



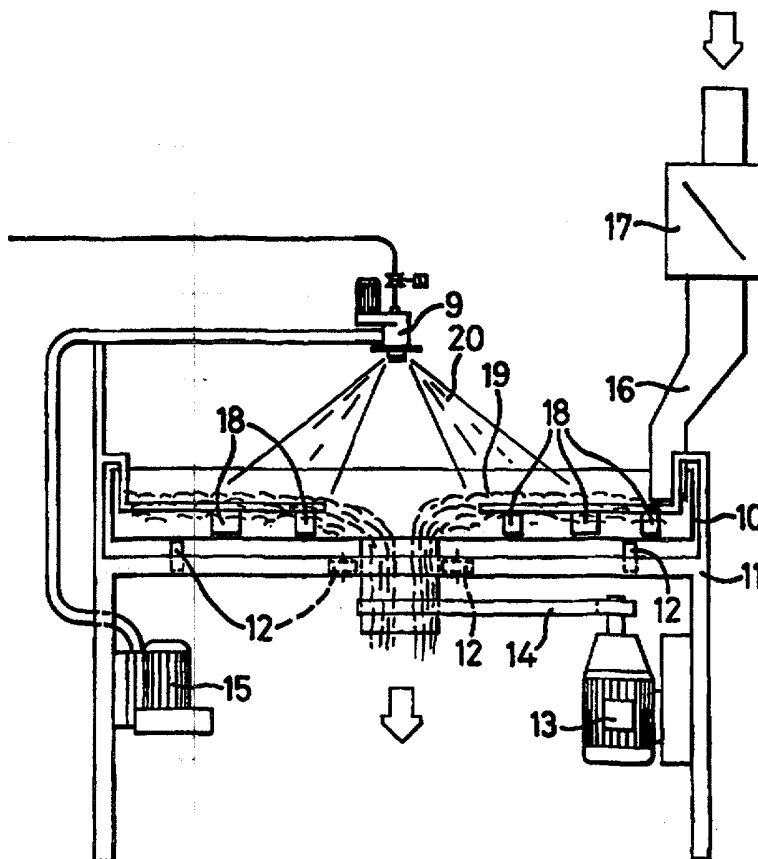
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(71) Applicant (for all designated States except US): FINNFEEDS INTERNATIONAL LTD. [GB/GB]; Market House, Ailesbury Court, High Street, Marlborough, Wiltshire SN8 1AA (GB).		Published With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.	
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(54) Title: SPRAYING APPARATUS

(57) Abstract

A sprayer head and pan-type coater are used for spraying liquid onto particulate solids. The sprayer head comprises a rotatable disc (4) to deflect droplets created by a centrifuge. An annular cone-shaped curtain of spray is sprayed onto a bed of particulate solids on a horizontal base of a revolving pan (10) of the pan-type coater. Paddles (18) fixed to a frame (11) serve to gently turn the particles in the bed and to move them towards a central outlet.



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INTERNATIONAL SEARCH REPORT

Intern al Application No

PCT/EP 94/03959

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 B05B13/02 A23K1/00 A23P1/08 A23G3/26 A61J3/00
 B65G65/48 A23G3/20 B05B3/02

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 B05B A23K A23P A23G A61J B05C B65G

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	FR,A,819 353 (SALSAS-SERRA) 15 October 1937	1-4,6-9
A	see the whole document ---	19
X	GB,A,745 294 (FIRE ARMOUR) 22 February 1956 see page 2, line 23 - line 41; figure 2 ---	1,3-7
X	US,A,4 221 331 (GORAN) 9 September 1980 see column 3, line 27 - column 5, line 16; figures 1,2,12,14 ---	1-4,6,7
X	FR,A,1 201 704 (GAZZINI) 5 January 1960 see the whole document ---	1-9
X	US,A,3 850 373 (GROLITSCH) 26 November 1974 see abstract; figures 1,6,7,9,12 ---	1-5,8,9
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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

20 July 1995

Date of mailing of the international search report

31.07.95

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Guastavino, L

INTERNATIONAL SEARCH REPORT

Interr. nal Application No
PCT/EP 94/03959

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y A	US,A,3 798 338 (E.L. GALLE) 19 March 1974 see the whole document ---	11,12 13,15,17 14,16, 18,19
X	FR,A,395 490 (LAUHOFF) 2 March 1909 see the whole document ---	11
Y	FR,A,689 140 (THORNE) 26 September 1930 see the whole document ---	13,15,17
A	EP,A,0 521 214 (KABUSHIKI KAISHA POWREX) 7 January 1993 see abstract; figure 1 ---	12,13
A	WO,A,83 00480 (UFI ENGINEERING) 17 February 1983 see abstract; figure 2 ---	12-17
A	DE,U,91 10 546 (SUET) 17 June 1992 see claims 1,8,9; figure 1 -----	11

INTERNATIONAL SEARCH REPORT

I. International application No.

PCT/EP 94/03959

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see annex

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☒ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:

1-9, 11-19
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/210

1. claims 1-9: sprayer head with a rotatable deflector
2. claim 10: sprayer head "substantially as described"
3. claims 11-19: pan-type coater with means to create and move a bed of solids
4. claim 20: coater "substantially as described"
5. claims 21,22: use of a sprayer according to claims 1-10, or of a coater according to claims 11-20

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 94/03959

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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GB-A-745294		NONE	
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