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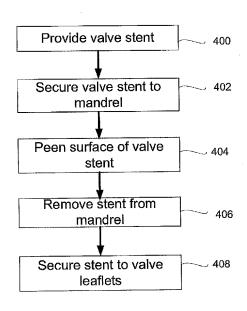
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(54) Title: METHOD OF PEENING METAL HEART VALVE STENTS

FIG. 4



(57) Abstract: Medical devices, such as percutaneous prosthetic heart valves can include a stent or frame structure component. The stent can be shot peened, laser peened, and/or ultrasonically peened, thereby reducing surface abnormalities, improving surface appearance, and/or increasing fatigue life of the device.





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B. FIELDS SEARCHED

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Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Korean utility models and applications for utility models

Japanese utility models and applications for utility models

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) eKOMPASS(KIPO internal) & Keywords:prosthetic,peening,frame,leaflet

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
А	US 2009-0216312 A1 (STRAUBINGER et al.) 27 August 2009 See the whole document.	1-20
Α	US 2008-0154355 A1 (BENICHOU et al.) 26 June 2008 See the whole document.	1-20
A	US 2005-0182478 A1 (HOLMAN et al.) 18 August 2005 See the whole document.	1-20
Α	EP 0985384 A1 (BUECHEL-PAPPAS TRUST) 15 March 2000 See the whole document.	1-20

		Further	documents	are	listed	in	the	conti	nuati	ion	of	Box	C.
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2009-0216312 A1	27.08.2009	US 2010-0191320 A1 WO 2009-106545 A1	29.07.2010 03.09.2009
US 2008-0154355 A1	26,06,2008	CA 2674193 A1 EP 2124824 A1 WO 2008-079962 A1	03.07.2008 02.12.2009 03.07.2008
US 2005-0182478 A1	18.08.2005	WO 2005-080613 A1	01.09.2005
EP 0985384 A1	15.03.2000	CA 2282035 A1	10.03.2000