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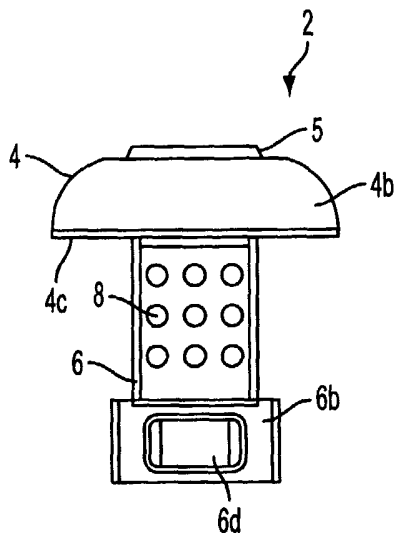
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- (71) Applicant (for all designated States except US): **BECTON DICKINSON AND COMPANY** [US/US]; 1 Becton Drive, Franklin Lakes, NJ 07417-1880 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **HAIDER, M., Ishaq** [US/US]; 204 Ketrick Court, Morrisville, NC 27560 (US). **LASTOVICH, Alexander, G.** [US/US]; 8800 Klondike Court, Raleigh, NC 27615 (US). **ERSKINE, Timothy, J.** [US/US]; 1160 Stone Valley Way, Sandy, UT 84094 (US). **MIKSZTA, John, A.** [US/US]; 3205 Lochinvar Drive, Durham, NC 27705 (US). **MARTIN, Frank, E.** [US/US]; 2807 Burton Road, Durham, NC 27704 (US). **O'CONNOR, Scott, A.** [US/US]; 6023 Grandale Drive, Durham, NC 27713 (US). **ALARCON, Jason, B.** [AU/US]; 230 Newberry Lane, Durham, NC 27703 (US). **DEKKER, John, P., III** [US/US]; 504 Edgemore Avenue, Cary, NC 27519 (US).
- (74) Agent: **WEST, Robert, E.**; Becton Dickinson and Company, 1 Becton Drive, Franklin Lakes, NJ 07417-1880 (US).
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- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: SUBSTANCE DELIVERY VIA ROTATING MICROABRADING SURFACE



(57) Abstract: A method and device for the delivery of a substance into skin via the rotational movement of a microabrader device reduces the effects of operator variability. The method includes applying a substance to an area of a patient's skin through the rotational movement of microprotrusions. The movement of the microprotrusions can be imparted by a spring device or the like present in the microabrader device or the motion of the operator through the handle of the microabrader device. The rotational motion localizes the administration of the drug or vaccine dosage in the abraded skin area. The device can include means for monitoring pressure of the device against the skin and thereby promote consistency between applications and control of penetration depth. The substance, drug or vaccine may be placed on the microprotrusions and a reconstituting liquid included in the microabrader device.

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 03/26813

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 A61M37/00 A61B17/20

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 A61M A61B

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, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 02/02180 A (BECTON DICKINSON CO ; POWELL KENNETH G (US)) 10 January 2002 (2002-01-10) the whole document	1-5,7
X	US 5 618 295 A (MIN JIN K) 8 April 1997 (1997-04-08) column 3, line 63 - column 5, line 40; figures	1-3
A	WO 95/12357 A (MEDIPRO SCIENCES LTD) 11 May 1995 (1995-05-11) the whole document	1-5,7
A	US 2002/091357 A1 (TRAUTMAN JOSEPH C ET AL) 11 July 2002 (2002-07-11) paragraph '0052! - paragraph '0061!; figures	1-5,7
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☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents:

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- \*E\* earlier document but published on or after the international filing date
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- \*O\* document referring to an oral disclosure, use, exhibition or other means
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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
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- \*G\* document member of the same patent family

Date of the actual completion of the international search

8 March 2004

Date of mailing of the international search report

16/03/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Kousouretas, I

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 03/26813

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 3 756 242 A (COSS R) 4 September 1973 (1973-09-04) the whole document -----	1,4-7
A	US 5 964 729 A (CHOI SANG BAE ET AL) 12 October 1999 (1999-10-12) the whole document -----	1-3

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 03/26813

### 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.: 8-10  
because they relate to subject matter not required to be searched by this Authority, namely:  
Rule 39.1(iv) PCT - Method for treatment of the human or animal body by surgery
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:

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.:

#### Remark on Protest

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

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US 03/26813

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