



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
08.03.2017 Bulletin 2017/10

(51) Int Cl.:
F04B 35/06 (2006.01) **F04B 39/00** (2006.01)
F04B 41/02 (2006.01)

(43) Date of publication A2:
07.12.2011 Bulletin 2011/49

(21) Application number: **11168343.9**

(22) Date of filing: **01.06.2011**

(84) Designated Contracting States:
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO
PL PT RO RS SE SI SK SM TR**
Designated Extension States:
BA ME

(72) Inventors:
• **Wood, Mark W.**
Cedar Grove, TN Tennessee TN38321 (US)
• **White, Gary D.**
Medina, TN Tennessee 38355 (US)

(30) Priority: **01.06.2010 US 350226 P**
27.05.2011 US 201113117560

(74) Representative: **SBD IPAdmin**
210 Bath Road
Slough, Berkshire SL1 3YD (GB)

(71) Applicant: **Black & Decker Inc.**
Newark, Delaware 19711 (US)

(54) **Compressible Fluid Discharge Muffler**

(57) A noise reduction device including a tubular body having an open first end, a second end opposite the first end, and a cavity located between the first end and the second end. The second end of the tubular body

being disposed opposite the first end. The second end has at least one opening with a diameter smaller than the diameter of the opening in the first end.

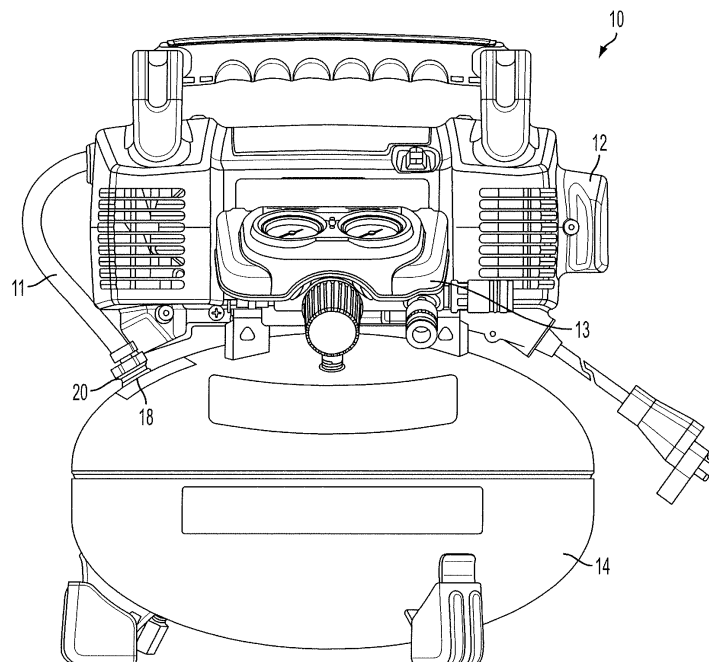


FIG. 1

**PARTIAL EUROPEAN SEARCH REPORT**

Application Number

under Rule 62a and/or 63 of the European Patent Convention.
This report shall be considered, for the purposes of
subsequent proceedings, as the European search report

EP 11 16 8343

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 2 136 098 A (BROWNE LINDSAY H) 8 November 1938 (1938-11-08) * abstract *; figures 1,2,5,7,8 * * page 3, column 1, line 2 - page 3, column 2, line 10 * * page 1, column 2, lines 5-10 * -----	1-6,14	INV. F04B35/06 F04B39/00 F04B41/02
X	US 1 909 511 A (WILSON ERNEST E) 16 May 1933 (1933-05-16) * page 2, column 1, line 44 - page 2, column 2, line 95; claims 1,2; figures *	1-6,14	
X	CN 2 667 195 Y (WANG JIANBIN [CN]) 29 December 2004 (2004-12-29) * abstract *; figure *	1-6	
X	US 6 102 679 A (BROWN GERALD E [US]) 15 August 2000 (2000-08-15) * abstract *; figure 3 * -----	1-4,14	
			TECHNICAL FIELDS SEARCHED (IPC)
			F04B

INCOMPLETE SEARCH

The Search Division considers that the present application, or one or more of its claims, does/do not comply with the EPC so that only a partial search (R.62a, 63) has been carried out.

Claims searched completely :

Claims searched incompletely :

Claims not searched :

Reason for the limitation of the search:

see sheet C

1

Place of search	Date of completion of the search	Examiner
Munich	27 January 2017	Pinna, Stefano
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document		

EPO FORM 1503 03/02 (P04E07)



**INCOMPLETE SEARCH
SHEET C**

Application Number

EP 11 16 8343

5

Claim(s) completely searchable:
1-6, 14

10

Claim(s) not searched:
7-13

Reason for the limitation of the search:

15

Rule 62a

20

25

30

35

40

45

50

55

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 11 16 8343

5 This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

27-01-2017

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2136098	A	08-11-1938	NONE
US 1909511	A	16-05-1933	NONE
CN 2667195	Y	29-12-2004	NONE
US 6102679	A	15-08-2000	NONE

EPO FORM P0459

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82