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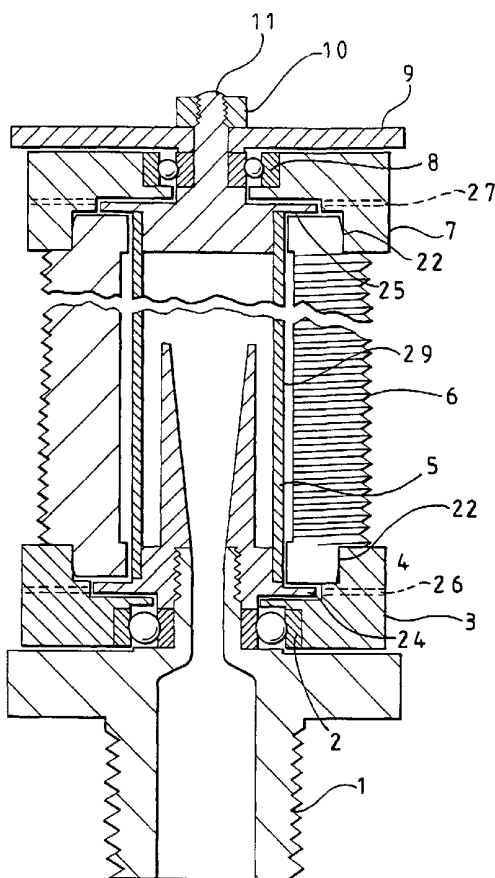
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[Continued on next page]

(54) Title: ROTARY ATOMISERS



(57) Abstract: A rotary atomiser comprises a drum (14) rotatable about its longitudinal axis and a nozzle located inside of the drum (14) such that the drum (14) is rotatable about its axis relative to the nozzle. The nozzle is coupled in use to a liquid delivery system, wherein in use liquid exiting from the nozzle impinges on an inner surface of the drum (14) causing the drum to rotate. A multiplicity of channels (17) passing substantially radially through the drum (14) conduct liquid from the inside to the outside of the drum (14), the channels (17) being substantially V-shaped in cross-section and oriented such that when the drum (14) rotates the narrower ends of the channels (17) trail the wider ends.



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patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/GB 01/02413

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 B05B3/10 B05B3/04

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 7 B05B

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)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 94 21383 A (NIRO ATOMIZER AS ;WALZEL PETER (DE); FUNDER CHRISTIAN REEDTZ (DK);) 29 September 1994 (1994-09-29) page 18, line 10 - line 29; figures 10-15 ---	1-3,8
X	US 1 710 784 A (AAGE NYROP) 30 April 1929 (1929-04-30) page 1, line 67 - line 75 ---	1,2
A	EP 0 445 100 A (NORIC INVESTMENTS) 4 September 1991 (1991-09-04) column 3, line 49 - line 52; claim 3; figure 8 ---	1,8
A	GB 2 310 457 A (ABBERTON LESLIE GEORGE) 27 August 1997 (1997-08-27) the whole document -----	1,8,13,14

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

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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.

G. Moet

Date of the actual completion of the international search

12 November 2001

Date of mailing of the international search report

18.02.2002

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/GB 01/02413

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 additional sheet

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.:
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.:

1-14

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

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-14

rotary atomiser having a drum with a multiplicity of V-shaped radial channels. The narrower ends of the channels are trailing the wider ends.

2. Claim : 15

Rotary atomiser having a drum with multiplicity of radial channels and a nozzle in the drum. The nozzle comprises a cylindrical housing having a multiplicity of nozzle holes extending at angle to the radial direction.

3. Claims: 16-18

Rotary atomiser having a rotatable drum with a multiplicity of radial channels and a nozzle located inside the drum such that the drum is rotatable about the nozzle. The rotary atomiser is mounted on a vehicle and a deflector plate leads the drum when the vehicle is in motion.

4. Claims: 19-20

Rotary atomiser having a drum with a multiplicity of radial channels and nozzle located inside the drum such that the drum is rotatable about the nozzle. The radially outermost ends of the channels have a greater cross-section than their innermost ends.

5. Claims: 21-22

Method of fabricating a drum for a rotary atomiser comprising:
-etching a multiplicity of channels into a solid plastic cylinder using a laser beam.
-removing a central core of the cylinder.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/GB 01/02413

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
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