

(19) World Intellectual Property
Organization
International Bureau



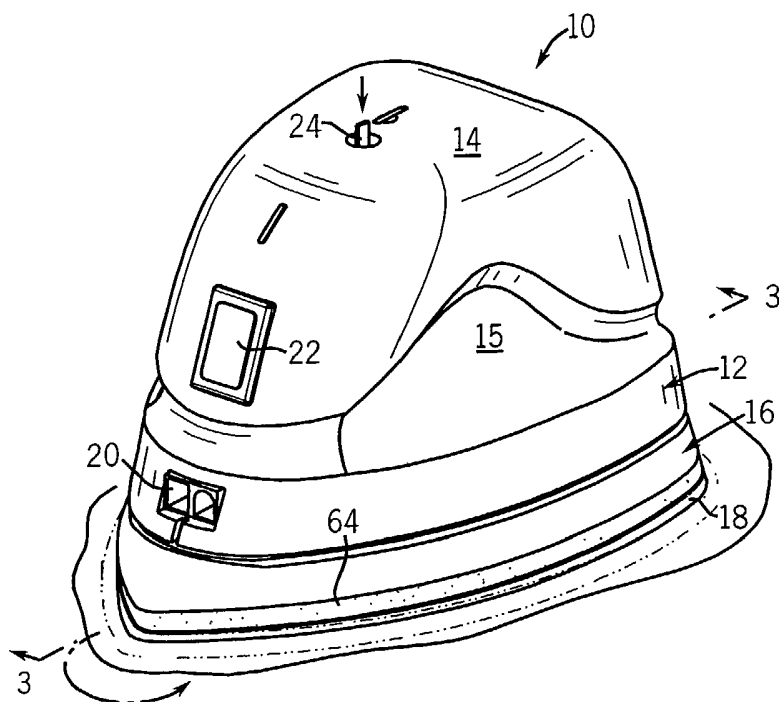
(43) International Publication Date
17 June 2004 (17.06.2004)

PCT

(10) International Publication Number
WO 2004/049886 A3

- (51) International Patent Classification⁷: **A47L 11/12**
- (21) International Application Number:
PCT/US2003/038597
- (22) International Filing Date:
26 November 2003 (26.11.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
60/430,735 3 December 2002 (03.12.2002) US
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- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR,
CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD,
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,
MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU,
SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA,
UG, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (*regional*): ARIPO patent (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:
— with international search report
- (88) Date of publication of the international search report:
23 December 2004
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

(54) Title: POWERED CLEANER/POLISHER



(57) Abstract: A motorized cleaning/polishing device includes a housing and a carrier with a detachable cleaning/polishing attachment. The housing contains a rechargeable battery, motor and flex mount having flexible pillars to which the carrier is mounted. The carrier is also coupled to the motor drive shaft via an eccentric element and bearing. The carrier may have a foam layer with hook fasteners adhered to its underside for removably attaching any one of various attachments to the carrier. Cleanser or polish can be impregnated in the attachment wet or dry, or it can be contained in a perforated or water dissolvable packet sandwiched between the carrier and the attachment. A removable scrub brush can also be attached to the carrier so that its bristle head orbits in front of the device. The device is particularly suited to orbit in the 2,500 to 10,000 OPM range.

INTERNATIONAL SEARCH REPORT

National Application No.

P/US 03/38597

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A47L11/12

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)

IPC 7 A47L A46B B24B

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 practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 6 253 405 B1 (DEBLOIS BRYAN P ET AL) 3 July 2001 (2001-07-03) cited in the application	1,5-10, 16-18,20
X	column 1, line 43 - column 8, line 44; figures 5-8	33-37, 47-51
A	US 4 168 560 A (DOYEL JOHN S) 25 September 1979 (1979-09-25)	1
X	column 2, line 9 - column 3, line 29	33-38, 47,51
A	GB 1 083 179 A (C T & R E INC) 13 September 1967 (1967-09-13)	1,10-13
X	page 1, line 10 - page 2, line 122; figures 1-3	33-38
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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

° Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

31 August 2004

Date of mailing of the international search report

13.09.2004

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INTERNATIONAL SEARCH REPORT

International Application No

P/US 03/38597

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 234 615 A (GLADFELTER ELIZABETH J ET AL) 10 August 1993 (1993-08-10) cited in the application column 1, line 16 - line 35 column 3, lines 31-42	2, 40
A	----- US 4 005 502 A (STEVENS BOYER ELAINE) 1 February 1977 (1977-02-01) column 2, line 9 - line 17	3
A	----- US 3 657 759 A (SAWYER HAROLD T) 25 April 1972 (1972-04-25) column 2, line 20 - line 32 column 3, line 21 - line 25	5, 7
A	----- FR 71 124 E (ELECTRO MECANIQUE A W SOC) 13 October 1959 (1959-10-13) the whole document	14
X	----- US 3 655 444 A (YOUNG EDWARD G) 11 April 1972 (1972-04-11) the whole document	16
X	----- US 3 251 087 A (PLATT JR ARTHUR G) 17 May 1966 (1966-05-17) the whole document	21-29
X	----- US 6 039 639 A (PFAUNDLER JULIAN) 21 March 2000 (2000-03-21) abstract; figure 7	21-29
A	-----	

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US 03/38597

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☒ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

1-29, 33-59
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-20, 33-59

Cleaning device with packet of surface treatment composition
between carrier and cleaning attachment

2. claims: 21-29

Cleaning device with flex mount

3. claims: 30-32

Cleaning device with a scrub brush mounted to a
reciprocating carrier

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

/US 03/38597

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6253405	B1	03-07-2001	US 5956792 A	28-09-1999
US 4168560	A	25-09-1979	AU 523081 B2	08-07-1982
			AU 5005279 A	17-04-1980
			DE 7925423 U1	24-01-1980
			FR 2438460 A3	09-05-1980
			GB 2035074 A ,B	18-06-1980
GB 1083179	A	13-09-1967	NONE	
US 5234615	A	10-08-1993	US 5078301 A	07-01-1992
			AU 648865 B2	05-05-1994
			AU 1066192 A	26-03-1992
			AU 2297988 A	06-04-1989
			BR 8805071 A	09-05-1989
			CA 1309062 C	20-10-1992
			DE 3853612 D1	24-05-1995
			DE 3853612 T2	18-01-1996
			EP 0314890 A2	10-05-1989
			JP 1240461 A	26-09-1989
			JP 2688074 B2	08-12-1997
			MX 172057 B	01-12-1993
			NZ 225512 A	27-11-1990
			US 5198198 A	30-03-1993
US 4005502	A	01-02-1977	NONE	
US 3657759	A	25-04-1972	NONE	
FR 71124	E	13-10-1959	NONE	
US 3655444	A	11-04-1972	NONE	
US 3251087	A	17-05-1966	NONE	
US 6039639	A	21-03-2000	DE 19800042 A1	03-09-1998
			GB 2322580 A ,B	02-09-1998
			IT MI980341 A1	20-08-1999