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D E C I S I O N
of 1 February 1996

Case Number: T 0641/94 - 3.2.1

Application Number: 81850063.9

Publication Number: 0039319

IPC: F16K 1/44

Language of the proceedings: EN

Title of invention:
Double seat valve

Patentee:
ALFA-LAVAL AB

Opponent:
Otto Tuchenhagen GmbH & Co. KG

Headword:
-

Relevant legal provisions:
EPC Art. 56, 104(1), 114(2)

Keyword:
"Late submitted material - admitted (no)"
"Inventive step (yes)"
"Costs - apportionment - oral proceedings - (yes)"

Decisions cited:
T 0204/83; T 0193/87

Catchword:
-



Case Number: T 0641/94 - 3.2.1

D E C I S I O N
of the Technical Board of Appeal 3.2.1
of 1 February 1996

Appellant: Otto Tuchenhagen GmbH & Co. KG
(Opponent) Am Industriepark 2-10
D-21514 Büchen (DE)

Representative: Glaeser, Joachim, Dipl.-Ing.
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Respondent: ALFA-LAVAL AB
(Proprietor of the patent) Box 500
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Representative: Vonnemann, Gerhard, Dr.-Ing.
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Decision under appeal: Interlocutory decision of the Opposition Division
of the European Patent Office posted 3 June 1994
concerning maintenance of the European patent
No. 0 039 319 in amended form.

Composition of the Board:

Chairman: F. A. Gumbel
Members: P. Alting van Geusau
G. Davies

Summary of Facts and Submissions

- I. The mention of the grant of European patent No. 0 039 319 in respect of European patent application No. 81 850 063.9 filed on 9 April 1981 was published on 4 September 1985.
- II. Notice of opposition was filed by the appellants on 3 June 1986 on the grounds of Article 100(a) EPC, in particular lack of novelty and lack of inventive step. The opposition was supported by the following documents:

D3: DE-C-354 818
E1: DE-B-2 523 202
E2: DE-A-2 916 182
E3: DE-A-2 532 838
E4: DE-A-2 623 301
E5: FR-A-1 590 865

and the documents filed after the nine-month period in accordance with Article 99 EPC:

E6: GB-A- 668 563
E7: FR-A-1 204 043

During the opposition proceedings the appellants also raised objections based on the grounds of Article 100(b) and (c) EPC.

In respect of an opposition filed by another party it was decided with decision T 193/87 on 13 June 1991 that this opposition was deemed not to have been filed.

III. By a decision which was given at the end of oral proceedings held on 16 March 1994 and posted in writing on 3 June 1994, the Opposition Division maintained the patent in amended form.

Claim 1 of the patent in amended form reads as follows:

"1. A double seat valve comprising a valve housing (11) having at least two openings for two conduits (1, 2) for fluid inlet and outlet, first and second coaxial valve seats (3a, 3b) disposed between said openings, first and second valve closure members (8, 9) each guided in said valve housing for coaxial movement relative to each other and to their respective valve seats (3a, 3b) between an open position and a closed position, realizing together in said closed position a double seal between said openings, said first closure member being a slide piston (8) having radial sealing means (4) disposed at an end portion thereof and adapted to abut during its opening movement against said second closure member (9) and to move the latter during further opening movement also into its open position, said first valve seat (3b) being cylindrical and adapted to sealingly receive said end portion of said slide piston (8) in said closed position, a leakage space (7) defined between said closure members (8, 9) in both the closed and the open position thereof, and a drain outlet (6) permanently connecting said leakage space (7) to the outside of the valve, characterized in that: the radial sealing means (4) of said slide piston (8) in said open position is surrounded by said second closure member (9), said second closure member (9) has at its end facing said slide piston (8) a recess (10) having a substantially cylindrical circumferential wall aligned with said cylindrical valve seat (3b), and said recess (10) is dimensioned to sealingly receive during opening movement said end portion and said radial sealing means

(4) of the slide piston (8) before said second closure member (9) opens, wherein said second closure member (9) has an axial seal (5) at the end surrounding said recess (10)."

The Opposition Division held that the amended patent did not contravene the requirements of Article 100(b) and (c) EPC. Considering the objection under Article 100(a) EPC the Opposition Division came to the conclusion that none of the cited documents disclosed a double seat valve having all the features of claim 1 and also that there was no suggestion derivable from the cited prior art which enabled the skilled person to arrive in an obvious manner at the subject-matter of this claim. In particular, the Opposition Division did not follow the appellants' interpretation of D3 in respect of the feature that one of the closure members had radial sealing means received in the second closure member.

The late-filed documents E6 and E7 were not considered relevant to the patent and therefore were disregarded under Article 114(2) EPC.

IV. The appellants filed an appeal against this decision on 15 July 1994. The appeal fee was paid on 21 July 1994. In the statement of grounds of appeal, which was filed on 29 September 1994, the appellants submitted that the patent should be revoked for lack of novelty and inventive step having regard to the disclosures in the documents E1 and D3.

The appellants offered an expert analysis of the disclosures of D3 in respect of the question whether the skilled person would derive from D3 that the radially protruding part of the actuated valve body formed a radial sealing surface with the bell shaped second valve member.

V. In preparation for oral proceedings requested by the appellants, the Board informed the parties with a communication dated 31 July 1995 of its provisional opinion.

It was noted by the Board that the appellants essentially argued that the content of D3 was misinterpreted by the Opposition Division and that, although revocation of the patent was requested for reasons of lack of novelty and inventive step, in fact only the objection concerning lack of inventive step on the basis of the combination of the disclosures of the documents E1 and D3 had been substantiated.

The Board was of the opinion that the functioning of the valve disclosed in D3 appeared to be unambiguous and no indication was derivable from this disclosure that there was a sealing engagement between the protrusion on the first conical valve member and the bell-shaped second valve member.

Furthermore, taking account of the disclosures of D3, a combination of E1 and D3 did not appear to be obvious and such a combination also would lead to the subject-matter of Claim 1.

Even if considering the other documents cited, no suggestion appeared to be derivable in the direction of the subject-matter of Claim 1 upheld by the Opposition Division.

In respect of the disclosures of the late-filed documents E6 and E7, the Board did not find these of particular relevance and therefore anticipated disregarding these documents in accordance with Article 114(2) EPC.

The communication contained a notice that any submission in preparation of the oral proceedings should be filed one month before the date of the oral proceedings.

VI. Oral proceedings were held on 1 February 1996 in the presence of the respondents' representative. Although duly summoned, the appellants were not present at the oral proceedings.

At the oral proceedings the respondents filed an amended description, comprising pages 1 to 3 and columns 2 to 4. They requested that the appeal be dismissed and that the patent be maintained on the basis of the claims as amended by the opposition division with the amendments to the description as filed at the oral proceedings. It was further requested that an apportionment of the costs of the oral proceedings be decided in favour of the respondents in view of the fact that the appellants (opponents) had failed to appear thereat, without giving notice and in spite of having requested such proceedings.

Inquiries as to why the appellants' representative had not appeared or whether he might have given notice of his non- appearance at the oral proceedings gave the following results:

- (a) no letter or fax from the appellants with a filing date later than the filing date of the statement of grounds of appeal was present in the file,
- (b) no fax from the appellants had been received in the registry of the Boards of Appeal or in the EPO central registry in Munich up to the date of the oral proceedings,

- (c) in a telephone call made by the formalities officer of the Board at 9.20 h on 1 February 1996, the representative's secretary declared that the appellants' representative was present in his office but, because of a meeting, was not available to give any further explanations. According to the secretary, the appellants were not any longer interested in pursuing the opposition. The secretary further declared that no fax to that effect addressed to the EPO was present in the representative's file on the present case,
- (d) the respondents' representative declared at the oral proceedings that he had received a letter dated 21 December 1995 from the appellants' representative notifying him that the appellants had lost interest in the case and offering to withdraw the opposition on condition that the appellants were given a free licence to the patent in suit. Furthermore, in a fax from the appellants themselves, dated 16 January 1996, the appellants requested that they be informed in due time, because of the appointed date of oral proceedings, whether the proposed arrangement had been accepted (copies of these documents were filed at the oral proceedings).

In respect of the non-appearance of the appellants' representative at the oral proceedings, no notice had been given to the respondents.

VII. The appellants requested setting aside of the decision under appeal and revocation of the patent. Their written submissions in support of these requests may be summarised as follows:

In respect of the late cited document E7, the decision under appeal contained no convincing reasons as to why this document was not relevant and therefore the appellants still relied on this document. The appellants' reasons submitted in support of the interpretation of D3 that this document implicitly disclosed a radial sealing engagement of the conical valve member and bell-shaped second valve member had also not been sufficiently appreciated.

Considering the functioning of the valve disclosed in D3, it would be immediately apparent to the skilled person that the radial protrusion of the conical valve member could only be intended to act as a seal between the conical valve member and the bell-shaped second valve member and not as a further guide surface for the conical valve member. In this respect also the fact that the bell-shaped valve member had an inner protruding ring form clearly suggested a sealing surface for engagement with the radially protruding ring surface of the conical valve member. A further obvious reason for such sealing engagement was the need to prevent mud entering the space between the conical valve member and bell-shaped valve member. It was true that a spacing between the conical valve member and the bell shaped valve member was shown in the drawings of D3; however, this should not necessarily be interpreted as a clearance without sealing function, since also in E1 the sealing surfaces of the valve members are depicted with an exaggerated clearance between them.

When starting from the prior art disclosed in E1, the skilled person would find further details in D3 to arrive in an obvious manner at the valve claimed in Claim 1 of the amended patent and therefore the claimed valve lacked an inventive step.

VIII. The respondents contested the appellants' views. Their submissions in writing and presented orally during the oral proceedings may be summarised as follows:

It was clear from the disclosure of E7 that this document did not concern a double seat valve and was therefore not relevant to the valve claimed in the amended patent, which fact was correctly stated by the opposition division. The appellant also had a wrong understanding of the valve disclosed in D3. The valve in D3 indeed had two seats but neither of these seats was a radial seat with corresponding radial sealing means and nowhere was it suggested that there might be such a seal between the two closure members. On the contrary, it was immediately clear for the skilled person that for its proper functioning no seal was necessary because there was no danger of mud entering the clearance gap between the two valve members. Both the pressure of the flushing medium and the increased fluid speed past the opened valve effectively prevented the mud from entering the space between the valve members.

Even if the skilled person would be led to transfer constructional details of the mud valve in accordance with D3 to the valve disclosed in E1, such combination would not lead to the valve as claimed in the amended patent since D3 did not disclose or hint at the use of a single radial sealing surface for engagement with either the cylindrical wall or second closure member in the closed or open position of the valve, respectively.

In the present case, the oral proceedings had been arranged in response to a request from the appellants only who, without giving notice, did not appear at the oral proceedings. In view of the preliminary opinion of the Board set out in the communication dated 31 July 1996, the case could have been dealt with in writing,

had the appellant given notice in time that he would not appear at the oral proceedings. The costs incurred by the respondents in relation to the oral proceedings were therefore the immediate consequence of the appellants' behaviour and for reasons of equity the respondents should have their costs reimbursed by the appellants.

Reasons for the Decision

1. The appeal is admissible.

2. *Amendments*

2.1 The amended claim 1 is based on the granted claims 1 and 5 (partially) and contains further features and clarifications disclosed in relation to the preferred embodiment of the double seat valve depicted in Figure 1 of the patent and patent application as originally filed.

The dependent claims 2 to 4 and 6 to 11 are repetitions of the granted claims 2 to 4 and 6 to 11 and the amended claim 5 contains the remaining features of the granted claim 5, i.e. the features of the granted claim 5 which have not been transferred to the amended claim 1. The subject-matter of this dependent claim is also supported by the disclosure of the preferred embodiment of the double seat valve.

No objections under Article 123(2) or (3) EPC arise against the set of claims upheld by the opposition division.

Since in the appeal proceedings the appellant no longer disputed that the subject-matter of the claims was supported by the originally-filed application documents, there is no need for detailed substantiation of such support.

- 2.2 The amendments to the description essentially concern the insertion of commentaries on the prior art documents E1 and D3 and a reformulation of the problem to be solved by the patent in suit as well as an adaptation of the statement of the invention to the subject-matter now claimed. These amendments comply with the requirements of Rule 27(b) and (c) EPC and do not give rise to objections either.

3. *Novelty*

Novelty of the subject-matter of claim 1 follows from the fact that none of the cited documents discloses a double seat valve in accordance with the precharacterising part of this claim which additionally has a sliding piston part with radial sealing means forming, in the closed position of the valve, one of the double valve seats and which before the valve is opened is sealingly received in a recess in the second closure member.

It is to be noted that the appellant requested revocation of the patent on the grounds of lack of novelty and inventive step but neither the notice of appeal nor statement of grounds of appeal contain reasons which could be considered to substantiate the objection as to lack of novelty.

4. *Inventive step*

- 4.1 The closest prior art is disclosed in E1 on which the precharacterising part of the amended claim 1 is based.

In certain processes, such as in the brewery and dairy industries, it is essential to separate connected conduits containing different products or aggressive cleaning liquids to reliably prevent intermixing of the products as well as to avoid unnecessary product losses. Such conditions are met by the valve disclosed in E1 but opening of the valve is slow due to the distance the valve assembly has to move. In fact the valve opens only after the second piston valve part 5 is moved far enough to free the opening of the bore 4.

The problem to be solved by the patent in suit can be seen in the provision of a double seat valve which besides leakage-free operation permits a quick actuation (see page 2 last paragraph of the amended description).

- 4.2 This aim is solved by the combination of features of the amended claim 1 of the patent in suit. Rather than, as is the case in the construction of E1, simply having an abutment of the two valve closure members during the opening movement of the double seat valve, in accordance with the patent in suit the radial sealing means of the first closure member 8 moves from the valve seat 3b into a recess provided at the end face of the second closure member 9 and opening of the valve is effected by moving the two closure members in unison so that the axial seal 5 of the second closure member is lifted from its valve seat 3a.

- 4.3 None of the cited documents discloses such a valve construction or can be considered to give a lead to the incorporation of the characterising features in a valve in accordance with E1.
- 4.4 In accordance with the case law of the boards of appeal, subject-matter that is not explicitly disclosed but which the skilled person is able to derive implicitly from a prior art document belongs also to its disclosure (see for example T 204/83, OJ. EPO 1985, 310). Moreover, when deriving features solely from drawings, only those features which are clearly and unmistakably derivable in terms of structure and function belong to the implicit disclosure of the prior art document.

Considering what can be derived from D3, it is to be noted that the function of the protruding ring portion on the conical valve member in Figures 1 and 2 is not described in this document. When applying the above principles to derive a possible technical teaching from the valve construction shown in Figures 1 and 2, the Board is of the opinion that nothing suggests that there is a sealing engagement between the protruding ring portion on the conical valve member 2 with the reentrant or shouldered portion of the bell-shaped second valve member 3. Firstly, the reentrant portion is substantially smaller than the height of the ring portion and, secondly, even if there is a small gap between the ring portion and the bell-shaped second valve member there is no danger that mud would enter the space 8 between the two valve members. As was convincingly submitted by the respondent, this space is pressurised for flushing the valve and even if the flushing medium is switched off when the valve is open, the gap lies in an area which in relation to the flow past the valve seat is an area of high pressure due to the dynamic flow properties of the out-streaming mud.

4.5 Even assuming that the skilled person would be led by D3 to consider telescoping valve members, combining such a teaching with E1 is not obvious because the mud valve disclosed in D3 is not compatible with a valve of the type disclosed in E1, which is primarily used in the brewery and dairy product industries. Anyway such a combination would not result in a double seat valve in accordance with claim 1 of the amended patent since the sealing means of the first closure member (conical valve part in D3) would not be sealingly received by the second closure member (the bell-shaped valve member of D3). For this reason also D3 cannot be considered to give any lead to the adoption of the characterising features of claim 1 in a double seat valve in accordance with E1.

4.6 Summarising, in the Board's judgment, the proposed solution to the technical problem underlying the patent in suit defined in the independent claim 1 is inventive and therefore this claim as well as its dependent claims relating to particular embodiments of the invention in accordance with Rule 29(3) EPC, can form the basis for maintenance of the patent (Article 52(1) EPC).

The amended description and granted drawings are in agreement with the wording and scope of the current claims. Hence these documents are also suitable for maintenance of the patent in amended form.

Thus taking into account the amendments made by the respondent, the patent and the invention to which it relates meet the requirements of the EPC and the patent as amended is to be maintained in this form (Article 102(3) EPC).

5. *Request for apportionment of costs*

5.1 In the present case oral proceedings were held in response to an auxiliary request filed by the appellant only.

Although the appellant was duly summoned to attend the oral proceedings and, as follows from the enquiries made by the Board (see point VI above), was indeed well aware that oral proceedings would take place on the date notified to them, no prior notice was received by either the Board or the respondents of the appellants' intended non-appearance at the oral proceedings.

5.2 In the Board's opinion this behaviour substantially increased the respondents' costs because, as will be clear from the foregoing considerations in respect of patentability, only minor amendments to the description were necessary to bring the amended patent into a form in which it could be upheld, and these amendments could easily have been dealt with in writing.

5.3 Under these circumstances, the Board considers that reasons of equity require an apportionment of costs in the respondents' favour in accordance with Article 104(1) EPC. In the Board's judgement the appellants should reimburse all the respondents' costs incurred in connection with the oral proceedings, excluding the representative's preparation therefor.

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the first instance with the order to maintain the patent with the following documents:

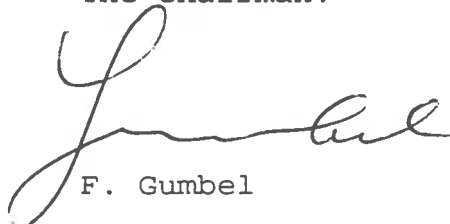
Claims 1 to 11 as maintained by the Opposition Division, description as filed during the oral proceedings; drawings (Figures 1 to 3) as granted.
3. The costs of the respondents incurred in connection with the oral proceedings, excluding the representative's preparation therefor, are to be borne by the appellants.

The Registrar:



S. Fabiani

The Chairman:



F. Gumbel

