

CORRECTED VERSION

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
6 December 2001 (06.12.2001)

PCT

(10) International Publication Number  
**WO 01/091623 A3**

(51) International Patent Classification<sup>7</sup>: **G05D 1/02**

(21) International Application Number: PCT/US01/17088

(22) International Filing Date: 25 May 2001 (25.05.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
09/580,083 30 May 2000 (30.05.2000) US

(71) Applicant: **THE PROCTER & GAMBLE COMPANY**  
[US/US]; One Procter & Gamble Plaza, Cincinnati, OH  
45202 (US).

(72) Inventors: **KIRKPATRICK, James, F.**; 12 High Street,  
Milford, OH 45150 (US). **MADDOX, Harry, Basil**;  
10024 Winlake Drive, Cincinnati, OH 45231 (US).

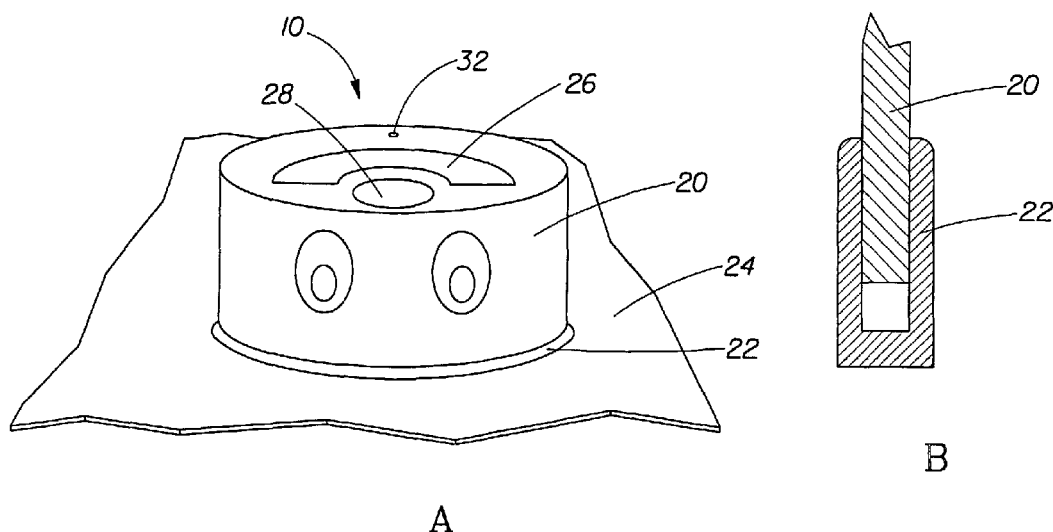
**CLENDENIEN, Kevin, Bruce**; 6875 Lynnfield Court,  
Cincinnati, OH 45243 (US). **WEATHERSTON, Andrew**;  
5809 Indian Creek Boulevard, Cincinnati, OH 45243 (US).  
**FISHER, Charles, W.**; 200 Belmont Court, Loveland,  
OH 45140 (US). **HEATON, Gary, Gordon**; 7385 Drake  
Road, Cincinnati, OH 45243 (US). **GENSKOW, Larry,**  
**Rudolph**; 5789 Old Forest Lane, West Chester, OH  
45069 (US). **BINSKI, Christopher, J.**; 4874 Hunt Road,  
Cincinnati, OH 45242 (US).

(74) Agents: **REED, T., David** et al.; The Procter & Gam-  
ble Company, 5299 Spring Grove Avenue, Cincinnati, OH  
45217-1087 (US).

(81) Designated States (*national*): AE, AG, AL, AM, AT (util-  
ity model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,  
CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (utility  
model), DE, DK (utility model), DK, DM, DZ, EE (utility  
model), EE, ES, FI (utility model), 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, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK

[Continued on next page]

(54) Title: AUTONOMOUS MOBILE SURFACE TREATING APPARATUS



(57) Abstract: An autonomous mobile surface treating apparatus having a chassis, a drive mechanism mounted to the said chassis by a suspension, and a substantially rigid shell movably mounted to the chassis. The suspension includes a resilient member interposed between the drive mechanism and the chassis so that when the shell is pushed toward the supporting surface the resilient member to permit the drive mechanism to move and the shell and/or the chassis to contact the supporting surface. The shell is supported by a plurality of elongated elastic supports received within plurality of elongated openings in the chassis. Preferably, a passive portion of a collision detection sensor is attached to a central portion of the shell. A non-skid lower edge member movably attached to the shell to adjust a clearance between the non-skid lower edge member and the supporting surface. A vacant volume that defines a module receiving area adapted to removeably receive a surface treatment module.



WO 01/091623 A3



(utility model), SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

**(84) Designated States (regional):** ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

**Published:**

— with international search report

**(88) Date of publication of the international search report:**  
22 August 2002

**(48) Date of publication of this corrected version:**  
6 November 2003

**(15) Information about Correction:**  
see PCT Gazette No. 45/2003 of 6 November 2003, Section II

*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.*