

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau

(43) International Publication Date
09 February 2023 (09.02.2023)



(10) International Publication Number
WO 2023/014698 A1

(51) International Patent Classification:

A23N 12/10 (2006.01) A23N 12/12 (2006.01)
A23F 5/04 (2006.01)

(21) International Application Number:

PCT/US2022/039144

(22) International Filing Date:

02 August 2022 (02.08.2022)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

17/391,579	02 August 2021 (02.08.2021)	US
17/391,581	02 August 2021 (02.08.2021)	US
17/482,858	23 September 2021 (23.09.2021)	US
17/482,862	23 September 2021 (23.09.2021)	US

(71) Applicant: **BELLWETHER COFFEE CO.** [US/US];
1710 Fourth Street, Berkeley, California 94710 (US).

(72) Inventors; and

(71) Applicants: **SCHMEHL, Stewart** [US/US]; 44 Pomeroy
Drive, Pinehurst, North Carolina 28374 (US). **SANDHU,
John** [US/US]; 4033 St. Petersburg Street, Boulder, Col-
orado 80301 (US). **KAPPESSER, Ronald** [US/US]; 3171
Consuelo Road, Concord, California 94519 (US). **SCH-**

MEHL, Peter [US/US]; 2512 Ninth Street, Suite 13A,
Berkeley, California 94710 (US).

(74) Agent: **HUTTER, Christopher R.** et al.; COOLEY LLP,
1299 Pennsylvania Ave. Suite 700, Washington, District of
Columbia 20004 (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, BN, BR, BW, BY, BZ,
CA, CH, CL, CN, CO, CR, CU, CV, 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,
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,

(54) Title: COFFEE ROASTING SYSTEM WITH ROASTING AND COOLING SUBSYSTEMS, AND METHODS FOR THE SAME

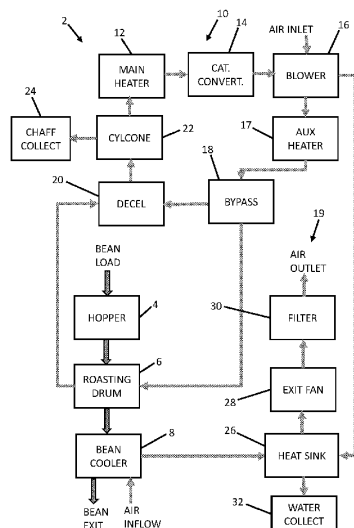


FIG. 1

(57) Abstract: A bean roasting system includes a roasting subsystem, a cooling subsystem, an air exit subsystem that is fluidically coupled to the cooling subsystem, and a controller. The cooling subsystem includes an outer housing containing a holding chamber, a cooling platform defining a lower bound of the holding chamber, a vibration actuator coupled to the cooling platform, and a platform actuator coupled to the cooling platform. The controller is configured to operate the air exit subsystem to maintain a flow of air up through the holding chamber, operate the roasting subsystem to transfer a batch of beans from the roasting subsystem to the holding chamber, operate the vibration actuator to vibrate the cooling platform, operate the air exit subsystem and operate the vibration actuator accelerates cooling of the batch of beans, and operate the platform actuator to transport the batch of beans out of the cooling subsystem.

WO 2023/014698 A1

[Continued on next page]

TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
KM, 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))*

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))*