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File Number: T 237/89 - 3.2.3
Application No.: 82 108 748.3
Publication No.: 0 077 472
Title of invention: Structural water seal trough

Classification: F16J 15/14, F23J 1/08

D E C I S I O N
of 2 May 1991

Proprietor of the patent: Combustion Engineering, Inc.
Opponent: Deutsche Babcock Aktiengesellschaft

Headword: Water seal trough/Combustion Engineering
EPC Articles 56, 114(2)
Keyword: "Alleged prior use brought forward too late and not
in a complete proven form" - "Subject-matter of
alleged prior use irrelevant to maintenance of the
patent"

Headnote



Case Number : T 237/89 - 3.2.3

D E C I S I O N
of the Technical Board of Appeal
of 2 May 1991

Appellant :
(Opponent)

Deutsche Babcock
Aktiengesellschaft
Duisburger Str. 375
Postfach 100347-48
D-4200 Oberhausen 1 (DE)

Representative :

Respondent :
(Proprietor of the patent)

Combustion Engineering, Inc.
1000 Prospect Hill Road, Box 500
Windsor, Connecticut
06095-0500 (US)

Representative :

Gross, Gernot K.
Kleiberweg 5
D-6200 Wiesbaden (DE)

Decision under appeal :

Decision of the Opposition Division of the
European Patent Office dated 17 January 1989
rejecting the opposition filed against European
patent No. 0 077 472 pursuant to Article 102(2)
EPC.

Composition of the Board :

Chairman : C.T. Wilson
Members : H. Andra
L.C. Mancini

Summary of Facts and Submissions

- I. European patent No. 0 077 472 was granted on 23 July 1986 on the basis of European patent application No. 82 108 748.3.
- II. The Appellant (Opponent) filed an opposition against the European patent on 22 April 1987 requesting that it be revoked on the grounds of lack of inventive step in the light of the following documents:

(D1) US-A-3 915 105
(D2) DE-C-1 930 432.
- III. By its decision dated 17 January 1989 the Opposition Division rejected the opposition pursuant to Article 102(2) EPC.
- IV. The Appellant appealed against this decision on 17 March 1989, paying the appropriate fee on the same day and filing the grounds for the appeal on 13 May 1989. This statement of grounds referred to two new documents which additionally to D1 and D2 should be taken account of, namely:

(D3) Drawing No. 1128639.3 of 12 February 1974
(D4) Drawing No. 1228604.4 of 15 July 1978.

The Appellant stated that the ash discharging devices illustrated in these drawings have been delivered each to a respective power station in 1974 and in 1978, respectively. The delivery of the said devices would have been effected by the "Deutsche Babcock & Wilcox AG, Oberhausen" and the "Deutsche Babcock AG, Oberhausen", respectively, without any obligation as to secrecy. Having

regard to these statements the testimony of a witness was offered. The Appellant argued essentially that Claim 1 of the patent in suit contained only features known from the prior art discussed in the statement of grounds of appeal. It could not be regarded as inventive to provide an ash discharging device comprising a water trough into which a plate means immerses, additionally with seal means which are movable by a lifting device into and out of engagement.

- V. In a communication dated 20 February 1991 the Board gave its provisional opinion having regard to the relevance of documents D1 to D4. It was pointed out that documents D3 and D4 have been filed after expiry of the time limit granted for filing the notice of opposition in a written reasoned statement, i.e. only in the appeal proceedings. Reasons were given why documents D3 and D4 are not considered to invalidate Claim 1 of the patent. It was concluded in the communication that these documents would probably be disregarded under Article 114(2) EPC, and that a success of the appeal was not to be expected.
- VI. In response to the communication from the Board, the Appellant conceded that the combination of features contained in Claim 1 had neither been described in any of the revealed documents nor been applied with any of the opposed ash discharge devices. Having regard to inventive step, however, he argued that a combination of features disclosed in D3 and D4, respectively, would lead to the subject-matter of Claim 1 without an inventive activity being required.

The Appellant requests cancellation of the decision against which he is appealing and revocation of the European patent.

VII. The Respondent (proprietor of the patent) has not filed any submissions in answer to the statement setting out the grounds of appeal sent to him with the letter dated 23 May 1989. In the opposition proceedings he expressed, however, with the letter filed on 10 February 1988, that he does not desire to either request that the patent be revoked or to change the text in which the patent was granted.

Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and Rule 64 EPC and is admissible.
2. **Amendments**
 - 2.1 Claim 1 of the patent is based on originally filed Claim 1. The wording of original Claim 1 "... seal means between the trough and tank which completely surround the open upper end of the tank, and adjustable means ..." has been replaced by the wording "seal means are provided between the trough and tank which completely surround the open upper end of the tank together with adjustable means ...". The substance of the present wording of Claim 1 can be derived from page 3, paragraph 2 in combination with Figures 1 and 2 of the original description and drawings, respectively. The claim has been limited thereby to the further feature that also the adjustable means for moving the seal means into and out of tight sealing engagement between the trough and the tank surround the open upper end of the tank.
 - 2.2 Claim 2 of the patent is based on originally filed Claim 2 incorporating additionally the feature that the adjustable means is capable of moving the gasket into and out of

tight sealing engagement with the trough. This feature can be derived from page 3, paragraph 2 of the originally filed description.

- 2.3 The claims meet the requirements of Article 123(2) EPC. They are also clear and comply with the requirements of Article 84 EPC.

The reference in the first line of Claim 2 of the English version should obviously read "2. The combination set forth in Claim 1, charac-".

3. Novelty

After examination of the cited prior art including the documents D3 and D4 concerning the alleged public prior use, the Board is satisfied that the subject-matter of Claim 1 is novel. Since this has never been disputed by the Appellant there is no need for further detailed substantiation of this matter.

4. Inventive step

- 4.1 Documents D1 and D2 each disclose an ash discharge arrangement according to the precharacterising portion of Claim 1.

The arrangement shown in D1 comprises a water-filled trough intermediate the furnace bottom and the water-filled tank with plate means secured to the furnace bottom and extending down into the water in the trough, thus forming a water seal. During maintenance of the ash discharge device the scraper-conveyor unit submerged in the water-filled tank must be removed which is, however, time-consuming due to the period required for cooling the unit and unbolting the seal plate.

The arrangement described in D2 comprises a water-filled trough into which plate means secured to the furnace bottom extend, the trough being supported from the furnace or from the tank.

The sealing between the furnace and the tank is effected by the lower part of a telescopic shaft which can be lifted to allow the tank to be moved away from beneath the furnace. Thus, a lifting device for lifting or lowering the telescopic sealing shaft on removal of the submerged scraper-conveyor unit for maintenance is required which increases constructional and financial expenditure.

The problem to be solved by Claim 1 of the invention with regard to the above-cited prior art can, therefore, be seen in providing an ash discharge arrangement which is structurally simple and allows the scraper-conveyor unit to be quickly removed from beneath the furnace when the arrangement is shut down for maintenance.

4.2 In an ash discharging arrangement as discussed above, the following features according to Claim 1 are provided to solve the inherent problem:

- (a) The trough is supported from the bottom independently of the tank
- (b) seal means are provided between the trough and the tank
- (c) the seal means completely surround the open upper end of the tank together with adjustable means for moving the seal means into and out of tight sealing engagement between the trough and the tank.

The solution provides for structural simplicity, since a lifting device for lifting a sealing shaft as used in the arrangement of D2 can be dispensed with. Furthermore, quick removal of the scraper-conveyor unit for maintenance is arrived at by actuating the adjustable means for moving the seal means out of tight sealing engagement between the trough and the tank. The inherent problem is, therefore, credibly solved by Claim 1.

- 4.3 If the skilled person envisaged a combination of the teachings of D1 and D2, in order to find an appropriate solution to the underlying problem, he would have to take account of the principle taught by D2, i.e. to arrange the water-filled trough shown in D1 such that, by a lifting device, it is displaced downwards to effect sealing and upwards to allow the tank to be moved away from underneath the furnace.

According to Claim 1, however, it is the sealing means which are displaced upwards and downwards, respectively, to come into and out of sealing engagement (cf. above features (b) and (c)) and the trough is kept stationary, being supported from the bottom independently of the tank (cf. above feature (a)). Hence, the teaching of Claim 1 proceeds in a different direction as compared with that of D1 or D2 and it is not, therefore, obvious from these citations.

- 4.4 The Appellant has not given any reasons which would justify the filing of the alleged prior use for the first time after expiry of the time limit granted for filing the notice of opposition, i.e. only together with the statement of grounds of appeal. The Appellant has delivered at least one of the ash discharge devices himself, as he states, and must, therefore, have been aware of this alleged prior public use already within the

period for filing the notice of opposition. In the absence of such reasons which would justify the filing of grounds after the period granted for filing opposition, the subject-matter of the alleged prior use must be regarded as having been late filed. Furthermore, the Appellant should have presented his arguments in a complete form with proven facts which he has not done. In particular in a case such as the present one where in a late phase of the proceedings a new line of argumentation has been adopted, the submission of unproven grounds must be regarded as an unreasonable demand vis-à-vis the Respondent, leading possibly to a further delay of the proceedings.

According to Article 114(1) EPC, the EPO shall examine the facts of its own motion which requires an examination of the late-filed submission as to its relevance.

- 4.4.1 Assuming that the ash discharge devices shown in D3 and D4 have been the subject of a public prior use as alleged by the Appellant, the examination of their relevance by the Board leads to the following result:

D3 does not show a water-filled trough positioned intermediate the furnace bottom and the tank and, consequently, no seal means are provided between a trough and the tank; furthermore, the means arranged between the upper end of the tank walls and a hood-like element extending downwards from the furnace bottom which means may be regarded as seal means, do not surround the open upper end of the tank together with adjustable means for moving the seal means into and out of tight sealing engagement between the trough and the tank, i.e. between the structures to be sealingly connected. Even if such sealing contact may be obtained by a device for lifting the tank, as alleged to be shown in D3, by the Appellant,

but not visible in D3 in combination with the tank, a tank lifting device cannot be regarded as adjustable means which together with the seal means completely surround the upper end of the tank for moving the seal into and out of sealing engagement, as seen both in the light of the mere wording of this feature and in the interpretation of the adjustable means by the description and drawing of the patent.

D4 shows a water-seal arranged between the tank and a shaft element being connected with its upper end to the water-filled trough and extending with its lower end into the tank. Thus, no seal means with corresponding adjustable means in the sense of Claim 1 of the patent are provided.

- 4.4.2 The skilled person would not be led to combine the teaching of D3 with that of D4, since these drawings deal with different sealing types with regard to the tank, namely a mechanical seal means and a water-type seal means, respectively.

If the skilled person envisaged nevertheless a combination of these different arrangements, he would not arrive at the subject-matter of Claim 1 because D3 and D4 do not suggest to provide seal means between the trough and the tank such that the seal means completely surround the open upper end of the tank together with adjustable means for moving the seal means into and out of engagement.

- 4.4.3 The Board comes, therefore, to the conclusion that the subject-matter of the late-filed evidence is not relevant in the sense that it can prejudice the maintenance of the patent. Under these circumstances, it is superfluous to investigate whether the subject-matter shown in D3 and D4

has in fact been made accessible to the public before the priority date of the patent.

For the reasons given above, the Board disregards the documents D3 and D4 under Article 114(2) EPC.

- 4.5 Neither the documents revealed in the opposition and appeal proceedings nor those cited in the search report can guide a skilled person towards the solution given in Claim 1. Therefore, the subject-matter of Claim 1 involves an inventive step within the meaning of Article 56 EPC.
5. Since Claim 1 is allowable, the dependent Claim 2, which relates to a particular embodiment of the invention, is also allowable.

Order

For these reasons, it is decided that:

The Appeal is dismissed.

The Registrar:



N. Maslin

The Chairman:



C.T. Wilson