## (19) World Intellectual Property Organization International Bureau





(43) International Publication Date 15 December 2005 (15.12.2005)

# (10) International Publication Number WO 2005/118251 A3

(51) International Patent Classification:

 A61M 31/00 (2006.01)
 B65D 33/00 (2006.01)

 A61M 37/00 (2006.01)
 A61B 19/00 (2006.01)

 B29B 7/00 (2006.01)
 B29C 33/40 (2006.01)

(21) International Application Number:

PCT/US2005/018583

(22) International Filing Date: 26 May 2005 (26.05.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

60/575,020 27 May 2004 (27.05.2004) US

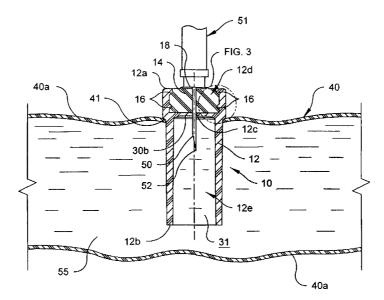
- (71) Applicant: WEST PHARMACEUTICAL SERVICES, INC. [US/US]; 101 Gordon Drive, Lionville, PA 19341 (US).
- (72) Inventors: CONARD, William, A.; 1041 Bordeaux Lane, Pennsburg, PA 18073 (US). BUCK, Robert; 209 Grover Road, Watsontown, PA 17777 (US). STRAUS-BAUGH, Neil; 309 Adams Street, Williamsport, PA 17701 (US). KING, Robert, J.; 6 Winding Way, Malvern,

PA 19355 (US). **CRAMMER, Diane, M.**; 206 Joneal Road, Phoenixville, PA 19460 (US).

- (74) Agents: BELISARIO, Martin, G. et al.; Akin, Gump, Strauss, Hauer & Feld, L.L.P., One Commerce Square, Suite 2200, 2005 Market Street, Philadelphia, PA 19103 (US).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: INJECTION PORT AND METHOD OF MAKING THE SAME



(57) Abstract: An injection port for an intravenous bag including a generally hollow tube that is mountable to the intravenous bag. The hollow tube has a first end. A polymeric plug is mounted in the first end. The polymeric plug is integrally molded into the tube proximate the first end. A method for construction the injection port including injecting a first molding material into a mold cavity, allowing the first molding material to at least partially cure and harden, moving a movable mold part to expose a first cavity defined by inner surfaces of the at least partially cured and hardened molding material, injecting a second mold material into the first cavity, allowing the second molding material to at least partially cure and harden such that the second molding material bonds with the inner surfaces and removing the injection port from the mold.



### WO 2005/118251 A3



#### Published:

— with international search report

(88) Date of publication of the international search report:  $18 \; \text{January } 2007$ 

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.

### INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/18583

CV LOOTING TO THE CONTRACT OF				
A. CLAS	SSIFICATION OF SUBJECT MATTER A61M 31/00( 2006.01),37/00( 2006.01);B29B 7/00( 2006.01);B65D 33/00( 2006.01);A61B 19/00( 2006.01) B29C 33/40( 2006.01)			
USPC: 604/408,6.16,403;264/225,328.8;383/96;128/DIG24 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.: 604/408,6.16,403;264/225,328.8;383/96;128/DIG24				
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: port, plug or septum, elastomer, diaphragm, bag or container, injection molding,				
C. DOC	JMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where a	ppropriate, of the relevant passages	Relevant to claim No.	
X	US 3,064,652 A (CORCORAN et al.) 20 November	1962 (20.11.1962), entire document.	`1, 2, 8, 10-14, 17, 18, 26-29	
X	US 4,479,989 A (MAHAL) 30 October 1984 (30.10.1984), entire document.		1-19, 26-29	
X, P	US 6,720,044 B2 (ANDERSSON et al.) 13 April 2004 (13.04.2004), entire document.		1-5, 8, 10-13	
Y, <b>P</b>			6, 9, 14, 17-19, 26-29	
A	US 4,794,750 A (SCHMIDT et al.) 03 January 1989 (03.01.1989), entire document.		1, 2, 20-27	
Α	US 5,695,706 A (WELSH et al.) 09 December 1997 (09.12.1997), entire document.		20-25	
Α	US 3,184,524 A (WHITEFORD) 18 May 1965 (18.05.1965), entire document.		20-26	
Further	documents are listed in the continuation of Box C.	See patent family annex.		
Special categories of cited documents:		"T" later document published after the intern	national filing date or priority	
"A" document defining the general state of the art which is not considered to be of particular relevance		date and not in conflict with the applicat principle or theory underlying the invent	ion but cited to understand the ion	
"E" earlier app	olication or patent published on or after the international filing date	"X" document of particular relevance; the cle considered novel or cannot be considere when the document is taken alone		
	which may throw doubts on priority claim(s) or which is cited to the publication date of another citation or other special reason (as	"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		
"O" document	referring to an oral disclosure, use, exhibition or other means	obvious to a person skilled in the art	sacii someniadon ocing	
	published prior to the international filing date but later than the te claimed	"&" document member of the same patent far	mily	
i		Date of mailing of the international search report		
17 September 2006 (17.09.2006)  Name and mailing address of the ISA/US  A		Authorized officer (// // // // //	Charles and	
Mail Stop PCT, Attn: ISA/US Commissioner for Patents		Authorized officer Share 7 ! Mrleal fair. Patricia M. Bianco		
P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201		Telephone No. (571) 272-2975		
	<u> </u>	İ	ľ	

Form PCT/ISA/210 (second sheet) (April 2005)