



(51) International Patent Classification:

B67D 1/12 (2006.01) *B67B 7/86* (2006.01)
B67D 3/00 (2006.01)

(21) International Application Number:

PCT/EP2022/063333

(22) International Filing Date:

17 May 2022 (17.05.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

2107014.9 17 May 2021 (17.05.2021) GB

(71) Applicant: **DIAGEO IRELAND UNLIMITED COMPANY** [IE/IE]; Saint James's Gate, The Liberties, Dublin (IE).

(72) Inventors: **MURPHY, Christopher**; Innovation House DCU Alpha Innovation C, Old Finglas Road, Glasnevin, Dublin 11, D11 KXN4 (IE). **GILLEN, Gerald**; Innovation House, DCU Alpha Innovation C, Old Finglas Road, Glasnevin, Dublin 11, D11 KXN4 (IE). **RYAN, James**; Innovation House, DCU Alpha Innovation C, Old Finglas Road, Glasnevin, Dublin 11, D11 KXN4 (IE). **VELAGIC, Haris**; Innovation House, DCU Alpha Innovation C, Old Finglas Road, Glasnevin, Dublin 11, D11 KXN4 (IE). **JOHNS-**

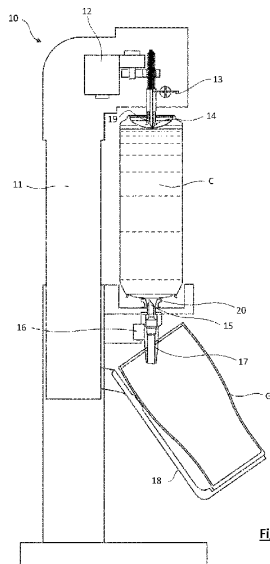
TON, Alan; Innovation House, DCU Alpha Innovation C, Old Finglas Road, Glasnevin, Dublin 11, D11 KXN4 (IE). **GILSENAN, Steve**; C/O Diageo Ireland Unlimited Company, Saint James's Gate, The Liberties, Dublin (IE). **HENDRON, Stephen**; C/O Diageo, Lakeside Drive, Park Royal, London Greater London NW10 7HQ (GB). **SMITH, Paul**; C/O Diageo Innovation D Woodside, Dunmow Road, Birchanger, Bishops Stortford Essex CM23 5RG (GB).

(74) Agent: **HIGGS, Jonathan**; Murgitroyd & Company, 297 Upper Fourth Street, Studio H1B Witan Studios, Milton Keynes Buckinghamshire MK9 1EH (GB).

(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, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH,

(54) Title: A BEVERAGE DISPENSE APPARATUS



(57) Abstract: A beverage dispense apparatus and associated method, comprises a frame (11) for removably locating and holding a sealed beverage unit package (C) in a vertical orientation. A first piercing element (14) punctures a vent opening into a headspace of the beverage package (C) and, subsequently as the first piercing element is driven downward, a second piercing element (15) punctures an outlet opening into the beverage package so that beverage can flow through a nozzle (17) under gravity. An ultrasonic transducer (16) against the nozzle (17) may supply excitation energy that breaks gas out of solution so that a creamy head is formed on the beverage in a delivery vessel underneath the frame. Control of the vent opening/vale (13) enables flow to be slowed or stopped through the nozzle (17) enabling a settle time and "two-part" pour.

GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, ST, 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, KM, 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))