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CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO,
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KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME,
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OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD,
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[Continued on next page]

(54) **Title:** THROTTLEABLE EXHAUST VENTURI

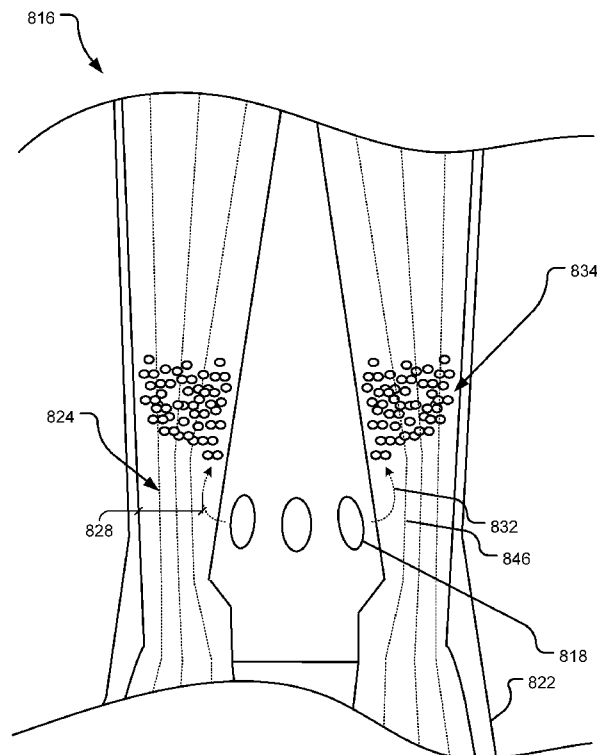


FIG. 8

(57) **Abstract:** A throttleable exhaust venturi (700) is described herein that generates strong suction pressures at an exhaust outlet (718) by accelerating an incoming ambient fluid stream with the aid of a venturi to high gas velocities and injecting a combustion exhaust stream into the ambient fluid stream at an effective venturi throat (728). A mixing element (544) downstream of the venturi throat ensures that the mixed fluid stream recovers from a negative static pressure up to local atmospheric pressure. A physical (724) and the effective (728) throat of the venturi (700) are designed to promote mixing and stabilize the ambient fluid flow to ensure that high velocity is achieved and the effective venturi is operable over a variety of combustion exhaust stream mass flow rates.



TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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INTERNATIONAL SEARCH REPORT

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PCT/US2012/035640**A. CLASSIFICATION OF SUBJECT MATTER*****F01N 5/04(2006.01)i, F01N 13/08(2010.01)i, F02D 9/04(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)

F01N 5/04; F01N 13/08; F01N 7/20; F02B 27/04; F01N 13/00; F01N 13/20

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)

exhaust,venturi,throat,vortex

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	KR 20-1997-0003232 Y1 (Ryu,Jeong In) 14 April 1997 See page 2, lines 26-37, and figure 1.	1-6, 9-19, 22-26 7, 8, 20, 21
Y A	KR 10-2008-0071839 A (CHUN, SUN GYU) 05 August 2008 See page 4, lines 18-22, and figure 4.	7, 8, 20, 21 1-6, 9-19, 22-26
A	JP 10-238342 A (MIZUSAWA HIROHIKO) 08 September 1998 See claim 1 and figure 1.	1-26
A	KR 10-2010-0111802 A (KIM, SOO WON) 18 October 2010 See claim 1 and figure 2.	1-26



Further documents are listed in the continuation of Box C.



See patent family annex.

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KR 20-1997-0003232 Y1

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None

KR 10-2008-0071839 A

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JP 10-238342 A

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None