

A		B		C	
---	--	---	--	---	--

File Number: T 418/92 - 3.2.3

Application No.: 89 117 081.3

Publication No.: 0 423 377 A1

Title of invention: Method of and apparatus for drying articles

Classification: F26B 5/04; F26B 21/12

D E C I S I O N  
of 10 March 1993

Applicant: International Business Machines Corporation

Headword:

EPC Articles 84, 56; Rule 67

Keyword: "Clarity of "method" claim (yes); inventive step (yes);  
reimbursement of appeal fee (no)"



Case Number : T 418/92 - 3.2.3

**D E C I S I O N**  
of the Technical Board of Appeal 3.2.3  
of 10 March 1993

**Appellant :** International Business Machines Corporation  
Old Orchard Road  
Armonk, New York, 10504 (US)

**Representative :** Klocke, Peter, Dipl.-Ing.  
IBM Deutschland Informationssysteme GmbH  
Patentwesen und Urheberrecht  
Pascalstrasse 100  
W-7000 Stuttgart 80 (DE)

**Decision under appeal :** Decision of the Examining Division 073 of the  
European Patent Office dated 1 April 1992  
refusing European patent application  
No. 89 117 081.3 pursuant to Article 97(1) EPC.

**Composition of the Board :**

**Chairman :** C.T. Wilson  
**Members :** H. Andrä  
W. Moser

### Summary of Facts and Submissions

- I. European patent application No. 89 117 081.3, filed on 15 September 1989 and published on 24 April 1991 under No. 0 423 377 A1, was refused by a decision of the Examining Division dated 1 April 1992.
- II. The decision was based on Claim 1 according to Requests I, II and III filed on 30 July 1991, Claims 2 and 5 to 15 filed on 19 June 1990 and Claims 3 and 4 filed on 1 July 1991.  
  
The reason given for the refusal was that the subject-matter of Claims 1 to 9 was not clear in the meaning of Article 84 EPC.
- III. On 15 April 1992, the Appellant (Applicant) filed a notice of appeal against this decision together with the Statement of Grounds of Appeal. The appeal fee was paid on the same day.
- IV. In a communication pursuant to Article 110(2) EPC dated 8 January 1993 the Board expressed a provisional opinion that Claim 1 of the category "method" according to Request I filed with the letter of 29 July 1991 appeared to comply with the requirements of the EPC. As to Claim 10 of the category "apparatus" filed with the Statement of Grounds of Appeal, an objection was raised by the Board to the drafting of this claim in the one-part form, and it was considered appropriate to delimit Claim 10 over the prior art apparatus described in the document FR-A-2 247 388 in accordance with Rule 29(1) EPC. Appropriate amendment to the description was also suggested.
- V. By letter of 2 February 1993, received on 4 February 1993, the Appellant filed new Claims 1 to 15 and new pages 1, 2, 2a and 4 of the description.

The Appellant, by implication, requests grant of a patent on the basis of these documents, together with pages 3 and 5 to 10 of the original description and sheet 1/1 of the drawings filed with letter of 17 January 1990, received on 20 January 1990.

Furthermore, the Appellant requests that the appeal fee be reimbursed.

VI. The effective Claim 1 reads as follows:

"1. Method for drying articles, comprising the steps of:

positioning said articles in a process chamber (14);

generating a partial vacuum in a closed vacuum storage (16, 30);

instantaneously connecting said vacuum with said process chamber thereby generating an air blast across said article; and

repeating if necessary the previous steps of generating said partial vacuum and instantaneously connecting said vacuum storage until the desired dryness is accomplished."

The effective Claim 10 reads as follows:

"10. Apparatus for drying articles, comprising

a process chamber (14) in which said articles (18) are located, said process chamber having air inlet openings (34) distributed over its transverse sectional area and at

least one air outlet opening (26) positioned opposite said inlet openings,

characterized by

a partial vacuum storage tank (16, 30) which is connected to the interior of said chamber via said outlet opening; and

a valve means (28) closing the entire outlet opening and being adapted to open instantaneously said entire outlet opening."

#### Reasons for the Decision

1. The appeal complies with the requirements of Articles 106 to 108 and Rule 64 EPC and is admissible.
2. Amendments (Article 123(2) EPC)

Claim 1 is a combination of the features of originally filed Claim 1 and the disclosure of page 2, last paragraph, to page 4, paragraph 2, and page 9, paragraph 2 of the originally filed description.

Claims 2 to 9 correspond to originally filed Claims 2 to 9.

Claim 10 is based upon the features of originally filed Claim 10. Having regard to the term "valve means" in Claim 10, the originally filed description discloses in the paragraph bridging pages 2 and 3 that the method of drying articles uses a partial vacuum in a vacuum storage and at least one air blast across the article by

instantaneously opening the vacuum storage. On page 4, paragraph 2 of the original description it is disclosed that the apparatus for drying articles comprises a partial vacuum storage tank connected to the interior of the process chamber via the outlet opening and a poppet-valve which closes the entire outlet opening and is instantaneously actuated to open the entire outlet opening. In the view of the Board, it is clear to the skilled person from the basic knowledge of fluid flow systems that beside a poppet-valve also other types of valves are appropriate for instantaneously opening the passage of fluid through the respective outlet opening upon actuation of the valve. The term "valve means" according to Claim 10 is therefore regarded as being implicitly disclosed in the originally filed application.

Claims 11 to 15 are based upon the originally filed Claims 11 to 15 whereby in respect of the term "valve means" in Claims 14 and 15 reference is made to the above-mentioned observations with regard to Claim 10.

Hence Claims 1 to 15 are not open to objection under Article 123(2) EPC.

3. Category of the claims

The first instance rejected the patent application in suit on the ground that the subject-matter of Claims 1 to 9 of the category "method" underlying the contested decision is not clear in the meaning of Article 84 EPC. They argued that the difference between the invention and the prior art is to be seen in the fact that the vacuum is generated at another place and that the air blast is generated by opening the vacuum storage or by connecting the vacuum storage with the process chamber. This should make it clear that the difference between the invention and the

prior art cannot be described by steps of a method but only by constructional features (cf. page 3, paragraphs 1 and 2 of the communication dated 8 October 1991 referred to in the contested decision).

The Board cannot follow the above-cited argumentation. The two basic kinds of claims are claims to a physical entity (product, apparatus) and claims to an activity (process, use) in which the use of some material product for effecting the process is implied (cf. "Guidelines for Examination in the European Patent Office", C-III, 3.1).

Undoubtedly, the measures of generating the vacuum at another place as compared to the prior art and of generating the air blast by opening the vacuum storage or by connecting the vacuum storage with the process chamber are not in substance physical entities, but activities in which the use of material products such as a storage container, a process chamber and duct components is implied.

It has been confirmed by the jurisprudence of the Boards that claims including both features relating to physical activities and features relating to physical entities are possible and sometimes even necessary in view of the full disclosure of the invention to the skilled person (cf. Decision of the Enlarged Board of Appeal G 2/88, published in the Official Journal, EPO 1990, 93 (section 2.2) and Decision T 378/86, published in the Official Journal, EPO 1988, 386).

From the foregoing it follows that in the present case drawing up claims in the category "method" is justified and that such claims insofar as their category is concerned are not objectionable under Article 84 EPC.

4. Novelty

The closest prior art, in the Board's opinion, in agreement with the view of the first instance, is reflected by document FR-A-2 247 388 which discloses a method of drying articles comprising the steps of positioning the articles in a process chamber, generating a partial vacuum in the process chamber, raising instantaneously the pressure in the process chamber by introducing air through slots in the process chamber walls which air may be under higher pressure in relation to the atmosphere and repeating the pressure variations in the process chamber as required in view of the desired degree of drying.

The invention according to Claim 1 differs from this prior art process by the steps of generating a partial vacuum in a closed vacuum storage and of instantaneously connecting the closed vacuum storage with the process chamber thereby generating an air blast across said articles.

The document FR-A-2 247 388 discloses also an apparatus for drying articles comprising a process chamber in accordance with the pre-characterising portion of Claim 10.

The invention according to Claim 10 differs from the citation by the features contained in the characterising portion of Claim 10, i.e. a partial vacuum storage tank which is connected to the interior of the process chamber via the outlet opening and a valve means closing the entire outlet opening and being adapted to open instantaneously the entire outlet opening.



From the preceding findings novelty of the subject-matter of Claim 1 and Claim 10 respectively, follows immediately. Since novelty of the claimed subject-matter was not disputed by the first instance, no further argument is necessary in this respect.

5. Inventive step

5.1 Having regard to the closest prior art as described by the document FR-A-2 247 388, the Appellant stated in his letter dated 18 June 1990 that the advantage obtained by the method and apparatus according to the invention is that an air blast with a high air velocity is effected and that impurities in the process chamber are removed.

The problem to be solved by the invention can therefore be seen in improving the drying method and apparatus as known from document FR-A-2 247 388 such that the efficiency of drying is increased without imparting impure residues to the articles.

5.2 The steps of generating a partial vacuum in a closed vacuum storage and instantaneously connecting the vacuum with the process chamber lead to a high velocity of air flowing across the articles subject to a vacuum of a sufficiently low pressure. By the air blast thus generated both fluid adhering to the articles to be dried and any impurities in the process chamber may be removed within the short period of the blast so that an increase in the efficiency of drying is to be expected.

This applies also to Claim 10 of the category "apparatus" which provides the technical means required for achieving the high velocity air stream flowing over the articles and through the outlet of the process chamber, i.e. a partial vacuum storage tank connected to the process chamber and

valve means arranged at the chamber outlet and adapted to instantaneously open the chamber outlet.

The Board is therefore satisfied that the problem as indicated in above section 5.1 is solved by the features of Claims 1 and 10, respectively.

5.3 The question remaining to be answered is whether or not the solution to the inherent problem involves an inventive step when seen in the light of the prior art to be considered.

5.3.1 In the search for solutions to the underlying problem the skilled person may investigate the relevant prior art disclosed in document FR-A-2 247 388 as to whether there can be found any useful suggestion. According to this known method, the articles to be dried are positioned in the process chamber and this chamber is then closed and evacuated. Subsequently, air, optionally under higher than atmospheric pressure, is introduced into the process chamber within a time limit of approximately 10 seconds (cf. page 3, line 35 to page 4, line 34 of the citation). This process differs basically from that according to Claim 1 of the invention, in which the vacuum is established outside rather than inside the process chamber and in which the vacuum storage is instantaneously connected with the process chamber.

It is clear from these differences that the known process does not provide a blast of air across the articles and cannot therefore improve the efficiency of drying or remove any impurities from within the process chamber.

Thus, the known process does not solve the underlying problem nor does it suggest the solution as indicated in independent Claims 1 and 10, respectively.

- 5.3.2 The prior art document FR-A-2 247 388 being the only citation discussed in the proceedings before the first instance, the Board examined the other documents revealed and has come to the conclusion that none of these comes closer to the claimed subject-matter than the citation referred to above.
- 5.3.3 Although the first instance rejected the application on the ground of lack of clarity of the subject-matter of "method" Claims 1 to 9, a positive attitude in respect of patentability of "apparatus" Claims 10 to 15 which in substance correspond to the present respective claims had been expressed in the course of the proceedings before the first instance (cf. page 4, paragraph 5 to page 5, paragraph 1 of the communication dated 8 October 1991). Substantial examination as to the questions of novelty and inventive step has therefore, obviously, taken place in the proceedings before the first instance.
- The Board sees no reason to differ from the above opinion and with a view to dealing expeditiously with the proceedings, considers it appropriate in the present case to exercise its power within the competence of the first instance in accordance with Article 111(1) EPC.
- 5.3.4 Summarising, independent Claims 1 and 10 are clear in the sense of Article 84 EPC and their subject-matter is novel and not obvious to the skilled person concerned with the posed problem having regard to the cited prior art. These claims, therefore, meet the requirements of Articles 52(1) and 56 EPC.
- 5.3.5 Claims 1 and 10 being allowable, dependent Claims 2 to 9 and 11 to 15, which relate to further embodiments of the invention, are also allowable.

6. The description as presently on file complies with the requirements of the EPC and is therefore suitable for the grant of the patent.

7. Reimbursement of the appeal fee

According to Rule 67 EPC, the reimbursement of appeal fees shall be ordered inter alia where the Board of Appeal deems an appeal to be allowable, if such reimbursement is equitable by reason of a substantial procedural violation.

In the present case, the Appellant has requested the reimbursement of the appeal fee without giving any grounds. The Board would however point out that the fact that the claims which had been refused by the Examining Division for lack of clarity were held by the Board to be clear, is no ground justifying a reimbursement of the appeal fee by reason of substantial procedural violation since the decision of the Examining Division on the merit of the case is not a procedural matter. Moreover, there could be detected no substantial procedural violation during the examination procedure. Therefore, the Board is of the opinion that there is no ground for such a reimbursement.

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 grant a patent on the basis of the following documents:

Claims: 1 to 15 filed on 4 February 1993

Description: pages 1, 2, 2a and 4 filed on 4 February 1993;  
pages 3 and 5 to 10 as originally filed.

Drawings: sheet 1/1 filed on 20 January 1990.

In Claim 1, the following clerical errors should be amended:

Substitute

"Method of ..." for "Method for ...";  
"... across said articles;" for "... across said article;"

- 3. The request for reimbursement of the appeal fee is rejected.

The Registrar:



N. Maslin

The Chairman:



C.T. Wilson

*for W. Moser*