



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:
26.03.2008 Bulletin 2008/13

(51) Int Cl.:
A47L 5/24 (2006.01) **A47L 9/00** (2006.01)

(43) Date of publication A2:
29.12.2004 Bulletin 2004/53

(21) Application number: **04012871.2**

(22) Date of filing: **01.06.2004**

(84) Designated Contracting States:
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PL PT RO SE SI SK TR
Designated Extension States:
AL HR LT LV MK

(72) Inventor: **Coburn, Eric**
Spennymoor
County Durham
DL16 6JG (GB)

(30) Priority: **28.06.2003 GB 0315181**

(74) Representative: **Cavalier, Marcus Alexander**
Mawson et al
Black & Decker,
210 Bath Road
Slough, Berks SL1 3YD (GB)

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

(54) **Vacuum cleaner**

(57) A vacuum cleaner 2 has a housing 4 having primary air outlets 20 defined in a bottom surface of the housing 4 to direct air downwardly and rearwardly of the housing. A fan 26 draws dirty air into the inlet 38, through a filter and most of the filtered air passes out of primary outlets 20. As a result, the air is not vented on to the face and hands of the user, and at the same time avoids dis-

turbing dirt on the surface to be cleaned. A small amount of the air passes between the clamshell halves 10, 12 that make up housing 4, and out of the secondary outlets 28 in the side surfaces of the body portion 6. This air is used to cool the motor, but the rate of air flow out of the secondary outlets is insufficient to cause irritation to the user.

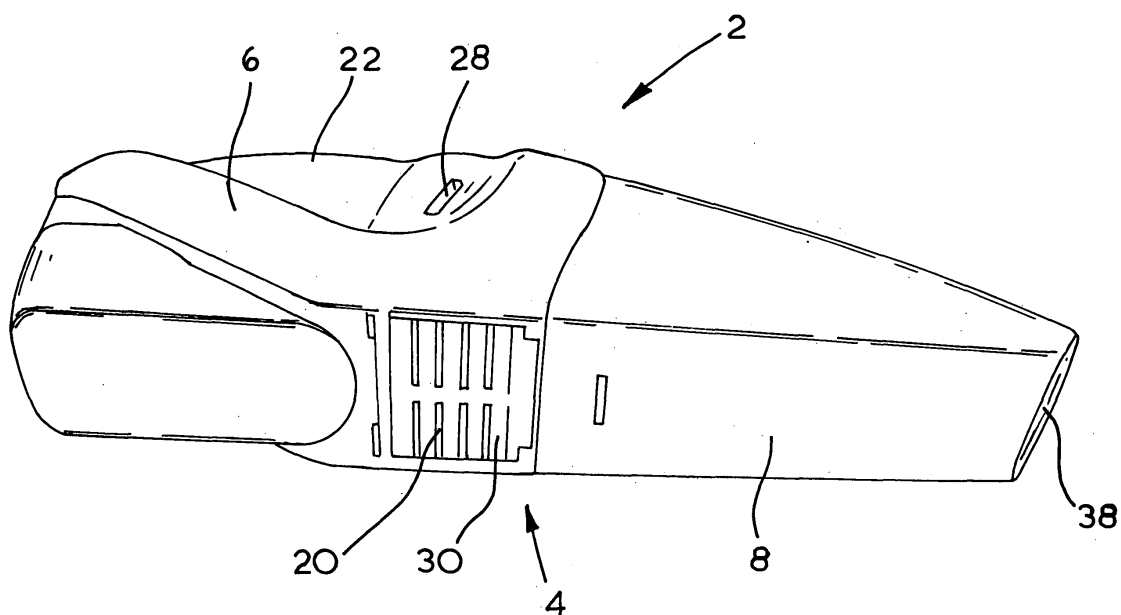


FIG. 2



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 04 01 2871

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	EP 0 215 165 A (CIC INT CORP [US]) 25 March 1987 (1987-03-25) * column 5, lines 1-23; figures 2,5,6 *	1	INV. A47L5/24 A47L9/00
X	GB 2 028 641 A (SHOP VAC CORP) 12 March 1980 (1980-03-12) * page 3, lines 1-75; figures 2,3 *	1-3,5,6	
X	US 4 670 701 A (SAKO YUKINOBU [JP] ET AL) 2 June 1987 (1987-06-02) * column 4, lines 53-64; claim 1; figure 1 *	1	
A	DE 37 43 083 A1 (BOSCH SIEMENS HAUSGERAETE [DE]) 29 June 1989 (1989-06-29) * column 1, lines 1-21 * * column 3, line 21 - column 4, line 15 *	1-4	
A	US 3 513 500 A (HORI TAKEO) 26 May 1970 (1970-05-26) * the whole document * * figure 5 *	1,5	
A	WO 86/02817 A (ROYAL APPLIANCE MFG [US]) 22 May 1986 (1986-05-22) * page 14, line 24 - page 15, line 22; figure 2 *	1,5,6	
A	US 3 477 087 A (ROBINSON GLEN) 11 November 1969 (1969-11-11) * column 4, lines 24-47; figures 2-4 *	1,5,6	TECHNICAL FIELDS SEARCHED (IPC) A47L
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 12 February 2008	Examiner Bichi, Marco
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			

 1
EPO FORM 1503 03.82 (P04C01)

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

EP 04 01 2871

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.

12-02-2008

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0215165	A	25-03-1987	AT 65018 T	15-07-1991
			DE 3583441 D1	14-08-1991

GB 2028641	A	12-03-1980	CA 1134570 A1	02-11-1982
			DE 2930128 A1	06-03-1980
			FR 2433924 A1	21-03-1980
			JP 55029399 A	01-03-1980
			SE 7906912 A	22-02-1980
			US 4213224 A	22-07-1980

US 4670701	A	02-06-1987	DE 3540898 A1	28-05-1986

DE 3743083	A1	29-06-1989	NONE	

US 3513500	A	26-05-1970	NONE	

WO 8602817	A	22-05-1986	AU 611056 B2	30-05-1991
			AU 4138489 A	25-01-1990
			AU 615573 B2	03-10-1991
			AU 4138589 A	21-12-1989
			AU 585285 B2	15-06-1989
			AU 5019685 A	03-06-1986
			CA 1227004 A1	22-09-1987
			CH 672410 A5	30-11-1989
			DE 3546885 C2	14-09-1995
			DE 3590577 T0	19-02-1987
			EP 0201566 A1	20-11-1986
			GB 2181338 A	23-04-1987
			GB 2200040 A	27-07-1988
			GB 2208590 A	12-04-1989
			GB 2215590 A	27-09-1989
			JP 6046975 B	22-06-1994
			NL 8520370 A	01-10-1986
			SE 461008 B	18-12-1989
			SE 8603041 A	08-07-1986
			SE 461126 B	15-01-1990
			SE 8801187 A	30-03-1988
			SE 461127 B	15-01-1990
			SE 8801188 A	30-03-1988
			SE 461129 B	15-01-1990
			SE 8801189 A	30-03-1988
			SE 461128 B	15-01-1990
			SE 8801190 A	30-03-1988
			US 4633543 A	06-01-1987

US 3477087	A	11-11-1969	NONE	

EPO FORM P0459

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