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(54) Title: EXTENDED AREA FILTER

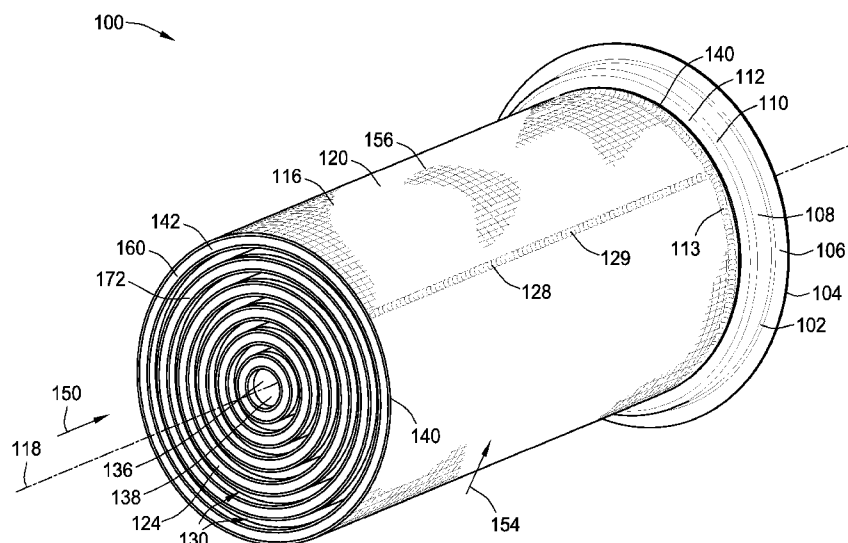


FIG. 1

(57) Abstract: An extended area filter is provided. The extended area filter has sheets of a filter media configured for increased filter media surface area. A plurality of filter media tubes are position in a concentric arrangement about a longitudinal axis of the filter, defining annular inlet volumes and annular outlet volumes, the annular inlet volumes receiving an unfiltered fluid, and the outlet volumes receiving a filtrate passed through the tubes of filter media. A filter apparatus configured for filtering a contaminated fluid and employing extended area filters of the invention is also provided.



INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2012/024478**A. CLASSIFICATION OF SUBJECT MATTER*****B01D 39/10(2006.01)i, B01D 39/14(2006.01)i, B01D 46/24(2006.01)i, B01D 29/11(2006.01)i, B01D 29/54(2006.01)i***

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)

B01D 39/10; B01D 46/52; B01D 29/58; B01D 29/07; B01D 46/24; B01D 46/00

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: "filter sheet", "inlet", "outlet", "annular, circular, cylindrical"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	US 06056796 A (CHIANG; TA-KUAN et al.) 02 May 2000 See abstract, figs. 1-6, column 5 line 34 - column 7 line 28 and claims 1-20.	19-21, 23-28 1-18, 22
Y	US 2006-0027492 A1 (MAO LIN) 09 February 2006 See abstract, figs. 1-6, paragraphs [0014] - [0020] and claims 1-9.	1-18, 22
A	JP 10-137512 A (TOKAI KOGYO KK) 26 May 1998 See the whole document.	1-28
A	US 7686859 B2 (BARRATT THOMAS R.) 30 March 2010 See the whole document.	1-28

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

* Special categories of cited documents:

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"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

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"&" document member of the same patent family

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INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 06056796 A	02.05.2000	None	
US 2006-0027492 A1	09.02.2006	None	
JP 10-137512 A	26.05.1998	None	
US 7686859 B2	30.03.2010	CA 2617177 A1 CN 101267871 A0 EP 1922131 A1 US 2007-0028571 A1 US 2010-0146915 A1 WO 2007-019127 A1	15.02.2007 17.09.2008 21.05.2008 08.02.2007 17.06.2010 15.02.2007