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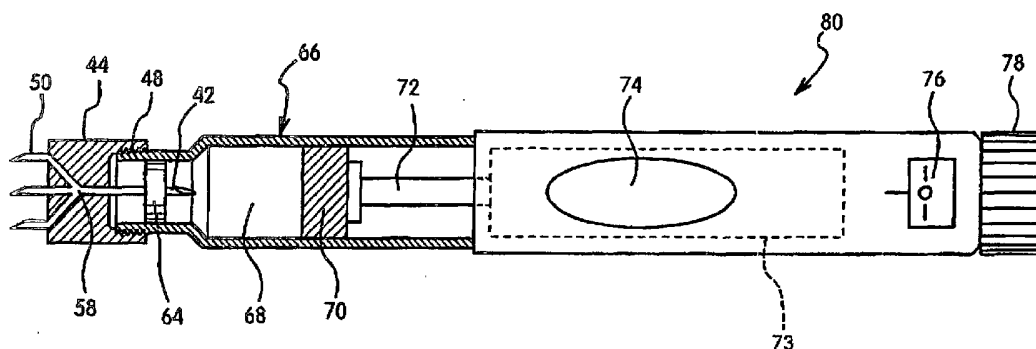
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ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: MICRONEEDLE-BASED PEN DEVICE FOR DRUG DELIVERY AND METHOD FOR USING SAME



(57) Abstract: A system and method is provided for an injectable substance delivery pen (80) comprising a microneedle hub assembly (44) removably engaged with a pen device body (66) which includes a cartridge (68), a plunger (72), and a drive mechanism (73). The hub assembly (44) includes at least one microneedle (50) for intradermal or shallow subcutaneous injection of the contents of the cartridge (68). The cartridge, plunger and drive mechanism components of the pen body are fabricated of non-compliant and non-compressible materials to allow effective communication of the cartridge contents via the microneedle patient interface.

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INTERNATIONAL SEARCH REPORT

International application No.

PCT/US02/28785

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : A61M 5/24, 5/28
 US CL : 604/201

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)
 U.S. : 604/201, 48, 87, 88, 187, 200, 202-206, 244, 404-416; 606/181

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 practicable, search terms used)
 EAST - Search terms: septum, microneedle, plunger, connector or hub, pierce or penetrate, flow

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,199,473 A (GALLOWAY) 06 April 1993, see Figure 16.	1-13
Y		14-18 and 20-25
X	US 4,409,991 A (ELDRIDGE) 18 October 1983, see Figure 2.	1, 5, 6, and 8-13
Y		14-18 and 20-25
A	US 5,951,530 A (STEENGAARD et al) 14 September 1999, see Figure 1.	1-72

Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"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
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"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)	"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
"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	"&" document member of the same patent family

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