

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
9 April 2009 (09.04.2009)

PCT

(10) International Publication Number
WO 2009/043865 A3

(51) International Patent Classification:

A47J 31/54 (2006.01)

(21) International Application Number:

PCT/EP2008/063128

(22) International Filing Date: 1 October 2008 (01.10.2008)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:

07117853.7 4 October 2007 (04.10.2007) EP

08154918.0 22 April 2008 (22.04.2008) EP

08156704.2 22 May 2008 (22.05.2008) EP

PCT/EP2008/063092

30 September 2008 (30.09.2008) EP

(71) Applicant (for all designated States except US): NESTEC
S.A. [CH/CH]; Avenue Nestlé 55, CH-1800 Vevey (CH).

(72) Inventors; and

(75) Inventors/Applicants (for US only): ETTER, Stefan
[CH/CH]; Kirchweg 8, CH-3122 Kehrsatz (CH). GAU-
DENZ, Urs [CH/CH]; Seegräbnerstrasse 29, CH-8620

Wetzikon (CH). GAVILLET, Gilles [CH/CH]; Plat-
tiez, CH-1670 Ursy (CH). HODEL, Thomas [CH/CH];
Rebenweid 23, CH-6332 Hagendorn (CH). KOLLEP,
Alexandre [CH/CH]; Chemin des Chênes 25, CH-1095
Lutry (CH). MÖRI, Peter [CH/CH]; Burghubelstrasse 1,
CH-3272 Walperswil (CH). MOSER, Renzo [CH/CH];
Dorfstrasse 13, CH-GÜMMENEN 3205 (CH). PREISIG,
Peter [CH/CH]; Buech 4795, CH-9100 Herisau (CH).
SCHWAB, Robin [CH/CH]; Fürstweg 7, CH-8057 Zürich
(CH).

(74) Agent: SCHNYDER, Frank; Avenue Nestlé 55,
CH-1800 Vevey (CH).

(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, 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, PG, PH, PL, PT,
RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TJ,

[Continued on next page]

(54) Title: HEATING DEVICE WITH AN INTEGRATED THERMOBLOCK FOR A BEVERAGE PREPARATION MACHINE

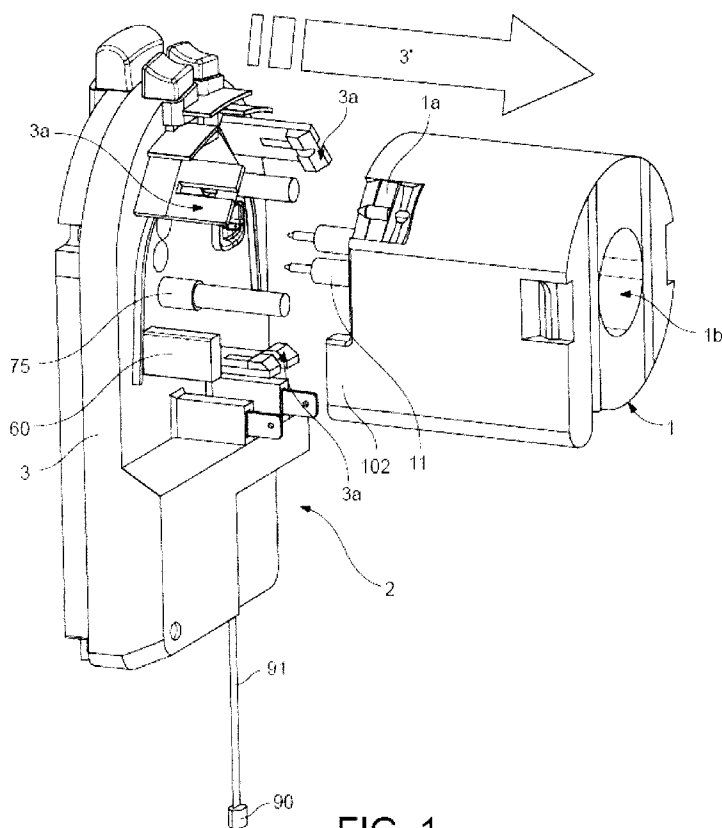


FIG. 1

(57) Abstract: An in-line heating device(1, 2, 3, 4) for a liquid food or beverage preparation machine in which liquid is circulated through the heating device and then guided into a brewing chamber. This heating device comprises: a thermoblock with a metal mass (1) that incorporates an inlet, an outlet and a heating chamber extending therebetween to form a passage for guiding said liquid circulating through said mass, the mass being arranged to accumulate heat and to supply heat to the liquid; and one or more electric components (60,70,75) that are rigidly secured onto or into the thermoblock and that are connected to a printed circuit board (4) and/or a flex- print (4) arranged to control the thermoblock. The electric components are rigidly connected to the printed circuit board and/or flex-print, in particular via rigid connector pins or blades or rigid plug and socket members.



TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

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

Declarations under Rule 4.17:

— *as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))*

— *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*
— *of inventorship (Rule 4.17(iv))*

Published:

— *with international search report*
— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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

18 June 2009