and aligned along the same straight line.

3. Sufficiency - Art 100 b) EPC

3.1 The appellant considers the patent does not sufficiently disclose how to realise a first and a

second tubular half-conduit being incorporated in the bottom wall or cover.

3.2 The Board disagrees. According to paragraph 0013, the claimed water supply device is made of plastic material using the well known injection moulding process. Manufacturing the first and second half-conduits tubular and tapering at their respective ends to face each other such that they are made integrally with the bottom wall -or cover- as explained in paragraph 0016 realises the requirement of claim 1 that the bottom wall -or cover- incorporates the above half conduits. In the Board's view this can be performed by the skilled person's putting into practise routine injection moulding steps of plastic material, that is injecting molten plastic into two half-moulds having cavities reproducing the tubular shape of the half conduits on the flat surface of the bottom -or cover- wall.

3.3 By simply stating that the description of the patent does not contain information on how the tubular half conduits are manufactured so as to be incorporated in one of the walls, the appellant has not substantiated by verifiable facts his claim that forming a tubular shape integrally with a flat surface of the bottom -or cover- wall might be impossible to obtain by injection moulding of plastic material (See CLBA, 9th edition 2019, II.C.9).

3.4 The Board thus confirms the opposition division's positive assessment of sufficiency of disclosure, Article 100(b) EPC.

4. Novelty over D3 or D7

4.1 It is undisputed that none of the documents D3 or D7 directly and unambiguously discloses tubular facing ends of the first and second half-conduits that are arranged along the same straight line.

4.2 D7 discloses a multifunction device 3 for a dishwashing machine that has a hollow body made of plastic material moulded in two parts which are then welded together (paragraph 0016). The hollow body is shown in figure 3 without cover (wall of the multifunction device in paragraph 0020, last sentence). In the upper portion of the device 3, a so-called "air-break" or air gap device 8 is located between the two conduits 6 and 7 (paragraph 0024). According to paragraph 0026 this air-break device is provided with an "interruption" 9. The corresponding zone is indeed depicted in figure 3 and exhibits a cylindrical outer wall, a cylindrical middle wall that defines an outer channel of the conduit 6, and an inner wall with the interruption 9 separating conduit 6 from conduit 7. It is undisputed that the air break 8,9 of D7, when identified as the air gap device defined in claim 1, does not include tubular facing ends of a first and second half-conduit that are arranged along the same straight line.

4.3 D3 discloses a hydraulic feeder for a dishwasher. The hydraulic feeder has a plate 1 in which channels are formed as two independent circuits 2,3 (page 2, lines 63-68), and are closed by a closure cover 8 (page 2, lines 72-76). A jet breakage is explained on page 2, lines 77 to 82 to take place in the zone 9. The corresponding zone 9 is depicted in figure 1 and exhibits the same general structure as disclosed in D7 but on a lateral side of the device: An interruption of the inner side wall forming the circuit 2 is visible.

Therefore D3 also fails to disclose the same feature as D7.

4.4 The Board thus confirms the positive assessment of the opposition division on novelty, which was also otherwise not disputed by the appellant during the oral proceedings.

5. Inventive step starting from D7 or D3

5.1 As already explained above, the subject-matter of claim 1 at least differs from the air break device depicted in figure 2 of D7 by the tubular facing ends of the first and second half-conduits that are arranged along the same straight line.

5.2 The technical effect of this arrangement of half conduits is explained in paragraph 0010 of the patent as avoiding the need to provide deflector elements or the like which would guide the flow of water from one half-conduit to the other as required in the cited prior art.

5.3 As required by established case law, based on this effect a technical problem needs to be formulated that avoids any pointer to the solution (CLBA, 9th edition 2019, I.D.4.3.1) and starts from the problem formulated in the patent (CLBA, 9th edition 2019, I.D.4.3.2). The problem may thus be formulated in a similar way as suggested by the appellant, namely to guide the flow of water from one half-conduit to the other in an optimised manner.

5.4 The appellant considers that D12 is particularly promising for the skilled person who would obviously consider to modify the air gap device of D7 and arrive

in an obvious manner at an arrangement of half-conduits as defined in claim 1 of the patent.

5.5 The Board disagrees. D7 is based on the following core concept for guiding the water supply. As explained in paragraph 0026 the interruption 9 -of the inner wall- is overcome by the acquired kinetic energy of the water flow. According to this explanation, the middle wall shown in figure 3 serves as a guide or deflector along which the flow of water having a certain velocity and thus subject to centrifugal forces is retained and guided to follow the curved cylindrical surface of the wall. In the zone of the air break 8 the interruption 9 between the conduits 6 and 7 extends in a substantially horizontal path that the water overcomes by the acquired kinetic energy. The cross section of the channel guiding the flow in the conduits 6 and 7 on either side of the interruption is rectangular and needs cooperation with the cover wall -not shown- to be closed. The core concept of D7 thus already provides an effective way of guiding the flow of water from conduit 6 to conduit 7 along a curved, mainly horizontal path using flow velocity. In the Board's view there appears no apparent reason for the skilled person to depart from that already effective and optimised concept.

5.6 By contrast the design of the device for preventing the flow-back of water for a washing machine disclosed in D12 has the following essential characteristics. Two parallel spray nozzles 2 are arranged in a flat, box-like housing 1 on the upper side (page 2, lines 32-34). The spray nozzles 2 receive water that leaves each nozzle bore 2c in the form of a water jet 8 with high kinetic energy. After passing through the air gap, the water jet is collected in an aligned collecting nozzle 6 (page 2, lines 46-61) having a diffuser part 6b and

equipped with a sharp peeling edge 6c. The concept of D12 relies on a flow of water guided by gravity along a vertical free falling path from the nozzle tube 2 to the diffuser part 6b, both being tubular elements enclosed within the box like housing 1.

5.7 In the Board's view the concept of D7 is thus quite different from the one taught by D12. Therefore contrary to the appellant's opinion the Board considers the disclosure of D12 not to be closely related to the disclosure and concept of D7. As a consequence the teaching of D12 would not be taken into consideration by the skilled person when trying to solve a problem of improved flow guidance starting from D7 because both documents follow different non related flow guiding concepts.

5.8 Assuming arguendo that the skilled person would nevertheless consider implementing the teaching of D12, the Board is convinced that a transfer of the nozzle concept of D12 to adapt the air break into the chamber 10 of D7 is not straight forward and cannot be done using routine adaptation skills. The cylindrical configuration of the walls extending from the bottom wall and forming the lateral surfaces of the conduits 6 and 7 in the zone of the air break 8 and interruption 9 are closed by a cover wall. This arrangement is structurally very different from the vertically aligned closed tubular configuration of the nozzles 2 and 6 of D12, which are each integrally attached to the upper and lower side walls of the housing. Therefore any adaptation of the nozzles 2 and 6 disclosed in D12 to modify the facing ends of the conduits 6 and 7 of D7 in the zone of the interruption 9 is not achievable by a straight forward replacement or other routine measure, but would necessitate redesigning the whole arrangement

and operation of the air break of D7. Conceiving a new design goes in the Board's view beyond the skilled person's routine adaptation skills.

5.9 Thus the Board concludes that the claimed subject-matter involves an inventive step over D7 and D12.

5.10 The same conclusion also applies when starting from D3 instead, which as admitted by the appellant represents a starting point similar to D7 (see item 4.3 above).

5.11 Concerning the other documents D10, D11, D13 and D14 proposed by appellant as further possible teachings of half-conduits according to claim 1, the Board has expressed in its communication that they do not offer any better hint to the solution as follows:

"In D10 a fresh water conduit is connected to a nozzle shaped outlet 7 ("ajutage") separated by an air gap 8 ("tronçon d'écoulement libre"), a diffuser 9 is disposed following the outlet 7 and depicted as aligned with it in figures 1 to 3....

In relation to these issues, the Board observes that D3... disclose rather non-linear tortuous arrangements of water conduits that comprise a common bent wall between two legs thereof, it therefore appears to be based on a design quite remote from the aligned arrangement of nozzles disclosed in D10, and the critical question arises how the skilled person would reconciliate both designs, and incorporate the aligned design of D10 in either D3 or D5.

D11 discloses an outlet 3 of a nozzle 2 to direct a jet with minimum spread into a receiving duct 5 (page 2, lines 24-34).... D13 discloses an air break 201 to

prevent back flow. The flow passes through the air break 201 to a flow control valve 211 (page 5, lines 15-16). The arrangement of the respective outlet and inlet can only be derived from the figures. D14 referring to figure 1 also discloses a free air gap section 6, the structure of which is shown in figure 1. It therefore appears that any of these documents brought forward as combination documents are even less specific on the structure and respective advantage of their air gaps or air break, therefore the same conclusion as drawn in relation of D3... with D10 will also apply to any of these alternative combinations."

The appellant did not further comment on these documents, neither in writing nor during oral proceedings. The Board sees no reason to depart from its preliminary opinion that these documents are even less specific on the structure and operation of their air gaps or air breaks than D12 and thus are even less suitable to demonstrate a lack of inventive step.

6. The Board concludes, therefore, that considering the various combinations of D3 or D7 with either one of D10 to D14 as submitted by the appellant, the subject-matter of claim 1 as granted involves an inventive step within the meaning of Article 56 EPC.

7. In the light of the above, the Board confirms the opposition division's decision to reject the opposition, Article 101(2) EPC.

Order

For these reasons it is decided that:

The appeal is dismissed

The Registrar: The Chairman:

A. Voyé S.Oechsner de Coninck

Decision electronically authenticated