

(19)



Europäisches Patentamt
European Patent Office
Office européen des brevets



(11)

EP 0 990 402 A3

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3:
24.09.2003 Bulletin 2003/39

(51) Int Cl.⁷: A46B 13/00, A46B 13/02,
B24B 45/00, B08B 1/04

(43) Date of publication A2:
05.04.2000 Bulletin 2000/14

(21) Application number: 99116126.6

(22) Date of filing: 18.08.1999

(84) Designated Contracting States:
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU
MC NL PT SE

Designated Extension States:
AL LT LV MK RO SI

(30) Priority: 30.09.1998 US 163324

(71) Applicant: TEK MAKER CORPORATION
Taipei City (TW)

(72) Inventor: Lo, Teh-Liang
Hsien-Tien City, Taipei Hsein (TW)

(74) Representative: Lieck, Hans-Peter, Dipl.-Ing. et al
Lieck & Partner
Widenmayerstrasse 36
80538 München (DE)

(54) Portable electric cleaning device

(57) The present invention relates to a portable electric cleaning device (10, 100, 200) for cleaning various household items. The cleaning device (10, 100, 200) comprises a housing (20), a motor (30), a cleaning module (50, 120), and a battery set (60). The housing (20) has a handle (22, 130, 230) and a chassis (24, 110, 210). The motor (30) is installed in the chassis (24, 110, 210) of the housing (20) and comprises a rotating axle (32, 38). The cleaning module (50, 120) has a cleaning head (54, 300, 400, 500, 600, 700, 800, 900, 1000) for cleaning various home appliances and home environments, and a connecting end (52) installed on the rotating axle (32, 38). The battery set (60) is installed in the housing (20) for driving the motor (30) so as to rotate the cleaning module (50, 120).

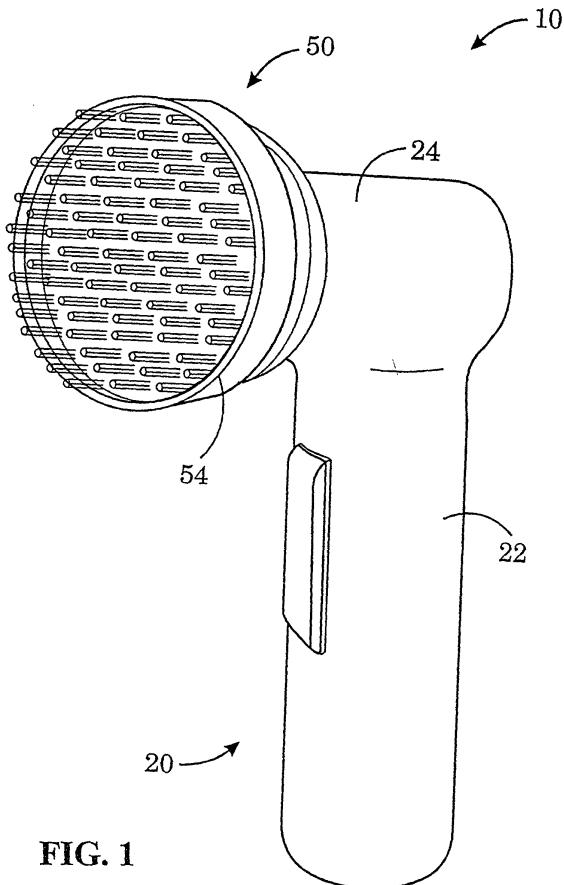


FIG. 1



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 99 11 6126

| DOCUMENTS CONSIDERED TO BE RELEVANT | | | |
|---|---|--|---|
| Category | Citation of document with indication, where appropriate, of relevant passages | Relevant to claim | CLASSIFICATION OF THE APPLICATION (Int.Cl.7) |
| X | US 5 423 102 A (MADISON) 13 June 1995 (1995-06-13) * column 3, line 6-20 * * column 3, line 62-68 * * column 4, line 60 - column 5, line 30; figures 1-6 * | 1-4, 8, 10, 15-17, 19-21, 26, 27 | A46B13/00 A46B13/02 B24B45/00 B08B1/04 |
| Y | --- | 5, 11-13 | |
| X | US 3 220 039 A (DAYTON) 30 November 1965 (1965-11-30) * column 3, line 19-32; figures 4, 7 * | 1-3, 6 | |
| X | US 3 343 192 A (GOLDSTEIN) 26 September 1967 (1967-09-26) * figures * | 1-3, 11, 17, 20-22, 26, 27 | |
| Y | US 4 137 588 A (SANDT CLAYTON) 6 February 1979 (1979-02-06) * column 3, line 4-17; figure 4 * | 5 | TECHNICAL FIELDS SEARCHED (Int.Cl.7) A46B B24B B08B B25F E04H A47L |
| A | --- | 1-4 | |
| Y | US 4 976 173 A (YANG) 11 December 1990 (1990-12-11) * figures 1-3 * | 11-13 | |
| The present search report has been drawn up for all claims | | | |
| Place of search | | Date of completion of the search | Examiner |
| THE HAGUE | | 5 August 2003 | Matzdorf, U |
| 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 | | | |

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

EP 99 11 6126

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.

05-08-2003

| Patent document cited in search report | | Publication date | | Patent family member(s) | | Publication date |
|--|---|------------------|----|-------------------------|--|------------------|
| US 5423102 | A | 13-06-1995 | | NONE | | |
| US 3220039 | A | 30-11-1965 | | NONE | | |
| US 3343192 | A | 26-09-1967 | | NONE | | |
| US 4137588 | A | 06-02-1979 | | NONE | | |
| US 4976173 | A | 11-12-1990 | EP | 0280527 A2 | | 31-08-1988 |