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(54) Title: MULTIPLE CHAMBER, EXPANDABLE THERAPEUTIC AGENT DELIVERY DEVICE

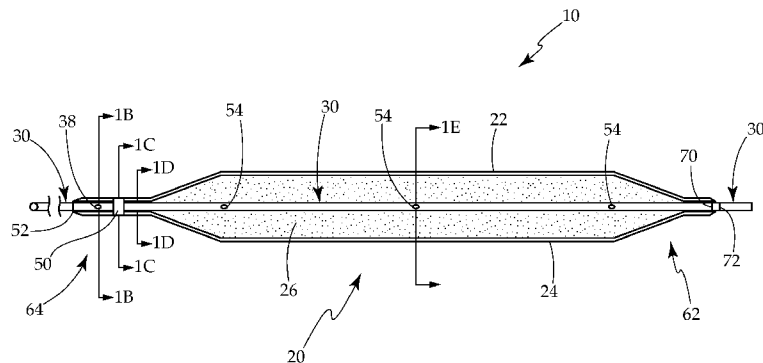


Fig. 1A

(57) Abstract: A device having multiple chambers may be configured to expand to contact a substantial section of an interior wall of a body structure or lumen in order to simultaneously exclude blood or other liquid from a target structure while providing for delivery of a therapeutic agent directly to the interior wall. The expandable device may be manufactured from a plurality of flat sheets of material heat sealed to one another to form an inflation chamber and one, two or more delivery chambers. The sheets may also be bonded to an elongate catheter body having inflation and delivery lumens. The excluding of blood flow and delivery of therapeutic agents are completed by the same device.

INTERNATIONAL SEARCH REPORT

International application No.

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A. CLASSIFICATION OF SUBJECT MATTER

IPC(8) - A61M 25/04 (2015.01)

CPC - A61M 2025/0057 (2015.01)

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(8) - A61M 25/04, 25/10, 29/02 (2015.01)

CPC - A61M 2025/0057, 2025/0024, 25/04, 29/02 (2015.01) (keyword delimited)

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
USPC - 604/509

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

Orbit, Google Patents, Google Scholar, Google.

Search terms used: catheter, delivery, drug or agent or therapeutic, expandable, balloon, first and second layer or membrane or sheet, bonded, seam, joined, sealed.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2011/0060276 A1 (SHAEFFER et al) 10 March 2011 (10.03.2011) entire document	1-34
A	US 2011/0214802 A1 (STUPECKY et al) 08 September 2011 (08.09.2011) entire document	1-34
A	US 5,707,385 A (WILLIAMS) 13 January 1998 (13.01.1998) entire document	1-34
A	US 2009/0299450 A1 (JOHNSON et al) 03 December 2009 (03.12.2009) entire document	1-34
A	US 2012/0109057 A1 (KROLIK et al) 03 May 2012 (03.05.2012) entire document	1-34

 Further documents are listed in the continuation of Box C.

* Special categories of cited documents:

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"E" earlier application or patent but published on or after the international filing date

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"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

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