

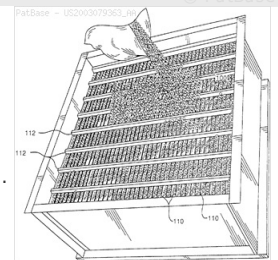
1) Family number: 28627799 (US2003079363A)

APPARATUS FOR BULK DRYING OF SLICED AND GRANULAR MATERIALS

Abstract: Source: US2003079363A A heated airflow dryer system for drying granular, crushed, and in particular, sliced fruit and other crops and materials where granules are of at least about one quarter inch diameter or slices are about one quarter inch or more thickness. An integral or removable materials holding container has multiple removable airflow plates configured with airflow channels extending through the container interior connecting an inlet high pressure plenum to a lower pressure outlet plenum of a primary heated airflow circuit. The airflow plates are parallel and uniformly spaced to form vertical or horizontal bays of sufficient width to hold the granules or slices. The primary airflow is directed through the container. An air dryer removes excess moisture in the primary airflow or a secondary airflow circuit, which may incorporate a heat exchanger, exhausts moist air and provides make up air to the primary airflow.

Probable Assignee: SOUCY PAUL B US

Earliest Publication Date: 19981002



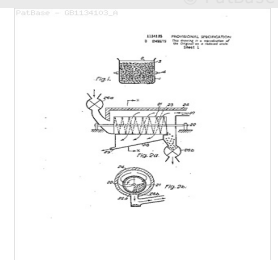
2) Family number: 30861574 (GB1134103A)

DECORTICATION OF NUTS

Abstract: Source: GB1134103A 1,134,103. Decortivating and skinning nuts. NATIONAL RESEARCH DEVELOPMENT CORP. 17 Dec., 1965 [22 Sept., 1964], No. 38651/64. Heading A2Q. In a process and apparatus for decortivating hard-shelled nuts or cocoa beans, the nuts or beans are soaked in water, airdried, subjected to centrifugal cleaning and cracking, in which some of the nuts or beans are cracked by being flung against hard surfaces, and broken and unbroken nuts or beans are then separated, unbroken ones are again subjected to centrifugal cracking, and the liberated kernels are separated from broken shells, as by a fluidized-bed flotation technique described in Specification 1,085,810. In decortivating and skinning cashew nuts, they are roasted, e.g. in hot air or gas, e.g. combustion gas from an oil-burner, between air-drying and cleaning and cracking, so that after roasting, the moisture content of the kernels is between 7 and 15 percent, and that of the shells is between 5 and 10 percent, by weight. The kernels are finally subjected to an operation akin to sand-blasting, which removes skins (testae) from the kernels and may also dry them. Particles of ice or solid carbon dioxide, or salt crystals may be used in the blasting operation.

Probable Assignee: NAT RES DEV

Earliest Publication Date: 19681120



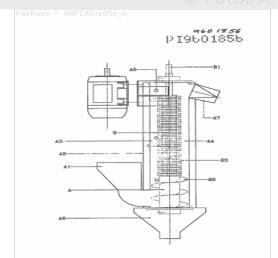
3) Family number: 31652550 (BRPI9601856A)

DESMUCILADOR ECOLOGICO VERTICAL DE FLUXO ASCENDENTE ECOLOGICAL VERTICAL UPWARD FLOW MUCILAGE REMOVER (MACHINE TRANSLATION)

Abstract: Source: BRPI9601856A [Source: Claim 1] 1- "DESMUCILADOR ECOLOGICO VERTICAL DE FLUXO ASCENDENTE" caracterizado por realizar a desmucilagem mecanica de - frutos, cuja polpa camosa deixa residuos sobre a semente 5 te, utilizando o atrito entre os graos provocado pelo - proprio peso do produto e um outro agente indutor do movimento ascendente da massa de graos. 2. "DESMUCILADOR ECOLOGICO VERTICAL DE FLUXO ASCENDENTE" de acordo com o ponto 1, caracterizado por possuir um cilindro (A) em posicao vertical ou inclinada, que possui- fixado na capa (A.2) um conjunto de bicos de injecao de agua (A.4), tendo no seu interior uma grade (A.3) de chapa perfurada ou dispositivo equivalente que tem na sua - parte inferior uma abertura de alimentacao e na sua parte superior uma abertura de saida, grade essa que envolve o rotor (B), cuja geometria de construo e formada - por uma helice ou sistema equivalente e um conjunto de - aletas ou sistema equivalente. 3. "DESMUCILADOR ECOLOGICO VERTICAL DE FLUXO ASCENDENTE" de acordo com os pontos 1 e 2, caracterizado pelo fato - de ser recomendado para qualquer tipo de produto, cuja - desmucilagem mecanica seja recomendada e particularmente para desmucilagem mecanica do cafe cereja despulpado. 20 [Source: Claim 1] 1- "ECOLOGICAL VERTICAL UPWARD FLOW MUCILAGE REMOVER" characterized by performing the mechanical demucilage is used-fruit, whose camosa makes pulp residues on the seed you 5, using the friction between the grain caused by-own product weight and another mo-inducing agent-rising grain mass development. 2. "ECOLOGICAL VERTICAL UPWARD FLOW MUCILAGE REMOVER" in accordance with section 1, characterized by possessing a cylinder 10 (A) in vertical position or inclined, which features-set on the cover (2) a set of water injection nozzles (4) inside a grid (3) tea perforated or equivalent device that has a bottom-feeding and pair-15 superior a saida, which involved see the impeller (B), whose construction and geometry formed by a helix or equivalent system and a set of-or equivalent system flaps. 3. "ECOLOGICAL VERTICAL UPWARD FLOW MUCILAGE REMOVER" in accordance with paragraphs 1 and 2, characterized by the fact of being recommended for any type of product, whose-is recommended, particularly mechanical demucilage is used to mechanically pulped cherry coffee demucilage is used. 20

Probable Assignee: PIAGENTINI ADELICIO

Earliest Publication Date: 19980929



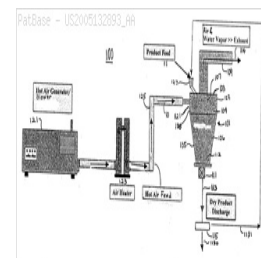
4) Family number: 32019099 (US2005132893A)

PROCESS FOR SINGLE-STAGE HEAT TREATMENT AND GRINDING OF COFFEE BEANS

Abstract: Source: US2005132893A A single-stage process for drying, roasting, and grinding of green coffee beans in a single unit operation in a continuous manner. Heat-treated and ground coffee beans having savory flavor and aroma are achieved in a unique process described herein that combines all these different treatments in a single-stage operation.

Probable Assignee: KRAFT FOODS HOLDINGS INC

Earliest Publication Date: 20050623



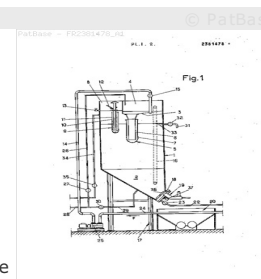
5) Family number: 3642008 (FR2381478A)

PROCEDE ET APPAREILLAGE POUR LA FERMENTATION EN MILIEU AQUEUX DE FRUITS TELS QUE DES CERISES DE CAFE, DES FEVES DE CACAO ET DES NOIX DE KOLA AQ. FERMENTATION OF FRUITS - E.G. COFFEE BERRIES, COCOA BEANS, COLA NUTS ETC., RECYCLING THROUGH FERMENTATION LOCK SIPHON AFTER SEPN. OF KERNELS ETC. (BR 19.9.78)

Abstract: Source: FR2381478A Les fruits, préalablement épierrés et dépulpes, sont amenés en flottation dans de l'eau, en 24, 25, 14, 15, au sommet 3 d'une cuve 1, et les fruits qui flottent à la surface sont éjectés en 31-33. On active par brassage à l'air comprimé, en 34, 35, la fermentation qui sépare les noyaux de la chair des fruits, avec remontage en 16. On évacue les eaux sales en 22, 23, on remplit la cuve d'eau propre en 26, 27, et l'on procède à de nouveaux lavages. Enfin, on évacue les noyaux en 18, 20. Pre-cleaned fruits are pumped in suspension in water into an enclosed fermenting vessel and floating fruits are discarded by surface overflow which is then closed off. The fermentation proceeds and is agitated as necessary. During fermentation the flesh of the fruits becomes hydrolysed and breaks away from the stones or kernels. Water with hydrolysed fruit flesh in suspension is drained off and the remaining kernels flushed through with water which is also drained away. The kernels are dried and prepared for sale. Fermenting fruit is pref. carried up a riser pipe by pressurised gas, e.g. CO₂ from fermentation or injected air. The riser pipe delivers fruit into a receiver from which it is returned to the fermenting vessel via a hydraulic fermentation lock siphon. This recycling of fruit continues for several hours. A gas pressure relief lock, pref. of the siphon type, periodically vents the vessel to atmos. so that pressure is reduced and fruit is allowed to re-enter the vessel via the fermentation lock siphon.

Probable Assignee: BLACHERE ET CIE COMPTOIRS INDL

Earliest Publication Date: 19780919



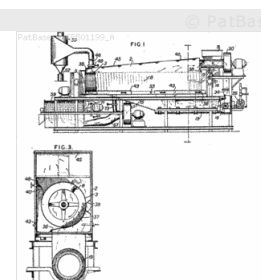
6) Family number: 19701597 (GB501199A)

IMPROVED METHOD AND APPARATUS FOR ROASTING COFFEE, COCOA BEANS AND THE LIKE

Abstract: Source: GB501199A [Class 58] The material to be roasted is fed from a hopper 9 with a pivoted shaker spout 10 into a pipe 14 leading into a perforated roasting cylinder 3 rotatably mounted on a shaft 5 in an insulated chamber 2 and provided with a trough formed by a helical flange 8, extending the full length of the cylinder. The roasting chamber is heated by a motor driven gas burner 18 situated in a chamber 19 below the chamber 2 and provided with an adjustable shutter 26 to control the supply of air. An exhaust fan 30 draws air from the roasting chamber and forces it through a passage 34 past the burner flame in the chamber 19 whence it passes through the perforations of the cylinder 3 and the beans and c. in the trough to the upper part of the chamber 2 to be recirculated. To direct the gases through the cylinder lower and upper seals 36, 39 are arranged in the chamber 2 between its casing and the cylinder, end seals 38 also being provided: a shield 37 is provided to prevent the heated gases passing directly upwards into the material as it is fed into the cylinder. To remove material tending to clog the perforations, a brush 40 may be moved into contact with the outer surface of the cylinder and removable panels 43 and hoppers 45 are provided to facilitate cleaning. When desired gases may be withdrawn from the casing through a pipe 48 controlled by a damper 49 such gases being discharged either directly or through a separator 50. Thermometers 53 are fitted to indicate the temperature of the gases entering and leaving the chamber and automatic devices controlled by the thermometers may be used to vary the temperature of the heating flame, the volume of the gases circulated or the time or extent of exposure of the material to the heated gases. To ensure a suitable flow of the heated gases through the material the bottom of the chamber 2 tapers upwardly towards the end remote from the flame and the top is tapered in the reverse direction. The roasted material falls from the end of the cylinder into a perforated rotary cooling cylinder 69 provided with a helical flange similar to that of the cylinder 3. Air is drawn downwards through this cylinder to a chamber end pipe 67 leading to a fan 75: the pipe 67 is connected by a bypass pipe 71 to the inlet to the cylinder 59 so that loose light material may be removed from the roasted beans and c. A second pipe 73 connects the pipe 67 directly with the chamber 2 and may be used to withdraw gases therefrom instead of the pipe 48. In a modification the helical flange 8 is rotated independently of the cylinder 3: in another the casing 2 is of uniform cross sectional area for a short distance from the end of the cylinder and an adjustable baffle is provided to prevent heated gases entering the cylinder for a desired part of this distance: in a further modification, the heated gases are introduced at the top and withdrawn from the lower part of the heating chamber. The Specification as open to inspection under Sect. 91 comprises also a modification in which the material passes over a series of inclined, shaking trays provided with perforated bottoms instead of through the rotating cylinder. This subject-matter does not appear in the Specification as accepted.

Probable Assignee: JABEZ BURNS AND SONS INC

Earliest Publication Date: 19390221



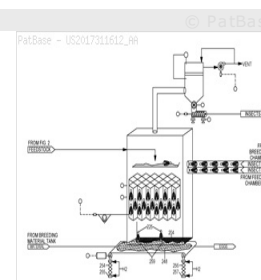
7) Family number: 67366846 (US2017311612A)

INSECT PRODUCTION SYSTEMS AND METHODS

Abstract: Source: US2017311612A Variable-scale, modular, easily manufacturable, energy efficient, reliable, and computer operated Insect Production Superstructure Systems (IPSS) may be used to produce insects for human and animal consumption, and for the extraction and use of lipids for applications involving medicine, nanotechnology, consumer products, and chemical production with minimal water, feedstock, and environmental impact. An IPSS may comprise modules including feedstock mixing, enhanced feedstock splitting, insect feeding, insect breeding, insect collection, insect grinding, pathogen removal, multifunctional flour mixing, liquid mixing, shaping, cooking, flavoring, biocatalyst mixing, exoskeleton separation, liquid separation, and lipid extraction. An IPSS may be configured to be constructed out of a plurality of containerized modules.

Probable Assignee: INSECTERGY LLC

Earliest Publication Date: 20171102



PatBase - US: **PLANT GROWING MODULE,
SIDE VIEW**

[illegible]