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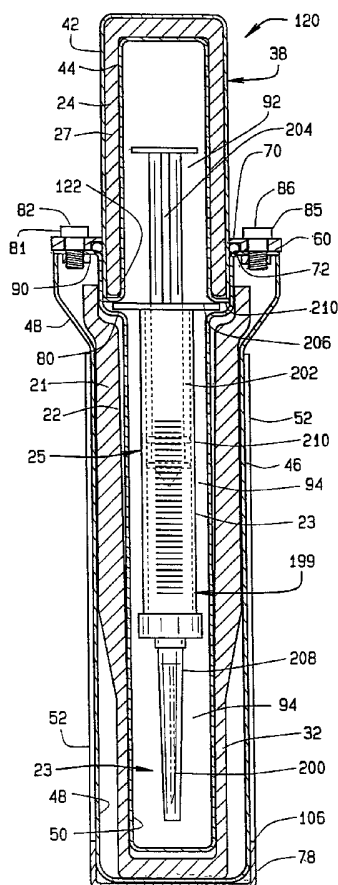
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(54) Title: PHARMACEUTICAL PIG AND METHOD OF USE



(57) Abstract: A pharmaceutical pig (120) is used to transport a syringe (199) containing a liquid radiopharmaceutical from a radiopharmacy to a medical facility for administration to a patient. The used syringe (199) is sent back in the pig (120) to the radiopharmacy for disposal. The pig includes a cap (38) that is removably attached to a base (46). Shielding elements (20, 22), typically formed from lead, are enclosed in the cap (38) and the base (46). The pig can be used to transport a conventional syringe or a safety syringe. The pig can be used with or without an inner liner in the base. There is never an inner liner in the cap.

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

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INTERNATIONAL SEARCH REPORT

International Application No
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A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G21F5/018 A61M5/178

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 G21F A61M

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	GB 908 134 A (MITCHELL ENGINEERING LTD) 17 October 1962 (1962-10-17) page 2, line 38 - line 98; figure 2	1,2,8,9, 19,20
X	US 3 845 316 A (TURECK A) 29 October 1974 (1974-10-29) column 2, line 58 - column 3, line 11; figures 2,3	1,8,19, 20
X	EP 0 739 017 A (NIHON MEDIPHYSICS CO LTD) 23 October 1996 (1996-10-23) page 9, line 28 - line 57; figure 8	1,8
Y	US 5 519 931 A (REICH DON E) 28 May 1996 (1996-05-28) cited in the application figure 3	1-15, 18-21, 24,25

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
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *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

5 February 2004

Date of mailing of the international search report

17.06.2004

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 03/30227

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4 401 108 A (GALKIN BENJAMIN M ET AL) 30 August 1983 (1983-08-30) column 5, line 2 - line 14; figure 1 column 10, line 21 - line 28 -----	1,2, 8-10, 18-21,25
Y	EP 0 122 106 A (MANUPLASTICS LTD) 17 October 1984 (1984-10-17) page 3, line 20 - line 24; figure 1 -----	3,11
Y	US 5 828 073 A (ZHU BING BING ET AL) 27 October 1998 (1998-10-27) cited in the application figure 3 -----	4,12,18, 24
Y	GB 849 655 A (EVERGLADES LTD) 28 September 1960 (1960-09-28) page 1, line 46 - line 55 -----	5,13
Y	US 4 847 505 A (SUTHANTHIRAN KRISHNAN) 11 July 1989 (1989-07-11) column 4, line 39 - column 6, line 40; figure 1 -----	6,14
Y	FR 1 518 130 A (SQUIBB & SONS INC) 22 March 1968 (1968-03-22) figure 1 -----	7,15

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.:

see annex

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: 1-15,18-21,24-25

A pharmaceutical pig for transportation of a liquid radiopharmaceutical in a syringe, assemblies comprising the pharmaceutical pig, and the use of the pharmaceutical pig, wherein the pharmaceutical pig comprises an elongate base having an inner and outer shell to completely enclose a base shielding element, an elongate cap having an inner and outer shell to completely enclose a cap shielding element and a closure structure to releasably attach the cap to the base.

2. claims: 16-17,22-23

An assembly including a pharmaceutical pig and a safety syringe, a method of using the assembly, wherein the pharmaceutical pig includes an elongate base and a base shielding element, an elongate cap and a cap shielding element and closure structure to releasably attach the cap to the base.

INTERNATIONAL SEARCH REPORT
Information on patent family members

International Application No
PCT/US 03/30227

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