



- (51) International Patent Classification:
H02K 33/16 (2006.01) *B26B 21/38* (2006.01)
- (21) International Application Number:
PCT/US2012/039483
- (22) International Filing Date:
25 May 2012 (25.05.2012)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
61/502,942 30 June 2011 (30.06.2011) US
- (71) Applicant (for all designated States except US): **THE GILLETTE COMPANY** [US/US]; World Shaving Headquarters, IP/Legal Patent Department - 3E, One Gillette Park, Boston, Massachusetts 02127 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **DOLL, Alexander, Franz** [DE/DE]; Schillerstr. 20, 61476 Kronberg (DE).

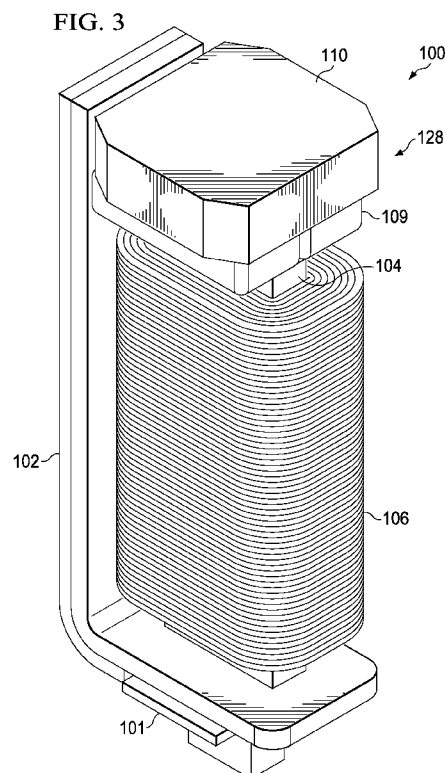
SCHOBER, Uwe [DE/DE]; Birkenweg 8, 61479 Schlossborn (DE). **KRESSMANN, Frank, Peter** [DE/DE]; IM Kleinfeldchen 3D, 65760 Eschborn (DE). **ZIEGLER, Frank** [DE/DE]; Luisenthaler Str. 6, 61184 Karben, Hessen (DE).

(74) Common Representative: **THE GILLETTE COMPANY**; Eileen L. Hughett, The Procter & Gamble Company, Global Patent Services, 299 East Sixth Street, Sycamore Building, 4th Floor Cincinnati, Ohio 45202 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

[Continued on next page]

(54) Title: LINEAR MOTOR FOR A SMALL, ELECTRIC HANDHELD DEVICE



(57) Abstract: A handle for a small electric handheld appliance in which the handle comprises a motor assembly disposed in the handle. The motor assembly comprises a generally L-shaped magnetic yoke formed from two substantially perpendicular surfaces, such that the two substantially perpendicular surfaces define a concave receiving portion. The motor assembly also comprises an iron core and a coil winding disposed substantially in the concave receiving portion, such that the iron core and the coil winding are free from contact with one of the two substantially perpendicular surfaces when the motor is at rest.



(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))

(88) Date of publication of the international search report:

10 October 2013