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(71) Applicant (for all designated States except US): **CUMMINS FILTRATION IP, INC.** [US/US]; 1400 - 73rd Avenue NE, Minneapolis, MN 55432 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BADEAU, Kurt, M. A.** [US/US]; 432 Evans Drive, Evansville, WI 53536 (US). **GOODLUND, Travis, E.** [US/US]; 4176 Lookout Trail, McFarland, WI 53558 (US). **BENZ, Bryan, J.** [US/US]; 7727 N. Morning Meadow Lane, Evansville, WI 53536 (US). **STEFFEN, Bryan, P.** [US/US]; 452 Lisa Court, Oregon, WI 53575 (US). **BAGCI, Ismail, C.** [US/US]; 600 Enclave Pointe, Cookeville, TN 38506 (US). **WELLS, Aaron, M.** [US/US]; 1170 Brotherton Drive, Cookeville, TN 38506 (US). **KALLURWAR, Rahul, B.** [IN/US]; 800 East Spring Street, Apt. T3, Cookeville, TN 38501 (US).

EICKHOFF, James, L. [US/US]; 2505 Dodson Branch Road, Apt. 6, Cookeville, TN 38506 (US). **PARIKH, Chirag, D.** [IN/US]; 3326 Bradbury Road, Madison, WI 53719 (US). **HOVERSON, Gregory, W.** [US/US]; 4241 N. Riverside Drive, Columbus, IN 47203 (US). **SOUTH, Kevin, C.** [US/US]; 3464 Gra Mar Drive, Cookeville, TN 38506 (US). **MANKE, Scott, G.** [US/US]; 1318 Gray Hawk Way, Sun Prairie, WI 53590 (US).

(74) Agent: **SCHUMANN, Michael, D.**; Hamre, Schumann, Mueller & Larson, P.C., P.O. Box 2902, Minneapolis, MN 55402 (US).

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[Continued on next page]

(54) Title: FILTER APPARATUS WITH TORQUE LIMITING MECHANISM

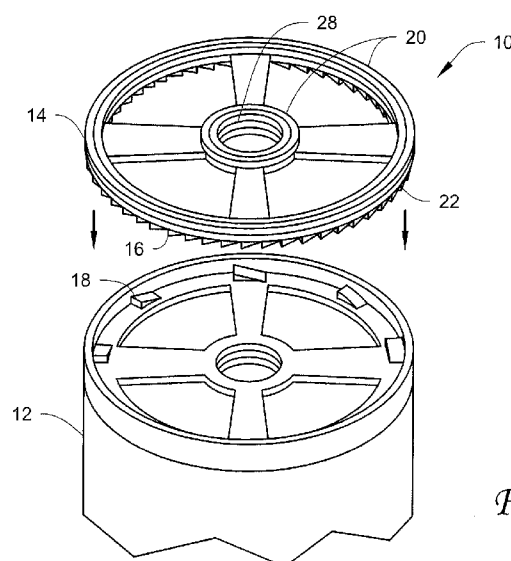


Fig. 1

(57) Abstract: A filter apparatus is described that has a torque limiting device, which may be a clutch mechanism, and which provides a protective function for a filter, so as to protect a filter from being over tightened and to thereby prevent damage to filter components. The clutch mechanism can also eliminate or reduce the need for torque measurement of certain filter components. The clutch mechanism can be located on one of the fluid filter, a filter head which engages the fluid filter, or a combination of both the fluid filter and the filter head.



SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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PCT/US2012/033311**A. CLASSIFICATION OF SUBJECT MATTER****F02M 37/22(2006.01)i, F01M 11/03(2006.01)i, B01D 35/30(2006.01)i, B01D 27/08(2006.01)i**

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B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

F02M 37/22; B01D 27/00; B01D 35/143; B01D 27/08; B65D 51/00; B65D 53/02; B01D 27/10

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: fuel filter, torque limit

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5,259,953 A (BARACCHI et al.) 09 November 1993 see column 3, lines 6 - 53; figures 4,5.	1-25
A	US 2007-0187316 A1 (WEINBERGER et al.) 16 August 2007 see paragraphs 0055, 0056; figure 9.	1-25
A	EP 1889792 A1 (HONDA MOTOR CO., LTD.) 20 February 2008 see paragraph 0036; figure 3.	1-25
A	US 6,565,743 B1 (POIRIER et al.) 20 May 2003 see column 5, line 40 - column 6, line 19; figures 4,5.	1-25



Further documents are listed in the continuation of Box C.



See patent family annex.

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"&" document member of the same patent family

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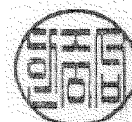
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INTERNATIONAL SEARCH REPORT

Information on patent family members

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