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**Datasheet for the decision  
of 2 April 2019**

**Case Number:** T 1537/15 - 3.2.03

**Application Number:** 07713443.5

**Publication Number:** 2021722

**IPC:** F28F1/16, F24H9/00

**Language of the proceedings:** EN

**Title of invention:**  
RADIATOR ELEMENT AND CAP

**Patent Proprietor:**  
MECC-LAN S.r.l.

**Opponent:**  
Fondital S.p.A.

**Headword:**

**Relevant legal provisions:**  
EPC Art. 54, 56, 83, 111(1), 113(1), 123(2)

**Keyword:**

Novelty - (yes)

Inventive step - (yes)

Sufficiency of disclosure - (yes)

Amendments - allowable (yes)

Appeal decision - remittal to the department of first instance  
(no)

**Decisions cited:**

**Catchword:**



**Beschwerdekammern**  
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Case Number: T 1537/15 - 3.2.03

**D E C I S I O N**  
**of Technical Board of Appeal 3.2.03**  
**of 2 April 2019**

**Appellant:** MECC-LAN S.r.l.  
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**Respondent:** Fondital S.p.A.  
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**Decision under appeal:** **Decision of the Opposition Division of the  
European Patent Office posted on 24 June 2015  
revoking European patent No. 2021722 pursuant to  
Article 101(3) (b) EPC.**

**Composition of the Board:**

**Chairman** G. Ashley  
**Members:** C. Donnelly  
G. Weiss

## **Summary of Facts and Submissions**

- I. The appeal lies from the decision of the opposition division revoking European Patent no. 2 021 722. The granted patent was opposed under Articles 100(a), (b) and (c) EPC. In its decision the opposition division held *inter alia* that the amended claim 1 of the main request filed during the oral proceedings comprised added subject-matter.
- II. The patent proprietor ("appellant") lodged an appeal against this decision. In its letter of 16 March 2016, in reply to the grounds, the opponent ("respondent") submitted counter-arguments.
- III. In a communication, pursuant to Article 15(1) of the Rules of Procedure of the Boards of Appeal (RPBA), annexed to the summons to oral proceedings, and dated 16 October 2018, the Board informed the parties of its provisional opinion. In particular, it indicated that under Article 111(1) EPC it lay within its power also to examine the questions of novelty and inventive step and gave a provisional assessment of these matters. It was also indicated that the decision whether or not to remit the case would be taken at the scheduled oral proceedings.
- IV. By letter of 1 March 2019, the appellant filed a new first auxiliary request.
- V. By letter of 27 March 2019 the respondent informed the Board that it would not be attending the oral proceedings. No other submissions or requests were made by the respondent in reaction to the Board's provisional opinion.

VI. Oral proceedings were held on 2 April 2019 in the absence of the respondent according to Rule 115(2) EPC. At the end of the debate the following requests were confirmed:

The appellant requested that the decision under appeal be set aside and that the patent be maintained on the basis of the main request filed during oral proceedings before the Board, alternatively on the basis of one of auxiliary requests 1 to 4, all filed with letter dated 1 March 2019.

The respondent requested in writing that the appeal be dismissed. The respondent also requested that should any of the appellant's requests be found to meet the requirements of Article 123(2) EPC that the case be remitted to the opposition division for further prosecution.

VII. Claim 1 as filed during the oral proceedings held on 2 April 2019 reads:

"Radiator element (8) and a cap (4), wherein the radiator element (8) is crossed by a thermal exchange fluid, and comprises a cavity crossed by said fluid and ending with an end (12) being closed by said cap (4), wherein said end (12) comprises a coupling portion (16) suitable for favouring the gripping of the cap (4), wherein said radiator element (8), at said coupling portion (16) of the end (12), comprises a protuberance (20) making an undercut (22) on the side opposite the associable cap (4) for allowing the gripping of the cap (4), wherein said end (12) exhibits a cylindrical configuration, wherein said cap (4) has an axial-symmetric shape, wherein the cap (4) is hydraulically sealingly associated to said end (12) of

the radiator element (8), the cap (4) comprising a closure element (24) facing said end (12) and a collar (28) sealingly associable to said end (12) wherein the collar (28) comprises a coupling portion (32) coupled with said end (12) and the cap (4) comprises a sealing element (52) arranged between the closure element (24) and the collar (28), the sealing element (52) abutting against the end (12) of the radiator element (8) so as to ensure the fluid seal of the cap (4) on the end (12), wherein the collar (28) is at least partly folded around the end (12) so as to be hooked to said protuberance (20) of said end (12), wherein the closure element (24) comprises a centring portion (58) suitable for favouring the insertion of the cap (4) on the end (12), penetrating at least partly in said end (12), wherein the centring portion (58) is obtained by a recess (60) on said cap (4), on the side of the end (12), jointed to the closure element (24) by a union (62), wherein said union (62) is tapered,

**characterised in that**

said protuberance (20) has a truncated-cone pattern that tapers towards the associable cap (4), that is away from undercut (22), wherein the sealing element (52) is an o-ring seal, wherein said seal (52) in a non-deformed configuration, has a thickness larger than the gap determined between the coupling portion (16) and the cap (4), in a configuration of assembly of the cap (4) on the end (12), wherein the coupling portion (32) comprises a locking element (48) abutting against an undercut (22) of the end (12) of the radiator element (8) so as to lock the cap (4) into position on the radiator element (8)."

## **Reasons for the Decision**

1. *Main request, Added subject-matter, Article 123(2) EPC*
- 1.1 Claim 1 of the main request is based on claims 1,2,5,8,10,11,12,13,14 together with paragraphs [0020] to [0023],[0025],[0040] and [0041] of the published application.
- 1.2 The respondent submitted that the feature specifying:  
  
"wherein said union (62) is tapered"  
  
was not originally disclosed.
- 1.3 The appellant accepts that there is no explicit disclosure in the originally filed application that the union is tapered, but argued that it would be implicit for the skilled person in view of paragraph [0020] in combination with paragraph [0025] and paragraphs [0040] and [0041] of the published application in combination with figures 1 to 4.
- 1.4 The Board agrees with the appellant that the contested feature should not be considered in isolation, but that account should also be made of its intended purpose of providing a centering portion suitable for favouring the insertion of cap 4 on end 12 as indicated in paragraph [0040] of the published application. The skilled person is well aware that tapered surfaces are used in mechanical engineering for exactly this purpose when centering objects of cylindrical axial-symmetrical

cross-sections is required, in order to compensate for manufacturing tolerances and handling inaccuracies.

- 1.5 As pointed out by the respondent the only reference to a "union" is at paragraph [0041] of the published application which states:

"For example the centring portion 58 is obtained by a recess 60 on said cap, on the side of end 12, jointed to the closure element by a union 62."

- 1.6 The schematic illustration of figure 1 of the patent clearly shows a surface with reference sign 62 sloping outwards from the recess 60 of the centring portion 58.

- 1.7 When combining the information from figure 1 and paragraph [0041] with common general knowledge regarding the use of tapered surfaces for centring purposes, the skilled person would come to the inevitable conclusion that the union is tapered.

- 1.8 The provision of a centering portion 58 in combination with a tapered surface is a necessary feature of the device in order to obtain a centering effect in members of cylindrical axial-symmetrical section and is therefore, contrary to the view expressed by the respondent in section 2 of its letter of 16 March 2016, a deliberate result of technical considerations. In section 4 of its letter of 16 March 2016, the respondent acknowledges that the tapered union contributes to the technical effect of improved clamping of the cap.

- 1.9 The feature of the tapered union has also not been taken in isolation from the general disclosure, as alleged by the respondent, since claim 1 specifies all



salient details of the radiator element/cap combination. In particular, since paragraphs [0020] and [0025] specify that the end 12 to which the axial-symmetric cap is hydraulically sealed exhibits a cylindrical configuration, there is also no necessity to specify additionally that the subject-matter of claim 1 is of a circular configuration.

1.10 In its written submissions, the respondent also alleged that figures 3 to 5 of the patent were inconsistent with the representation of the tapered union shown in figure 1. However, figures 3 to 5 are intended to illustrate the steps of the manufacturing operation of the cap rather than present a detailed configuration of the radiator element and cap as in figure 1. There are no detailed features apparent in figures 3 to 5 which specifically rules out the presence of a tapered union.

1.11 Therefore, the subject-matter of claim 1 according to the main request meets the requirements of Article 123(2) EPC.

2. *Consideration of further grounds of opposition, Articles 100(a) and (b) EPC, Article 111(1) EPC*

2.1 The respondent requested in writing that, should any of the appellant's requests be found to meet the requirements of Article 123(2) EPC, that the case be remitted to the opposition division for further prosecution. The appellant on the other hand had no objections to the Board not remitting the case.

2.2 It is acknowledged that the contested decision is limited to a consideration of the objection of added subject-matter (Articles 100(c), 123(2) EPC), but that

the validity of the patent was also challenged under Article 100(a) EPC for lack of novelty and inventive step and Article 100(b) EPC for insufficiency of disclosure.

2.3 However, the Board provided the parties in due time with the summons to oral proceedings a full provisional opinion on these matters so that they could reply in writing or, in any case, be prepared to discuss all outstanding issues at the oral proceedings. The respondent did not react to the Board's provisional opinion and only informed the Board that it would not be attending the oral proceedings.

2.4 Under these circumstances, the Board considered it equitable, not only in the interests of procedural economy, but also since no additional complex issues have been raised, to use its powers under Article 111(1) EPC to examine the patent for compliance with Articles 54,56 and 83 EPC rather than remit the case to the opposition division for further prosecution. In particular, since the respondent has had adequate opportunity to present any further arguments in writing and has chosen not to be present at the oral proceedings, the requirements of Article 113 (1) EPC are met.

3. *Insufficiency of disclosure, Articles 100(b), 83 EPC*

3.1 The respondent had argued during the opposition proceedings that the skilled person would not be able to carry out the feature of the tapered union, since no instructions are provided in the patent as to the inclination of the tapered portion, its length or its starting and end points. During the appeal proceedings,

the respondent did not pursue the objection brought under Article 100(b) EPC.

3.2 In its summons the opposition division was of the opinion that the skilled person would have no difficulty in making a union tapered, since the meaning of the word "tapered" is clear, and figure 1 shows the skilled person how the feature can be executed.

3.3 The board agrees with this provisional assessment by the opposition division and would add that the inclination of the tapered portion, its length and starting and end points are parameters that the skilled person would select as a matter of routine design procedure as a function of the dimensions of the end 12 and the expected manufacturing and handling tolerances.

3.4 Thus, the invention is sufficiently disclosed and meets the requirements of Article 83 EPC.

#### 4. *Novelty, Article 54 EPC*

4.1 In the grounds of opposition, the respondent submitted that claim 1 as granted lacked novelty in view of GB699032 (A2) and US4582127 (A3). It also argued that A2 disclosed the subject-matter of dependent claims 4 and 7 as granted. Further, the respondent considered the subject-matter of claims 7, 9 and 10 to be common general knowledge.

4.2 A2 deals with the sealing of a tube plate 11 to the bottom of a radiator header tank 12. However, it does not disclose a coupling portion comprising a protuberance which has a truncated-cone pattern that tapers towards the associable cap, and a locking element abutting against an undercut of the end of the

radiator element and wherein the sealing element is an o-ring seal.

- 4.3 A3 also concerns the sealing of a bottom plate of a radiator water box. There is a separate clamping element 8 which is not part of the bottom plate. Sealing is obtained using a gasket 5 which is squeezed in the bottom of the groove 4 by a lower edge 6 of the water box 3 (see column 2, lines 6 to 11), in contrast to the device of the contested patent which relies on an O-ring pressed against the surface of a truncated cone.
- 4.4 The respondent has raised no other objections against novelty during the appeal proceedings.
- 4.5 Thus, the subject-matter of claim 1 is - as also indicated in the Board's communication annexed to the summons - novel with respect to A2 and A3. Also, none of the other available prior art documents cited during the opposition proceedings discloses all the features of claim 1. Hence, the requirements of Article 54 EPC are met.

5. *Inventive step, Article 56 EPC*

- 5.1 During the opposition procedure the respondent submitted that the subject-matter of claim 1 as granted lacked an inventive step in view of:

(i) DE 196 37324 (A4) in combination with A2; or

(ii) A4 in combination with EP1039257 (A7) or US4106655 (A8)

- 5.2 A4 concerns a crown cork style cap (see column 2, line 25 to 26) for temporarily closing a tube end opening of a radiator during leak testing and painting (see column 1, lines 5 to 14).
- 5.3 A7 relates to the brazing of end-caps on to cylindrical shaped header tanks. A8 discloses a cap for sealing a glass jar suitable for preserving vegetables and fruit (see column 2, lines 33 to 35).
- 5.4 Without the benefit of hindsight, there is no reason why the skilled person would seek to combine the teachings of A4, which concerns a temporary closure arrangement for a radiator, either with A7, which proposes a brazed connection, or A8 which is concerned with a sealing cap for food containers.
- 5.5 In any case, the non-permanent closure arrangement of A4 would not be a realistic starting out point for a device comprising a permanent closure arrangement as claimed in the disputed patent.
- 5.6 The respondent has raised no further objections concerning lack of inventive step during the appeal proceedings.
- 5.7 In conclusion, as indicated in the Board's communication annexed to the summons, the subject-matter of claim 1 of the main request is both new and involves an inventive step with respect to the available prior art and meets the requirements of Articles 54 and 56 EPC.
- 5.8 Dependent claims 2 to 6 relate to preferred embodiments of the device according to claim 1 and therefore, also meet the requirements of Articles 54 and 56 EPC.

## 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 with the order to maintain the patent as amended on the basis of the following documents:
  - claims 1 to 6 filed as the main request during the oral proceedings of 2 April 2019;
  - amended description, pages 2 to 4 filed during the oral proceedings of 2 April 2019;
  - figures 1 to 6 of the patent specification.

The Registrar:

The Chairman:



C. Spira

G. Ashley

Decision electronically authenticated