

1) Family number: 60312235 (CN104896885A)

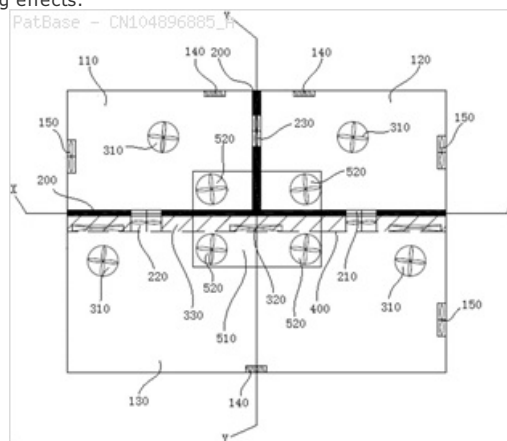
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Title: SOLAR DRYING GREENHOUSE AND METHOD

Abstract: The invention relates to a solar drying greenhouse and method, and belongs to the technical field of solar energy utilization. The solar drying greenhouse comprises a dryer, a heat exchanger, a detection system and an electrical control system, the dryer comprises at least three independent drying chambers, a heat source device, an exhaust device, an air inlet device and a ventilation fan are arranged in each drying chamber, the heat source device provides heat, the exhaust device and the air inlet device are communicated with the outside, and the ventilation fan is communicated with the other drying chambers. The heat exchanger comprises a heat exchange air duct and at least three heat exchange fans, the detection system comprises temperature and humidity detectors arranged in each drying chamber, and the heat source device, the exhaust device, the air inlet device, the ventilation fan, the heat exchange fans and the temperature and humidity detectors are electrically connected with the electrical control system. The drying greenhouse can meet different requirements of a material drying process for drying temperature and humidity at all stages, heat in the whole dryer can be used in an overall planning manner, energy is sufficiently used by reasonably controlling logics and the electrical control system, and the solar drying greenhouse has excellent energy-saving effects.

Classifications:

International (IPC 8-9): F26B21/00 F26B21/08 F26B21/10
F26B9/06 (Advanced/Invention)

**Family:**

Publication number	Publication date	Application number	Application date
■ CN104896885 A	20150909	CN201510342643	20150617
■ CN104896885 B	20170111	CN201510342643	20150617

Priority:

CN201510342643 20150617

Probable Assignee: GUANGDONG INST MODERN AGRICULTURAL EQUIPMENT

Assignee(s): (std): GUANGDONG INST MODERN AGRICULTURAL EQUIPMENT ; GUANGDONG INST OF MODERN AGRICULTURAL EQUIPMENT

Assignee(s): GUANGDONG PROVINCIAL INST OF MODERN AGRICULTURAL EQUIPMENT

Inventor(s): (std): LI HUILING ; WEI CHUWEI ; LIU NIHONG ; WANG RUIFENG ; XU CHURONG ; LI JIWEN

2) Family number: 56005107 (CN203482890U)

© PatBase

Title: YELLOW SUN-CURED TOBACCO MODULATION GREENHOUSE AND VERTICAL STEERING FRAME FOR FOLDING TOBACCO RACKS THEREOF

Abstract: The utility model discloses a vertical steering frame for folding tobacco racks. The sun-cured surface angle of each folding tobacco rack can be properly adjusted according to the requirements under the actions of a backward twist rod of the steering frame and left and right twist rods of the steering frame. Compared with the method for moving the folding tobacco racks in pairs to adjust the sun-cured angle in the prior art, the vertical steering frame has the advantages that the technological operation process is simple and convenient, over 50 percent of tedding labor is saved, the utilization rate of natural resources (sunlight) is improved, and the stability and the flexibility are strong, so that the yellow sun-cured tobacco modulation efficiency and the yellow-cured tobacco modulation effect are improved. The utility model also provides a yellow sun-cured tobacco modulation greenhouse adopting the vertical steering frame for the folding tobacco racks; the vertical steering frame for the folding tobacco racks is matched on the basis of greenhouse modulation, the sun loss of unit area and the utilization rate of light energy are increased, the working time for overall modulation is shortened, and the tobacco modulation efficiency and the tobacco modulation effect of the modulation greenhouse are effectively improved.

Classifications:

International (IPC 8-9): A24B3/12 (Advanced/Invention)

CPC: A24B3/12

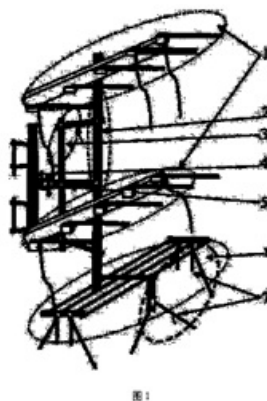


图1

Family:

Publication number	Publication date	Application number	Application date
■ CN104544535 A	20150429	CN201310491217	20131018
■ CN104544535 B	20160706	CN201310491217	20131018
■ CN203482890 U	20140319	CN201320646312U	20131018

Priority:

CN201310491217 20131018 CN201320646312U 20131018

Probable Assignee: CHANGSHA NINGXIANG BRANCH HUNAN TOBACCO CO LTD**Assignee(s):** (std): CHANGSHA NINGXIANG BRANCH HUNAN TOBACCO CO LTD**Assignee(s):** CHANGSHA HUNAN PROVINCE TOBACCO CO COMPANY NINGXIANG COUNTY BRANCH ; CHANGSHA NINGXIANG BRANCH HUNAN TOBACCO CO**Inventor(s):** (std): CHEN CHENG ; HUANG SONGQING ; ZHANG WANLIANG ; ZHOU YIRAN ; CHENG ZHIJUN ; TANG GELI**3) Family number: 11801651 (US5974957A)**

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Title: Rotating food dehydrator

Abstract: A food dehydrator is provided including a base with an interior space. Also included is a food supporting mechanism within the interior space of the base for supporting food thereon. A heating mechanism is adapted for generating heat within the interior space of the base. For circulating air about the food, an air circulation mechanism included. The food supporting mechanism and air circulation mechanism move with respect to each other during use.

Classifications:

International (IPC 8-9): F26B15/08 F26B9/00 (Advanced/Invention); F26B15/00 F26B9/00 (Core/Invention)

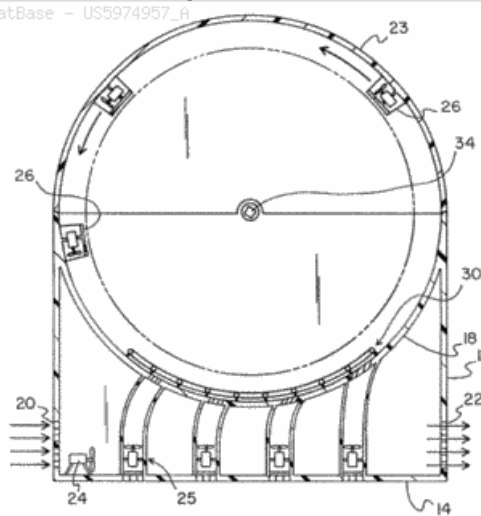
International (IPC 1-7): A47J27/00 A47J37/00 A47J37/04 A47J43/18

CPC: F26B9/003 F26B15/08

European: F26B15/08 F26B9/00B

US: 99/427 99/443R 99/448 99/450 99/476 99/483 994/270

PatBase - US5974957_A

**Family:**

Publication number	Publication date	Application number	Application date
■ US5974957 A	19991102	US19980182732	19981029

Priority:

US19980182732 19981029

Probable Assignee: YSEN DAVID A
Assignee(s): (std): YSEN DAVID A
Inventor(s): (std): YSEN DAVID A

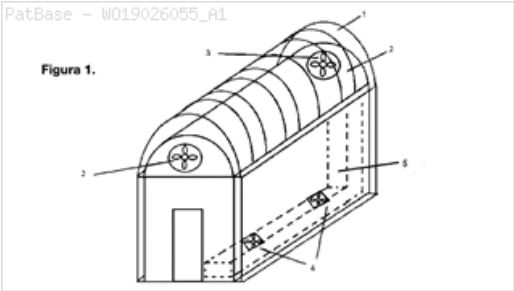
4) Family number: 73134547 (WO19026055A1) © PatBase

Title: DOUBLE-WALLED, DOUBLE-CHAMBER AUTOMATIC SOLAR DEHYDRATION SYSTEM

Abstract: The present invention relates to a double-walled, double-chamber automatic solar dehydration system, characterised in that it comprises a unit for storing and heating air with a structural design that allows for better external insulation and control of moisture and temperature conditions inside, as well as an increase in the drying area. The system of the present invention comprises a double-walled, double-chamber structure made of a high-density material, which makes up the unit for storing and heating air, as well as a temperature-control mechanism associated with a mobile or static set of vertical positioning beds, said arrangement increasing the drying area.

Classifications:

International (IPC 8-9): A23N12/08 F26B13/00 F26B13/02
F26B3/28 (Advanced/Invention)
CPC: A23N12/08 F26B3/28



Family:

Publication number	Publication date	Application number	Application date
CO20170007948 A1	20190308	CO20170007948	20170804
WO19026055 A1	20190207	WO20181B55884	20180804

Priority:

CO20170007948 20170804

Probable Assignee: INSTITUCION UNIV PASCUAL BRAVO

Assignee(s): (std): INSTITUCION UNIV PASCUAL BRAVO

Assignee(s): INSTITUCION UNIVERSITARIA PASCUAL BRAVO

Inventor(s): (std): CADAVID GOMEZ BAYARDO EMILIO ; PALACIO FERNANDEZ JOSE ALFREDO ; CADAVID GOMEZ BAYARDO

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DJ DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JO JP KE KG KH KM KN KP KR KW KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

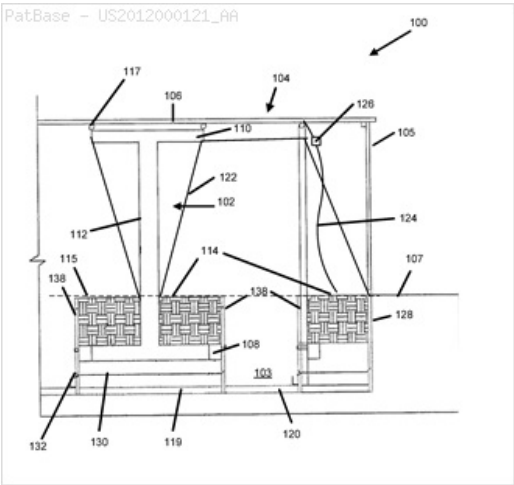
5) Family number: 50431482 (US2012000121A) © PatBase

Title: SELF-REGULATING GREENHOUSE

Abstract: An apparatus and system are disclosed for a self-regulating greenhouse. The apparatus includes a horizontal air pathway disposed within a growing bed, and a vertical air pathway extending upward from the horizontal air pathway through the growing bed to an air intake apparatus positioned adjacent the roof. The system includes the apparatus and a structure comprising walls and a roof formed of at least a first transparent sheet coupled with a rotatable arm and an adjacent second transparent sheet coupled with an extending arm such that when the extending arm lifts the second transparent sheet an opening is formed in the roof between the first and second transparent sheets to allow a flow of air between an interior of the structure and an exterior of the structure. The system also includes an external surface of formed of a transparent membrane allowing sunlight to enter the structure.

Classifications:

International (IPC 8-9): A01G9/00 A01G9/14
F15D1/00 (Advanced/Invention)
CPC: A01G9/14 Y02A40/252 Y10T137/8593
European: A01G9/14
US: 137/561.00RS 137/561R 47/17 47/17P



Family:

Publication number	Publication date	Application number	Application date
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US2012000121 AA	20120105	US20110175666	20110701
US8839551 BB	20140923	US20110175666	20110701

Priority:

US20100360823P 20100701 US20110175666 20110701

Probable Assignee: SWANN JAMES J

Assignee(s): (std): SWANN JAMES J

Inventor(s): (std): SWANN JAMES J

Agent(s): KUNZLER LAW GROUP

6) Family number: 11726462 (US5960560A)

© PatBase

Title: THERMAL SOLAR DEHYDRATOR

Abstract: A thermal solar dehydrator (16) comprising an enclosure (18) having a plurality of drying chambers (20) therein. A plurality of perforated trays (22) are provided. A plurality of runners (24) support the perforated trays (22) in vertically spaced apart relationships within the drying chambers (20) of the enclosure (18), so that food can be placed upon the perforated trays (22). A structure (26) is for forcing air into and out of the drying chambers (20). An assembly (28) is for allowing sunlight (30) to penetrate the enclosure (18) and heat up the air passing through the drying chambers (20), so that the food placed upon the perforated trays (22) will dehydrate.

Classifications:

International (IPC 8-9): F26B21/00 F26B3/28

F26B9/06 (Advanced/Invention);

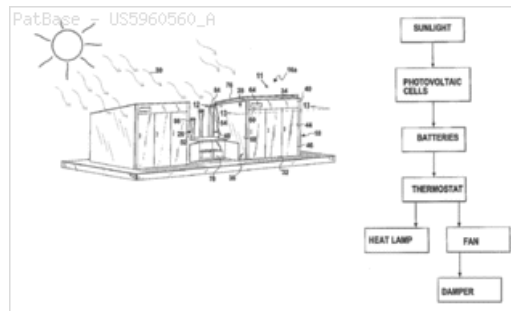
F26B21/00 F26B3/00 F26B9/06 (Core/Invention)

International (IPC 1-7): F26B13/10

CPC: Y02B40/74 F26B9/066 F26B3/286 F26B21/004

European: F26B21/00D F26B3/28B2 F26B9/06C

US: 34/212 34/529 34/540 34/93 345/290



Family:

Publication number	Publication date	Application number	Application date
US5960560 A	19991005	US19970989053	19971211

Priority:

US19970989053 19971211

Probable Assignee: STOLL FEDNA

Assignee(s): (std): STOLL FEDNA

Inventor(s): (std): STOLL FEDNA

7) Family number: 12500521 (US6112428A)

© PatBase

Title: Solar powered air drying system

Abstract: A solar powered air drying system which maintains a dry atmosphere inside of a sealed volume. The system uses electricity produced by a solar panel to regenerate daily a desiccant. The desiccant dries the air in a sealed volume which includes the waveguide run and antenna for a Radio Frequency target. The system comprises a solar powered air dryer which operates in conjunction with the natural diurnal temperature cycle. During morning hours, the air volume in the sealed volume is heated by naturally increasing daytime temperatures and the sun and expands, forcing air out of the sealed volume into the solar powered air dryer. The forced air then travels through a desiccant column which includes the desiccant prior to being vented into the environment. Simultaneously, the solar panel provides electrical current to an electric heater which heats the desiccant driving off its stored water. The forced air from the sealed volume then carries the desiccant's moisture with it into the environment. During the afternoon hours, a sun shade begins reducing the solar panel's electrical output, allowing the desiccant to cool to near ambient temperatures. The sealed volume container also cools, drawing in cooler, moister air from the environment through the desiccant column. Since the air first travels through the desiccant, the air is dried before it enters the sealed volume. This regeneration process repeats itself daily.

Classifications:

International (IPC 8-9): F26B21/08 (Advanced/Invention);

F26B21/06 (Core/Invention)

International (IPC 1-7): F26B21/06

CPC: F26B21/083

European: F26B21/08B

US: 34/81 34/810 34/93

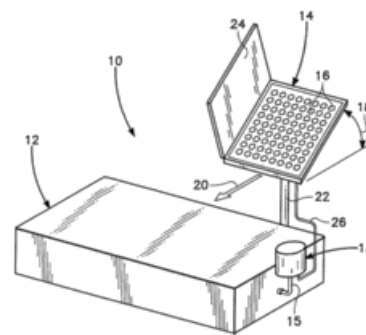


FIG. 1

Family:

Publication number	Publication date	Application number	Application date
US6112428 A	20000905	US19990358233	19990721

Priority:

US19990358233 19990721

Probable Assignee: US NAVY**Assignee(s):** (std): US NAVY

Assignee(s): NAVY US GOV SECRETARY OF THE CHIEF OF NAVAL RESEAR ; NAVY US SEC THE ; THE UNITED STATES OF AMERICA AS REPRESENTED BY THE ; THE UNITED STATES OF AMERICA AS REPRESENTED BY THE SECRETARY OF THE NAVY

Inventor(s): (std): SCHAFF JAMES MICHAEL**8) Family number: 111901 (US3711959A)**

© PatBase

Title: CROP DRYING SYSTEMS

Abstract: A large capacity crop drier has an elongated chamber which may include transparent wall and roof partitions to admit solar radiations. A feeding device which may include a doser conveys crop to be dried into the chamber where it is chopped by retractable knives and carried back and forth through the chamber on superimposed endless belts starting at the top. The lower belt discharges back into the feeding device via a one-way conveyor closing the path of the drying crop. Air which may be heated is introduced into the chamber under the lowest belt opposite the feeding device and is exhausted on the same side that it was introduced or over walls under a raised roof. When desired by movement of a rear flap which may carry a conveying belt, the drier crop is discharged from the chamber via the flap to a blower conveyor. In a modification, the chamber has a moving belt floor, a blower which displaces air to under the floor and up through the chamber, and a mechanism for stirring crop in the chamber which automatically rides back and forth on tracks provided in the chamber.

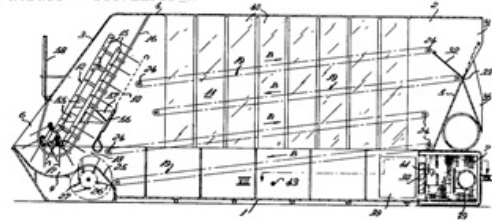
Classifications:

International (IPC 8-9): F26B17/02 F26B25/00 (Advanced/Invention); F26B17/00 F26B25/00 (Core/Invention)

International (IPC 1-7): A01D43/00 A01F25/00 B65G47/02 B65G49/00 F26B15/02 F26B17/?? F26B17/00 F26B17/02 F26B17/04 F26B17/08 F26B19/00 F26B21/00

CPC: F26B17/02 F26B25/002**European:** F26B17/02 F26B25/00B2**US:** 34/102 34/189 34/207 34/236

PatBase - US3711959_A

**Family:**

Publication number	Publication date	Application number	Application date
AT315751 B	19740610	AT19700005417	19700616
BE752096 A	19701201		00000000
BE752096 A2	19701201	BE19700752096	19700617
CA919415 A1	19730123	CA19700085873	19700618
CH517927 A	19720115	CH19700009034	19700615
DE2029159 A1	19701223	DE19702029159	19700612
DK130370 B	19750210	DK19700003161	19700618
DK130370 C	19750707	DK19700003161	19700618
FR2046914 A1	19710312	FR19700022649	19700619
FR2046914 B1	19730112	FR19700022649	19700619
GB1301039 A	19721229	GB19700029487	19700617

GB1301040 A	19721229	GB19710050973	19700617
IE34312 B	19750402	IE19700000786	19700616
IE34312 L	19701219	IE19700000786	19700616
NL6909348 A	19701222	NL19690009348	19690619
US3711959 A	19730123	US19700047258	19700619

Priority:

NL19690009348 19690619

Probable Assignee: TEXAS INDUSTRIES INC

Assignee(s): (std): LELY C VAN D NV ; LELY NV C VAN DER ; TEXAS IND INC ; TEXAS INDUSTRIES INC

Assignee(s): TEXAS INDUSTRIES INC WILLEMSTAD CURACAO NEDERLANDSE ANTILISCHE EILANDEN ; VAN DER LELY C CH ; CORNELIS VAN D LELY

Inventor(s): (std): DER LELY CORNELIS VAN ; LELY C V D ; VAN DER LELY C ; LELY C VAN D ; DER LELY C VAN

Inventor(s): VAN DER LELY C CH ; LELY CORNELIS VAN DER ; CORNELIS VAN D LELY ; CORNELIS VAN DER LELY

9) Family number: 1281753 (US3955488A)

© PatBase

Title: Food dehydrater

Abstract: A dehydrater for removing the majority of the liquid content of foods. The dehydrater utilizes an outer shell adapted to enclose the food being dehydrated and incorporates appropriate venting to permit the circulation of air within and through the unit. The food is placed within the unit upon slidable shelves or drawers which, although substantially solid, are provided with critically spaced and sized holes to permit adequate and even flow of heated air therethrough. The particular combination of vents assures that the food products on any given shelf are uniformly dried and that the temperature distribution within the cabinet is in accordance with the requirements. The heat for the dehydration is provided by a single heating unit placed in the bottom of the dehydrater and adapted and configured to provide the particular amount of heat necessary.

Classifications:

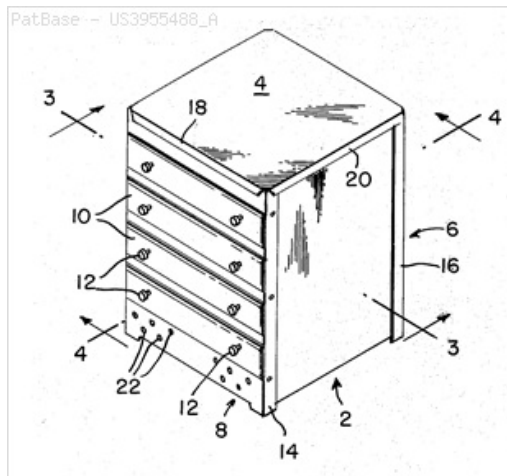
International (IPC 8-9): A23L3/00 F26B25/06 F26B9/06 (Advanced/Invention)

International (IPC 1-7): A23L3/00 F26B9/06

CPC: A23L3/00 F26B9/066 F26B25/06

European: A23L3/00 F26B25/06 F26B9/06C

US: 99/467 99/483



Family:

Publication number	Publication date	Application number	Application date
GB1527898 A	19781011	GB19750044381	19751028
JP51072767 A2	19760623	JP19750129762	19751028
US3955488 A	19760511	US19740518478	19741029

Priority:

US19740518478 19741029

Probable Assignee: WHEELER J

Assignee(s): (std): JATSUKU AI HOIIRAA ; WHEELER J ; WHEELER JACK I

Assignee(s): JENKS CHARLES E ; VANDER WAAL JACK C

Inventor(s): (std): WHEELER JACK I ; JATSUKU AI HOIIRAA

10) Family number: 2057503 (US4534118A)

© PatBase

Title: SOLAR-ASSISTED MOBILE FOOD DEHYDRATOR

Abstract: The cost of preserving and transporting food is minimized, to the end that food may be made more widely available. A trailer, movable by a small vehicle, houses a completely self-contained food dehydration plant which can be towed to the field in order to preserve the food as soon as it is harvested. The plant dehydrates by blowing a stream of hot air over the food. In order to conserve energy, the air is preheated both in a solar collector (by sunlight) and in a heat exchanger (by exhaust air). Some air used for dehydration is not exhausted but instead is recirculated through the plant, further contributing to efficiency.

Classifications:

International (IPC 8-9): A23L3/16 F26B11/18 F26B19/00 F26B23/00

F26B3/04 F26B3/28 (Advanced/Invention);

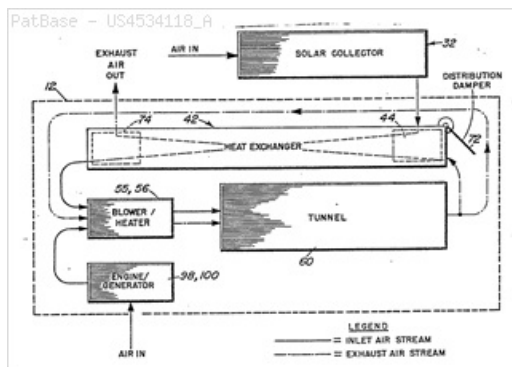
F26B11/00 F26B19/00 F26B23/00 F26B3/02 (Core/Invention)

International (IPC 1-7): F26B11/18 F26B21/08 F26B3/04

CPC: Y02B40/74 F26B23/002 F26B3/04 F26B3/286 F26B19/005 Y02P70/405

European: F26B19/00B F26B23/00B2 F26B3/04 F26B3/28B2

US: 34/34 34/35 34/47 34/50 34/514 34/522 34/86



Family:

Publication number	Publication date	Application number	Application date
AU198320320 A1	19840329	AU19830020320	19830829
US4534118 A	19850813	US19820412932	19820830
WO8401020 A1	19840315	WO1983US01322	19830829

Priority:

US19820412932 19820830 WO1983US01322 19830829

Probable Assignee: SUN FLO INT INC

Assignee(s): (std): SUN FLO INT INC

Assignee(s): SUN FLO INT INC BOX 714 HOTCHKISS COLORADO 81419 ; SUN FLO INTERNATIONAL INC ; SUN FLO INT

Inventor(s): (std): CABUS MARCELLO M ; HOWARD BILLY D ; COLT JAMES W ; TUFT EDWARD S

Designated states: AU BR CF CG CM GA MR SN TD TG

11) Family number: 8055253 (US4245398A)

© PatBase

Title: SOLAR DEHYDRATOR

Abstract: Apparatus and process for utilizing solar heat for dehydrating all form of vegetable matter.

Classifications:

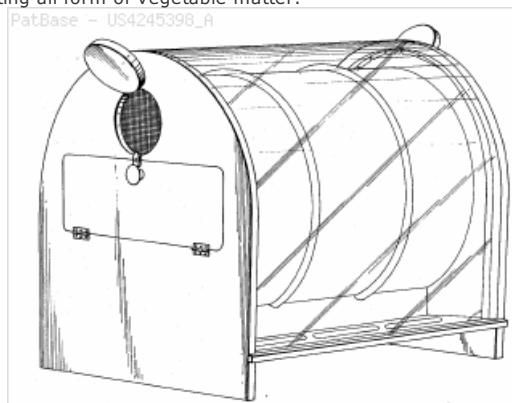
International (IPC 8-9): F26B3/28 (Advanced/Invention); F26B3/00 (Core/Invention)

International (IPC 1-7): F26B19/00

CPC: Y02B40/74 F26B3/286

European: F26B3/28B2

US: 126/710 34/195 34/197 34/93



Family:

Publication number	Publication date	Application number	Application date
US4245398 A	19810120	US19790039165	19790515

Priority:

US19790039165 19790515

Probable Assignee: POISSON LEANDRE A

Assignee(s): (std): POISSON LEANDRE A

Inventor(s): (std): POISSON LEANDRE A