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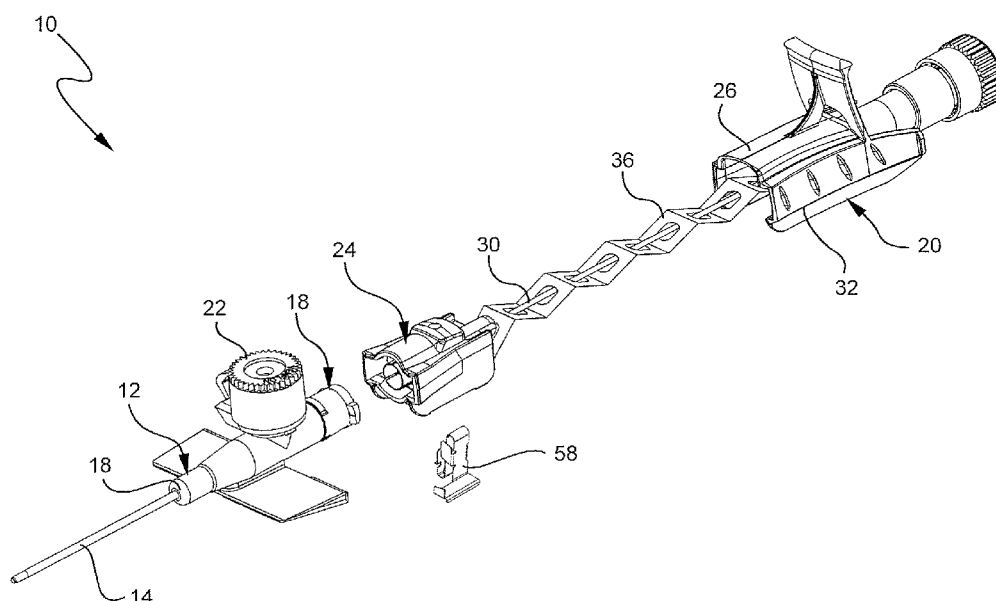
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[Continued on next page]

(54) Title: REDUCING WITHDRAWAL FORCE IN A SAFETY IV CATHETER



(57) Abstract: An extravascular system for accessing the vasculature of a patient may include a catheter adapter, a needle, and/or a needle tip shield assembly. The needle tip shield assembly may have a needle cap, and the needle cap may have a needle shield and at least one low friction surface. The needle may be disposed within the catheter assembly and the needle tip shield assembly. The low friction surface may reside between the needle shield and the needle. The at least one low friction surface may reside on the needle, on the V-clip, and/or on a structure located between the needle and the V-clip.

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A. CLASSIFICATION OF SUBJECT MATTER

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USPC - 604/164.07

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)

USPC- 604/164.07

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC- 604/110; 604/164.01; 604/164.08; 604/164.12; 604/188; 604/198; 604/263Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
PubWEST (PGPB, USPT, EPAB, JPAB), Google Scholar, Google Patents: Needle, shield, sheath, cap, catheter, cannula, frictionless, low, friction, v, clip, fin, polymer, lubricant, smooth, withdraw

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2004/0215154 A1 (HWANG et al.) 28 Oct 2004 (28.10.2004); para [0034], [0036], [0040], [0043], [0044], [0046]; Fig 2, 6, 9, 17, 22	1-20
Y	US 2006/0079844 A1 (WHISSON et al.) 13 Apr 2006 (13.04.2006); para [0012], [0019]-[0024]; Fig 1, 2	1-20
Y	US 2003/0032927 A1 (HALSETH et al.) 13 Feb 2003 (13.02.2003); para [0021]	4, 11, 12 and 17
Y	US 2004/0243061 A1 (MCGURK) 02 Dec 2004 (02.12.2004); para [0024], [0025]; Fig 3, 8	6-9 and 19

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

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"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

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