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File Number: T 617/90 - 3.2.1
Application No.: 89 300 891.2
Publication No.: 0 331 287
Title of invention: Dispenser for dispensing cryogenic liquid

Classification: F17C 9/00, B65B 31/00

D E C I S I O N
of 27 March 1991

Applicant: Air Products and Chemicals Inc.

EPC Articles 52(1) and 54

Keyword: "Novelty (yes) - Prior art apparatus not suitable for claimed use"

Headnote



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Boards of Appeal

Chambres de recours

Case Number : T 617/90 - 3.2.1

D E C I S I O N
of the Technical Board of Appeal 3.2.1
of 27 March 1991

Appellant : Air Products and Chemicals Inc.
P.O. Box 538
Allentown
Pennsylvania 18105 (US)

Representative : Lucas, Brian Ronald
Lucas, George & Co.
135 Westhall Road
Warlingham
Surrey CR3 9HJ (GB)

Decision under appeal : Decision of Examining Division 089 of the
European Patent Office dated 10 April 1990
refusing European patent application
No. 89 300 891.2 pursuant to Article 97(1) EPC.

Composition of the Board :

Chairman : F. Gumbel
Members : S. Crane
M. Schar

Summary of Facts and Submissions

I. European patent application No. 89 300 981.2, filed on 30 January 1989 with priority claimed from United Kingdom application GB-8 804 760 dated 29 February 1988, was refused by a decision of the Examining Division dated 10 April 1990.

II. This decision was based on Claims 1 to 11 filed on 4 December 1989 of which independent Claims 1 and 9 read as follows:

"1. A dispenser (1) for dispensing slugs of cryogenic liquid to bottles or cans on a bottling or canning line, which dispenser (1) comprises a vessel (2) for holding cryogenic liquid, and a dispenser tube (10) associated with said vessel, characterized in that means (11) are provided for heating cryogenic fluid in said dispenser tube (10) whilst said dispenser (1) is in use."

"9. A method for dispensing slugs or cryogenic liquid from a dispenser (1) having a dispenser tube (10) to bottles or cans on a bottling or canning line, characterized in that said method comprises the step of heating said dispenser tube (10) to produce film boiling on the inner surface thereof."

Dependent Claims 2 to 8 and 10 and 11 relate to preferred features of the dispenser according to Claim 1 or the method for dispensing according to Claim 9 respectively.

III. The ground for the decision was that the subject-matter of Claim 1 lacked novelty with respect to

D1: Patent Abstracts of Japan, Vol. 8, No. 83 (M-290)
[1520], April 17, 1984,

and that the claim was accordingly unallowable having regard to Articles 52(1) and 54 EPC.

As for the subject-matter of independent Claim 9 the decision states that the question of whether or not this meets the requirements of novelty and inventive step has been held in abeyance.

- IV. A notice of appeal against this decision was filed on 6 June 1990 with instructions being given to debit the appeal fee from the Appellants' account. The statement of grounds of appeal was filed on 20 June 1990.

Together with their letter of 18 May 1990 and again with the statement of grounds the Appellants also filed a translation into English of the whole of the document

D1': JP-A-59 1899

the abstract of which had been considered by the Examining Division.

According to the Appellants the Examining Division has erred in its finding that the prior art dispenser is suitable for dispensing slugs of cryogenic liquid as required by Claim 1 and therefore anticipates this claim.

In the event of the Board proposing to take a decision which is unfavourable to the Appellants they request oral proceedings.

Reasons for the Decision

1. The appeal complies with Articles 106 to 108 and Rule 64 EPC and is, therefore, admissible.

Although the notice of appeal does not specifically state the extent to which amendment or cancellation of the decision under appeal is requested, it is apparent by implication that the Appellants seek the setting aside of the decision in its entirety and the grant of a patent on the basis of the currently valid application documents. Following decision T 7/81 (OJ EPO 1983, 98) the Board therefore takes the view that the requirement of Rule 64(b) is met.

2. The Board has studied the documents D1 and D1' and is of the opinion that the former is a fair and accurate summary of the latter. However, although the decision under appeal is based solely on document D1 the Board will for completeness take document D1' as the basis for its analysis since clearly a finding of novelty with respect to the more comprehensive teachings of document D1' will also hold true with respect to document D1.
3. Document D1' discloses a dispenser for dispensing cryogenic liquid to open-topped containers, in particular cans, on a container filling line.

The dispenser comprises an insulated supply tank for the cryogenic liquid, in particular liquid nitrogen, the tank having an outlet controlled by a needle valve. When the outlet valve is open the cryogenic liquid flows into a sintered metal receiver through which it percolates. The cryogenic liquid issuing from the sintered metal receiver is in the form of a stable continuous fine flow which enters a curved dispenser tube arranged such that the flow

leaves the tube in an inclined or preferably almost horizontal direction with a speed generally equivalent to that of the containers passing on the filling line. The dispenser tube is provided with a heater arranged to cause film boiling of the cryogenic liquid passing through the dispenser tube, whereby the film of vapour acts as a lubricant for the liquid. It is made clear in document D1' that the purpose of the sintered metal receiver is to smooth out variations in the flow of cryogenic liquid from the outlet valve.

The introductory description of the present application contains a general discussion of the prior art relating to the dispensing of small quantities of cryogenic liquid to containers on a filling line immediately prior to closure of the containers. The known dispensers fall into two classes: Firstly, the cryogenic liquid can be dispensed in a continuous stream. This technique is useful when the containers are of uniform diameter with closely adjacent openings since then the wastage of cryogenic liquid is relatively small. Secondly, it has also been proposed, for use for example with necked beer bottles, to drop a discrete slug of cryogenic liquid into each bottle. This eliminates the wastage that would be associated with using a continuous stream of cryogenic liquid. There are on the other hand problems associated with obtaining the slugs in the required form.

It is apparent that the dispenser of document D1' belongs to the first of these classes whereas the dispenser claimed in present Claim 1 belongs to the second class. The Examining Division has however argued in its decision to the effect that since the quantity of cryogenic liquid in a slug is undefined then any quantity dispensed in normal operation of the prior art dispenser between successive opening and closing of the outlet valve could

also be considered as constituting a slug within the meaning of present Claim 1. The Board cannot accept this proposition since the present application makes it perfectly clear that what is meant by a slug is the relatively small quantity of cryogenic liquid required to be dispensed into each container. It is also apparent that the claimed dispenser must be capable of dispensing these slugs at a rate normally associated with the passage of the containers on the filling line. The prior art dispenser is not however capable of being operated in this way since the very purpose of providing the sintered metal receiver in the flow path of the cryogenic liquid is to even out inconsistencies in the flow of the liquid from the outlet valve. Thus, if this valve were opened and closed intermittently at the required frequency then the flow from the sintered metal receiver through the heated dispensing tube to the containers would not be in the form of discrete slugs as required by present Claim 1 but instead be continuous.

Having regard to the above the Board comes to the conclusion that the dispenser according to Claim 1 is novel with respect to the state of the art shown in document D1'. The decision under appeal must therefore be set aside.

4. Although the subject-matter of independent method Claim 9 has not been considered in the contested decision the Board points out for completeness that, for reasons analogous to those given above with respect to Claim 1, Claim 9 is also not objectionable for lack of novelty with respect to document D1'. The same is also true with respect to the further document

D2: EP-A-225 780

relied upon by the Examining Division in its communications preceding the issue of the contested decision. This document is concerned in general terms with the transfer of a cryogenic liquid to a point of use and in no way with the dispensing of slugs of the cryogenic liquid.

5. The Examining Division has not yet considered the question of the inventive step of the subject-matter of Claims 1 and 9 with respect to the prior art. In order not to deprive the Appellants of the opportunity to argue this matter before two instances the Board has therefore decided by virtue of its powers under Article 111(1) EPC to remit the case to the Examining Division for further prosecution.
6. As for the subsidiary request of the Appellants for oral proceedings the decision to remit the case to the Examining Division is not unfavourable within the sense of that request and accordingly oral proceedings were not necessary.

Order

For these reasons, it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the Examining Division for further prosecution on the basis of the following documents:

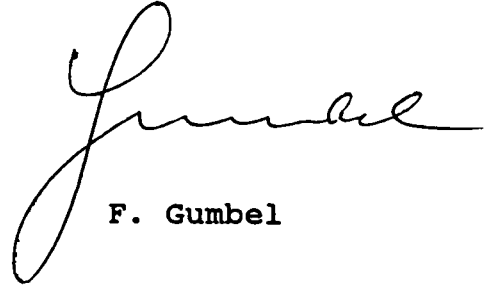
Claims 1 to 11 filed on 4 December 1989;
Description pages 1 to 8 filed on 4 December 1989;
Sheet 1/1 of the drawings as originally filed.

The Registrar:



S. Fabiani

The Chairman:



F. Gumbel

