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Aktenzeichen / Case Number / N<sup>o</sup> du recours : T 147/83

Anmeldenummer / Filing No / N<sup>o</sup> de la demande : 80 850 108.4

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Bezeichnung der Erfindung:

Title of invention:

Titre de l'invention :

Evacuation system for particulate waste material

## **ENTSCHEIDUNG / DECISION**

**vom / of / du 21 January 1985**

Anmelder/Patentinhaber:

Applicant/Proprietor of the patent:

Demandeur/Titulaire du brevet :

AB Svenska Fläktfabriken

Stichwort / Headword / Référence :

Evacuation system

**EPÜ / EPC / CBE**

Art 56

"Inventive step"

**Leitsatz / Headnote / Sommaire**

Europäisches  
Patentamt

Beschwerdekammern

European Patent  
Office

Boards of Appeal

Office européen  
des brevets

Chambres de recours



Case Number: T 147 / 83

**DECISION**  
**of the Technical Board of Appeal** 3.2.1  
**of 21 January 1985**

**Appellant:** AB Svenska Fläktfabriken  
Sickla Alle 13  
S-131 00 Nacka (SE)

**Representative:** Bergvall, Sven  
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**Decision under appeal:** Decision of Examining Division 083 of the European Patent  
Office dated 16 March 1983 refusing European patent  
application No 80 850 108.4 pursuant to Article 97(1)  
EPC

**Composition of the Board:**

**Chairman:** G. Andersson  
**Member:** P. Ford  
**Member:** K. Schügerl

### Summary of Facts and Submissions

I. European patent application No. 80 850.108.4 filed on 1 July 1980 and published on 14 January 1981, was refused by decision of the Examining Division 083, dated 16 March 1983. The decision was based on the claims filed on 14 June 1982.

II. The ground for the refusal was that the subject matter of claim 1 did not involve an inventive step, having regard to the documents

- (1) GB-A-722 992
- (2) DE-C-838 676
- (3) US-A-1 448 430 and
- (4) GB-A-1 300 821.

III. On 19 May 1983 the applicant lodged an appeal against the decision and paid the appeal fee. The Statement of Grounds was received in due time. In the Statement of Grounds the appellant asked for the grant of the patent on the basis of the claims then on file, stressing the inventiveness of the claimed subject-matter especially with regard to (1).

IV. After an exchange of letters during the written procedure, the appellant requested the grant of a patent on the basis of a new (single) claim and a new description. The wording of the new claim is the following:

"An evacuation system for conveying the particulate waste material from a plurality of collecting places to a common and centrally located depositing place, in

which the material by means of transport air is continuously transferred in branch conduits (12) from the collecting places to the common depositing place, comprising a collecting container (9), the upper portion of which being provided with several openings (11) for the branch conduits (12) which are connected to the container (9) and the lower portion of which being provided with means for disposing of the particulate material, a transport air blower (30) being connected to the collecting container (9) to generate the airflow in the branch conduits necessary for the transportation of the waste material, individually operated valves (20) being arranged in each of the branch conduits (12) to open or close each branch conduit for air communication, the dimensions of the branch conduits and the collecting container (9) being thus chosen that the velocity of airflow in each branch conduit is sufficiently high but in the container is insufficiently high to carry the particulate waste material, characterised in that means (26) are provided to detect the underpressure in the collecting container (9) to control either the speed of the transport blower (30), or valve means (26) in a separate suction conduit (28) which does not transport waste material, in order to maintain the underpressure in the container (9) at substantially constant value and hence the air speed in the branch conduits which are open for communication.

#### Reasons for the Decision

1. The appeal complies with Articles 106-108 and Rule 64(a) EPC. The Notice of Appeal did not contain a statement positively identifying the extent to which

amendment or cancellation of the decision is requested. Under these circumstances, the Board has to assume that the appellant requested the grant of a patent on the same basis as before the Examining Division (see the Decision of the Technical Board of Appeal T 07/81, EPO OJ 1983, 98). Thus, the appeal can be regarded as being also in accordance with Rule 64(b) EPC; it is therefore admissible.

2. The claim and the description now on file do not contain subject matter which extends beyond the content of the description as filed. No formal objection can therefore arise under the terms of Article 123(2) EPC.
  
3. Document (1) relates to a pneumatic conveyor plant for conveying particulate material from two or more collecting places to a common depositing place, in which, by means of transport air, the material is continuously transferred in branch conduits from the collecting places to the common depositing place. At the depositing place, a common separating device (page 1, line 30) - a collecting container - is arranged. Although not expressly stated in the document, it is plainly clear to the skilled man that a transport air blower is connected to the collecting container to generate the airflow in the branch conduits necessary for the transportation of the material, and further, that the dimensions of the branch conduits and the collecting container are so chosen that the velocity of airflow in each branch conduit is sufficiently high but in the container is insufficiently high to carry the particulate material. As a consequence, the material is separated from the conveying air stream by

gravity, so that the lower position of the collecting container has to be provided with means for disposing of the particulate material, whilst the upper portion of the container is provided with separate openings for the branch conduits.

Further, the document shows also individually operated valves, arranged in each of the branch conduits to control the airflow from each collecting place to the collecting container. Accordingly, the features of the precharacterising portion of the claims are either explicitly known from (1) or derivable from it on the basis of the common knowledge of the practitioner.

4. The specific arrangement of the valves in the branch conduits and the additional provision of a common vacuum gauge according to the document avoids an unfavourable effect of a duct on other ducts in action and an unnecessary loss of air (page 1, line 21). Further, the individual devices in each branch are actuated in such a way that the sum of the airflow resistances in the conveyor ducts is caused to remain constant (page 3, line 19). If the sum of the airflow resistances is constant, then the vacuum in the receiver must also be constant, so that the vacuum is held at the "predetermined working value" (page 1, line 56).
5. The general problem of the invention, viz "to maintain the underpressure in the container at substantially constant value", as indicated in the characterising portion of the claim, corresponds therefore precisely to the operation of the known device. The difference resides only in the means provided for solving this known problem.

6. According to the known solution, each of the valves in the branch conduits is operated as automatic throttle organ dependent upon the valve pressure in the respective duct (which requires an underpressure sensing device in each duct), an additional control device being arranged in form of a common vacuum gauge, which affects the operation of all the throttling valves.

The solution according to the application (see the characterising portion of the claim) uses only a single sensing device, viz the means to detect the underpressure in the collecting container. The signal derived from that means controls either the speed of the blower or a separate by-pass (valve means in a separate suction conduit which does not transport waste material). No incentive can be found in (1) for a skilled person to devise the before-mentioned solution.

7. The question has to be answered whether this solution was obvious to the skilled person having regard to the other documents cited in the decision. (2) and (3) can be disregarded, since they show only a feature mentioned in the precharacterising portion of the present claim. The remaining document (4) discloses an arrangement to control the filling level of a container for particulate material, the material being fed into the container by suction. Apart from the initial filling stage, the device operates in a stepwise manner; the feeding in of the material stops as soon as the outlet end of the feed conduit is closed by the rising level of the material and is resumed again if this level falls due to the continuous withdrawal of

the material from the container. As long as the material and the air in the feed pipe is at rest, a negative pressure valve opens in order to limit the fall of the pressure in the container. Thus, the valve can in no way influence the air speed in the feed pipe.

8. Although no reason can be found in the document (4) to provide more than a single feed pipe, it may nevertheless be remembered that the provision of two or more feed pipes would not alter the way the device operates, that is to convey the material stepwise, dependent on the level of the deposited material in the container. By contrast, in an evacuation system like that shown in (1) and also in the application, the material has to be conveyed continuously as long as material is present at the respective suction point.
9. Due to the different problems to be solved and the different modes of operation, the skilled person cannot be expected to deduce from (4) more than the fact that a valve may be used to control the underpressure in a container. This fact, however, appertains to the common knowledge of the practitioner in the same way as the fact that a variable speed blower may be used to the same effect.
10. The gist of the invention, however, resides in the use of one or the other of these alternatives in a special connection exposed in para. 6, thus providing, "a much simpler solution with higher efficiency and reliability" (page 2, line 21 of the new description).



The present claim, whose subject-matter is, accordingly, based on inventive step (Article 56 EPC) is therefore allowable (Article 52(2) EPC).

11. The amended description duly takes account of the prior art and of the new wording of the claim in conformity with Rule 27(c) and (d) EPC. It is, therefore, not open to objection.

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 European patent on the basis of the following documents:
  - a) Claim, received on 8 October 1984,
  - b) description, received on 8 October 1984,
  - c) drawings, fig. 1,3 and 4 as originally filed,
  - d) drawings, fig. 2, received on 7 May 1984.

The Registrar

The Chairman

B A Norman

G. Andersson