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(71) Applicant (for all designated States except US): MTD PRODUCTS INC [US/US]; 5903 Grafton Road, Valley City, OH 44280-9722 (US).

(72) Inventor; and

(75) Inventor/Applicant (for US only): ASSAD, Abdul, S. [US/US]; 1653 South Flint Circle, Mesa, AZ 85202 (US).

(74) Agents: ELLSWORTH, Jeffrey, S. et al.; Wegman, Hessler & Vanderburg, 6055 Rockside Woods Boulevard, Suite 200, Cleveland, OH 44131 (US).

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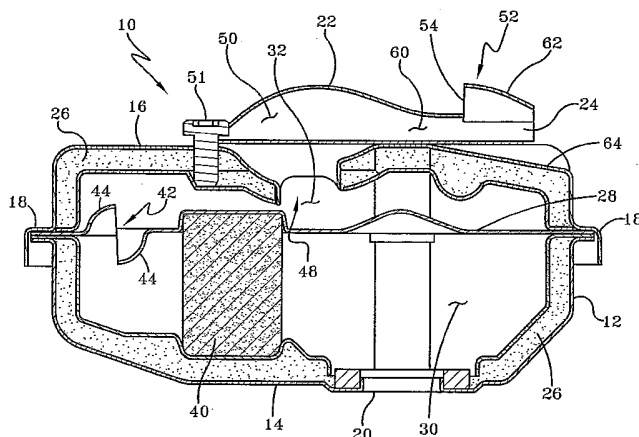
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(54) Title: METHOD AND APPARATUS FOR VENTING EXHAUST GAS FROM AN ENGINE



(57) Abstract: A muffler (10) for coupling to an exhaust port of an internal combustion engine. The muffler (10) includes a housing (12) having an exhaust inlet (20) configured to receive exhaust gas from the engine, at least one internal expansion chamber (30) and an outlet opening (48). The muffler (10) further includes a diffuser cover (22) attached to the housing (12) over the exhaust opening (48) of the housing (12) forming an exhaust outlet of the muffler. The diffuser cover (22) forms a trap chamber (50), a restricted throat (60) and an ejector portion (52). The ejector portion (52) is configured to draw in ambient air through an air inlet (54) to cool the exhaust gas as it passes through the exhaust outlet (48). The restricted throat (60) is positioned downstream from said trap chamber (50) and has a smaller cross-sectional area than the trap chamber (50) so as to increase the velocity of the exhaust gas as the exhaust gas passes through the restricted throat (60) and into the ejector portion (52) so as to aid in drawing in ambient air.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER
 IPC: **F01N 1/02(2006.01),1/14(2006.01),3/02(2006.01)**
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 USPC: 181/258,231,269,272,282
 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)
 U.S. : 181/258,231,269,272,282

 Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

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

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P --- Y	US 2004/0154860 A1 (JOOST et al.) 12 August 2004 (12.08.2004), figure 2 and paragraphs [0020] - [0031].	1-3,6-9,11-14,16 ----- 4,5,10,15
X --- Y	US 2003/0141143 A1 (JANKOWSKI) 31 July 2003 (31.07.2003), figures 3A, 9, 11, 13, 14 and paragraphs [0034] - [0040].	1-3,6-9,11-14,16 ----- 4,5,10,15
X --- Y	US 6,164,066 A (SAKAGUCHI et al.) 26 December 2000 (26.12.2000), figure 6 and column 6, line 29 - column 8, line 15.	1-3,6-9,11-14,16 ----- 4,5,10,15
A	US 4,142,607 A (LANDWEHR et al.) 06 March 1979 (06.03.1979), figures 2 and 4, and column 2, line 63 - column 4, line 57.	1-16

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

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Name and mailing address of the ISA/US Mail Stop PCT, Attn: ISA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (571) 273-3201	Authorized officer Paula Bradley <i>Paula Bradley</i> Telephone No. (571)272-2800