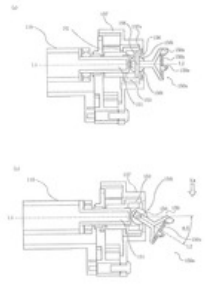
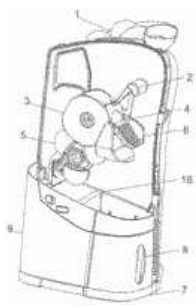
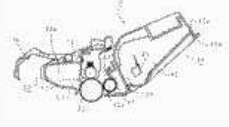
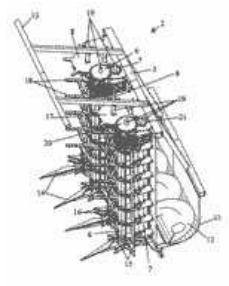
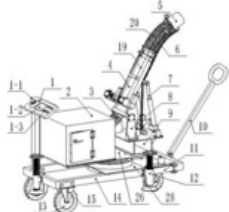
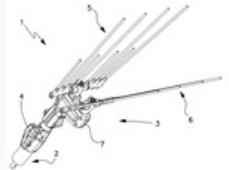
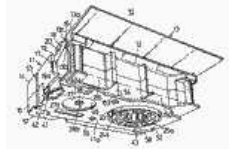
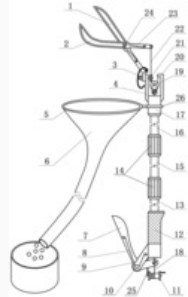
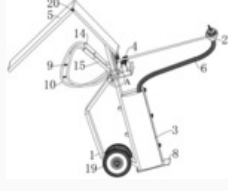
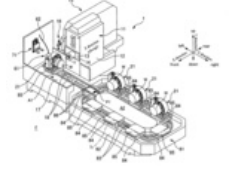
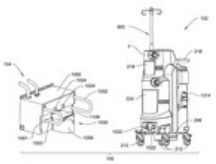
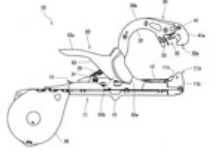
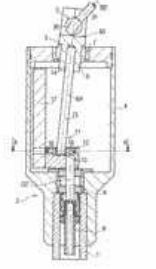
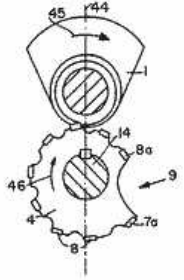
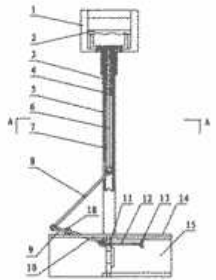
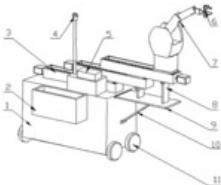
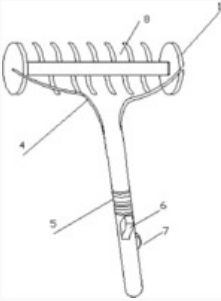
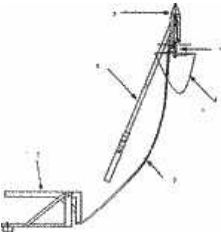
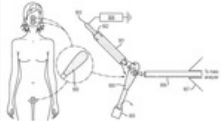
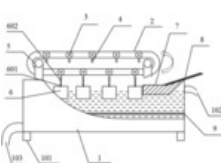
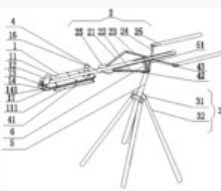
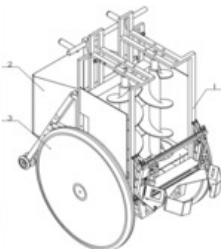
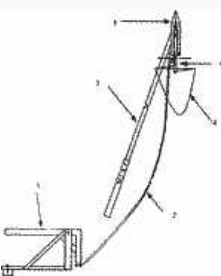


Patent families - 457 results						
#	  Title	Publication number	Publ. date	Applicant/Assignee		
1.	Cartridge, and electrophotographic image forming apparatus which uses cartridge	EP2288966	2011-03-02	 CANON		100 %
A cartridge for use with a main assembly of an electrophotographic image forming apparatus, the main assembly including a driving shaft having a rotational force applying portion, wherein the cartridge is dismountable from the main assembly in a direction substantially perpendicular to an axial direction of the driving shaft, the cartridge including i) a developing roller that is rotatable about an axis thereof; and ii) a coupling member (150) engageable with the rotational force applying portion (180) to receive a rotational force for rotating the developing roller, the coupling member being capable of taking a rotational force transmitting angular position (fig.18b) for transmitting the rotational force for rotating the developing roller and a disengaging angular position (fig.18a) in which the coupling member is inclined away from the rotational force transmitting angular position, wherein when the cartridge is dismounted from the main assembly, the coupling member moves from the rotational force transmitting angular position to the disengaging angular position.						
						
2.	Reduced-size citrus-fruit-squeezing machine	EP1692953	2006-08-23	 ZUMEX MAQUINAS & ELEMENTOS  SUMI MAKINAS I ELEMENTS SOCIEDAD ANONIMA SPAIN  ZUMEXS MACINAS & ELEMENTOS  ZUMEX  ZUMEX MAQUINAS & ELEMENTS 1 more...		100 %
This invention is a reduced size citrus fruit juicing machine that uses sets of rotating male-female drums characterized by having one sole female drum and one sole male drum with an automatically positioning blade and a retaining pendulum - turning device. These characteristics avoid having to incorporate a second set of drums into the machine since the remaining half of the fruit is turned after the cut into the following upper cavity of the female drum. In addition to maintaining the performance of similar machines of greater size, it improves hygienic conditions due to an appropriate disposition of the retaining pendulum, a ribbed opening for the fruit, a peel collector and an integrated customized juice container which are isolated from the outside, all of which make it especially attractive to hotels and restaurants that do not have much available space.						
						
3.	Process cartridge, electrophotographic image forming apparatus and electrographic photosensitive drum unit	EP2291714	2011-03-09	 CANON		99 %
A process cartridge which is detachably mountable to a main assembly of an electrophotographic image forming apparatus including a driving shaft (180) having a rotational force applying portion by moving in a direction substantially perpendicular to an axis of the driving shaft, includes i) an electrophotographic photosensitive drum rotatable about an axis; ii) a coupling member engageable with the rotational force applying portion to receive a rotational force for rotating the drum, the coupling member being capable of taking a rotational force transmitting angular position for transmitting the rotational force, a pre-engagement angular position in which the coupling member is inclined away from the axis and a disengaging angular position in which the coupling member is inclined away from the axis and iii) a regulating portion (170) for regulating an inclination angle of the coupling member such that downward inclination angle of the coupling member is smaller than an inclination angle of the coupling member when the coupling member is at the pre-engagement angular position, wherein in mounting the cartridge to the main assembly, the coupling member moves from the pre-engagement angular position to the rotational force transmitting angular position, and in dismounting the cartridge from the main assembly, the coupling member moves from the rotational force transmitting angular position to the disengaging angular position to disengage from the driving shaft.						
						
4.	Picking arrangement	EP1971198	2008-09-24	 CARL GERINGHOFF  GERINGHOFF CARL  KARL GERINGKHOFF		99 %
Picking arrangement for picking at least one fruit (36) located on an elongate stem (33) of a plant (34), having a holder (3), that can be moved along the ground (9), and having an elongate picking gap (30), which is provided on the holder (3), is bounded by lateral edges (31) and through which the stem (33) can be guided, with the fruit (36) being separated off along the edges (31) in the process, wherein the picking gap (30) is oriented such that the step (33) can be fed to the picking gap (30) with its longitudinal axis oriented parallel, or essentially parallel, to the longitudinal axis of the picking gap (30).						
						
5.	Fruit picking and collecting integrated robot	CN108811765	2018-11-16	 UNIVERSITY YANSHAN		99 %
Disclosed is a fruit picking and collecting integrated robot. A control console is connected and installed at the tail of a walking device through a bolt. A conveying device and a posture adjusting device are connected and installed at the upper portion of the walking device through bolts, the tail end of one side of the conveying device is connected with a fruit collecting box, a tail end grabberis installed at the other side of the conveying device, expansion and retraction of three air bags inside the tail end grabber can be controlled through an air pump, then, fruits are grabbed and picked, after the fruits are picked, the fruits are conveyed to the collecting box through the conveying device, and therefore fruit picking and collecting are achieved. Flexible grabbing can be achievedby driving a rope to control a flexible mechanical arm, nondestructive grabbing can be achieved through the tail end grabber containing the air bags, the characteristics of the whole structure can beutilized, the function of picking and collecting integration is achieved, and therefore the picking efficiency is greatly improved.						
						

6.	Fruit is picked and is collected integration robot	CN208370309	2019-01-15	UNIVERSITY YANSHAN	99 %	
The utility model provides a fruit is picked and is collected integration robot, the control cabinet passes through bolted connection and installs the afterbody at running gear, conveyer passes through bolted connection with accent appearance device and installs the upper portion at running gear, one side end of conveyer links to each other with the fruit collecting box, terminal grabber is installed to the opposite side, the expansion and contraction of terminal grabber inside three gasbag is realized through gas pump control system, and then the snatch harvesting of realization to the fruit, the back is picked to the fruit, reach the collecting box through conveyer, the realization is to the harvesting and the collection of fruit. The utility model discloses can be enough realize nimble snatching through rope drive control flexible mechanical arm, can realize that the not damaged snatches through the terminal grabber that includes the gasbag again, can also utilize self overall structure's characteristics, realize picking, collecting the function of integration to very big improvement harvesting efficiency.						
7.	Apparatus for picking olives and the like	EP2566317	2013-03-13	MINELLI ELECTTOMECCANICA MINELLI ELETTRMECCANICA	99 %	
The apparatus for picking olives and similar products comprises a support rod (2) suitable to be grasped, a shaker unit (3) comprising a containment box (7) suitable to be mounted at the top of the support rod (2); at least one comb sector (5, 6) shaping a crossbar (9) provided with a plurality of teeth (10), carried mobile by the containment box (7), a motor member (204) to actuate the comb sector (5, 6) in a substantially tilting motion, a drive shaft (14) arranged substantially aligned to the longitudinal axis of the support rod (2) and suitable to be actuated in a rotary motion by the motor member (204). The drive shaft (14) is associated with at least one respective driven shaft (18, 19) shaping an inclined end portion (23). Support means (25) for the crossbar (9) of the comb sector (5, 6) are suitable to be engaged rotatably on the inclined portion (23) of the driven shaft (18, 19) by means of the interposition of rolling means (28). Control means (13) for the motion of the comb sector (5, 6) are associated with the support means (25), the support means (25) being suitable to cooperate reciprocally abutting with the control means (13) at respective coupling portions (30, 31) externally to the containment box (7), to transform the rotary motion actuated by the motor member (204) into the tilting motion of the comb sector (5, 6).						
8.	Tape cassette	US4432510	1984-02-21	JAPAN VICTOR COMPANY	99 %	
A tape cassette loaded with respect to a recording and/or reproducing apparatus having a reel driving mechanism including at least one reel driving shaft, comprises a cassette case, a supply side reel and a take-up side reel provided within the cassette case, for winding a tape, and a positioning part for positioning the cassette case. One reel of said supply side and take-up side reels is constructed so that the reel driving shaft of the recording and/or reproducing apparatus is inserted into this one reel from a lower direction thereof to engage therewith when the tape cassette is loaded into the recording and/or reproducing apparatus, and driven at a center part of this one reel. The other reel of the supply side and take-up side reels is constructed so as to be rotated by a rotation transmitting mechanism at a part other than a center part thereof. The positioning part has an engaging part for positioning provided on the bottom surface of the cassette case at a position corresponding to the center of rotation of the other reel.						
9.	Light reversible tree seed harvesting scissors	CN209693485	2019-11-29	EXPERIMENTAL CENTER OF TROPICAL FORESTRY CHINESE ACADEMY OF FORESTRY	99 %	
The utility model discloses a portable reversible tree seed harvesting scissors, which mainly comprises a shearing mechanism, a rod body, a lever tension mechanism and a film funnel collector; the shearing mechanism mainly comprises a rod head, a movable pulley, a primary pull rope, a secondary pull rope, a main blade, an auxiliary blade, a pin shaft II and a guide pulley; the lever tension mechanism mainly comprises a grab handle, an L-shaped trigger and a supporting arm; the support arm is fixedly arranged on one side of the grab handle, and the front end of the support arm is provided with a pin shaft I. The utility model provides a lack the difficult problem of special collection tree kind instrument in the seedling growth production, for the forest collection tree kind production provides a simple, light, safe, high-efficient, practical forest seed collector, alleviates workman intensity of labour, improves security and work efficiency, for the seedling growth production service better.						
10.	Robotized machine equipped with arm with symmetrical pantograph, for example for fruit picking or sorting diverse objects	EP1015192	2000-07-05	PELLENC	99 %	
The invention concerns a robotized machine, for example for fruit picking or sorting diverse objects, comprising a manipulator with spherical co-ordinates (two perpendicular and concurrent rotations Theta and Phi, and a translation Rho of its gripper towards the object to be gripped), such that the translation axis (A3) of the prehensile head (20a) of said gripper (20) always intersects the two rotation axes (A1, A2) at a central point (I), said manipulator being provided with an artificial vision system (24) for locating objects to be grasped, system whereof the optical centre is placed exactly at said central point (I). Said manipulator comprises a manipulating arm (1) with symmetrical pantograph consisting of an arm (1A) and a forearm (1B) arranged in two parallel planes so as to be able to be crossed, said arm (1) being fixed to means (21) pivoting it about an axis (A4) and provided with mechanical means ensuring the following kinematics: any arm (1A) rotation of value (+a) is transformed into a forearm (1B) rotation of value (-2a) relative to said arm, and by a gripper (20) rotation mounted at the forearm (1B) distal end, of a value (+a) relative to said forearm, resulting in a simple translation of said gripper distal end (20a) relative to a fixed mark, along an axis (A3) corresponding to the vision system (24) optical axis						
11.	Front backpack type cluster hawthorn whole-picking screening portable protective car	CN109874503	2019-06-14	XUZHOU SHENGDU SHI BIOTECHNOLOGY	99 %	
The invention discloses a front backpack type cluster hawthorn whole-picking screening portable protective car. The car comprises a movable supporting fixing mechanism, a rotating downward sliding transferring screening mechanism, a cluster type fruit picking mechanism, a picking adjusting limiting module and a push-pull storage mechanism. The rotating downward sliding transferring screening mechanism is arranged on the movable supporting fixing mechanism, the push-pull storage mechanism is arranged at a discharging outlet of the rotating downward sliding transferring screening mechanism, the picking adjusting limiting module is arranged in the middle of the movable supporting fixing mechanism, and the cluster fruit picking mechanism is movably clamped to the picking adjusting limiting module. The invention belongs to the technical field of hawthorn picking devices and particularly provides a frontbackpack type cluster hawthorn whole-picking screening portable protective car which can greatly improve the working efficiency, lower the labor intensity, solve the problems that the number of cluster fruits is large and picking is hard, and achieve the effects of multi-directional damage-free hawthorn whole-picking and damage-free precise hawthorn screening.						
12.	Machine tool with detachable/attachable motor for driving a rotating table	EP1591194	2005-11-02	SANKYO SEISAKUSHO SANKYO SEISAKUSHO KK	99 %	
A machine tool is provided with: a rotating table apparatus (21) that has a table for holding a workpiece (W), and that rotates the table based on a drive force that has been input; a processing area for processing the workpiece, the rotating table apparatus being carried into and out from the processing area; and a drive source (61) for inputting the drive force when connected to the rotating table apparatus, the drive source being provided in the processing area such that the drive source (61) can be disconnected from the rotating table apparatus (21).						

13.	Medical/surgical waste evacuator that continually monitors air drawn into the evacuator	EP2359878	2011-08-24	STRYKER SHAO PACIFIC MANAGEMENT	99 %	
A smoke evacuation system (800) for use during a medical procedure is described. Said system comprises a conduit (802) including an inlet (804) into which air that includes smoke generated during a medical/surgical procedure is drawn, a filter (809) in fluid communication with said conduit (802) for filtering smoke from the air drawn through said conduit, and a pump (806) in fluid communication with said conduit for drawing air into said inlet (804), through said conduit (802), and through said filter for filtering smoke from the air. The pump includes a pump motor (808) for operating the pump and a pump control circuit (810) electrically connected to said pump motor for providing electrical power to said pump motor to control a speed of said pump. Also provided are a smoke sensor (820) in fluid communication with said conduit for sensing an amount of smoke flowing through said conduit and a controller (818) connected to said smoke sensor for receiving therefrom a signal corresponding to an amount of detected smoke and connected to said pump control circuit. When said smoke sensor (820) does not detect smoke above a predetermined limit, said controller regulates the pump control circuit (810) to cause the pump (806) to run at a first speed, the first speed being sufficient to draw air into the conduit so that smoke can be sensed by said sensor. When said smoke sensor (820) detects smoke in excess of the predetermined limit, said controller regulates the pump control circuit (810) to cause the pump (806) to run at a second speed, the second speed being greater than the first speed.						
14.	Binding machine for gardening	EP3466250	2019-04-10	MAX	99 %	
A binding machine (10) includes first and second operations, wherein in the first operation, as the operation handle (50) is gripped and the clincher arm (30) rotates in a closing direction with respect to the main handle (11), the tape gripping device (35) grips the front end portion (30a) of the clincher arm (30), and in the second operation, as a squeezing of the operation handle (50) is released and the clincher arm (30) rotates in an opening direction with respect to the main handle (11), the front end portion (30a) of the clincher arm (30) and the front end portion (11 a) of the main handle (11) are separated from each other in a state where the tape gripping device (35) grips the tape, and the tape is stretched between the clincher arm (30) and the main handle (11).						
15.	Hand-held device for the mechanical tree-beating harvest of fruits	EP2091317	2009-08-26	INFACO	99 %	
The device for harvesting fruits includes a handle with a pick-up head (2) comprising a body (4) bearing a head-oscillation member (5) adapted for receiving at least one beating member (3) with beaters. The oscillation member (5) is connected to an actuation mechanism for imparting thereto a conical pendulum movement. The mechanism includes a transmission shaft (9) rotatingly mounted in the handle (1) and having its proximal end coupled to a drive motor while its distal end is connected to a movement transmission (11) connected to the oscillation member (5). The device is characterised in that the oscillation member (5) is supported by a ball connection (7) secured to the body (4) and in that the transmission (11) includes a radial lever (12) connected to he shaft (9) and a rod (13) attached to the oscillation member (5) on the one hand and to the lever (12) on the other hand at a distance form the geometrical axis of rotation of the shaft (9).						
16.	Method of and machine for turn-broaching workpieces with rotational symmetry	EP0264474	1988-04-27	HEGENSCHEIDT MFD HEGENSCHEIDT WILHELM WILHELM HEGENSCHEIDT 5140 ERKELENZ	99 %	
Work pieces, especially of rotational symmetry, are machined in a rotary broaching operation. The machine tool for this purpose has a tool carrier carrying a plurality of cutting edges arranged on a curved path in a radial work piece plane. In order to reduce down-time and to simplify the construction of the broaching apparatus, the insertion of a work piece blank into the apparatus and the removal of a finished work piece from the apparatus are preferably performed without interrupting the motions of a tool carrier. For this purpose the tool carrier is provided with a zone which is free of cutting tool edges. This tool free zone of the tool carrier is located downstream of the last cutting edge as viewed in the rotational direction of the tool carrier. This feature avoids the need for a return stroke of the tool carrier. Accordingly, respective return slides and return controls are also obviated. The apparatus is equipped with angular sensing devices for ascertaining the angular positions of the tool carrier at the beginning and at the end of a work cycle to provide respective control signals for the insertion and removal of a work piece in the zone without cutting edges and to start a new work cycle when a work piece blank is inserted into the machine tool. (From US4799839 A)						
17.	Refuse classifying and clearing gather	CN201236330	2009-05-13	SHENYANG LIGONG UNIVERSITY	99 %	
The utility model relates to a garbage classification cleaning dustpan which comprises a dustpan body, a dustpan rod, a handle and a connecting rod transmission mechanism. The dustpan body is internally provided with a fixation baffle to divide the dustpan body into two dustpan cavities, the end of the fixation baffle arranged at the dustpan mouth is connected with a rotation shaft, the upper end and the lower end of the rotation shaft are respectively connected with the upper wall and the lower wall of the dustpan body, wherein the dustpan mouth of one of the dustpan cavities is provided with a movable baffle, and one side of the movable baffle is fixedly connected to the rotation shaft. The handle is internally provided with a grab handle, the lower end of the handle is fixedly connected with the upper end of the dustpan rod, and the lower end of the dustpan rod is fixedly connected with the dustpan body. One end of the connecting rod transmission mechanism is connected with the movable baffle, and the other end is fixedly connected with the grab handle in the handle passing through the dustpan rod. When cleaning monomer dispersed garbage, the utility model directly recovers the garbage in a classified way with low manufacture cost, is suitable for public places such as squares, roads, stations, parks, and the like, has application and popularization values, is not only a garbage classification recovery tool, but also a carrier for green environmental protection cultural spread. When the garbage is cleaned, a classification mark on the dustpan also spreads the idea of garbage classification recovery to people, and gradually causes the people to strengthen the garbage classification recovery and environmental protection consciousness.						
18.	Kiwi fruit picking robot	CN203646089	2014-06-18	NORTH WEST AGRICULTURE & FORESTRY UNIVERSITY	99 %	
The utility model discloses a kiwi fruit picking robot which comprises a mechanical execution system and a control system. The kiwi fruit picking robot is characterized in that the mechanical execution system comprises a car body, a telescopic sliding platform, a five-degree-of-freedom picking mechanical arm and a two-finger type end effector; the control system includes an industrial personal computer, a motion control card, a data acquisition card, an image acquisition card, a servo motor driver, a binocular camera, an infrared sensor, a pressure sensor, an electric control cabinet and a control circuit. The kiwi fruit picking robot adopts the modular design idea to integrate the two-finger type end effector, the five-degree-of-freedom picking mechanical arm, the telescopic sliding platform and the sensor system together, and integrates the image acquisition and feature extraction of fruits and obstacles, the intelligent movement of the telescopic sliding platform, the counterguard and fruit positioning of the five-degree-of-freedom picking mechanical arm and the grabbing of the two-finger type end effector, so that the kiwi fruit picking mechanization and automation are realized, the labor productivity is improved, the production cost is reduced, and the fruit harvesting quality is guaranteed.						

19.	Spreading tool for processing blueberries	CN206324194	2017-07-14	HEYUAN RONGHE BIOLOGICAL TECHNOLOGY DEVELOPMENT	99 %
The utility model provides a spreading tool for processing blueberries, includes the handle, dials the material and grabs its characterized in that: still include the motor, the output shaft of motor have the axis of rotation, install in the axis of rotation and dial the material and grab, the material of dialling grab and be curved straight slice form, the axis of rotation on install at least one extricate from the material grab, the same material of extricating from grab evenly distributed in the axis of rotation, the motor side wall mounting has the support, the support other end links to each other with the handle, installs on the handle to the battery of motor energy supply and the button switch of control motor. The utility model discloses, dial the material and grab the bending segment and play the blueberry area and grab the clearance and fall down from dialling the material, can the even blueberry in high -efficient swift stand, do not damage the blueberry quality again, and guarantee the blueberry health.					
					
20.	Fruit picker	CN102860178	2013-01-09	GUANGXI UNIVERSITY	99 %
A fruit picker comprises a forcing device, fruit shears, a wire-rope flexible shaft, a support pole and a fruit protection string bag. The forcing device providing force is a pedaled lever mechanism and is placed on the ground. The lower end of the wire-rope flexible shaft is fixed on the forcing device. The upper end of the wire-rope flexible shaft is connected with the end of one hilt of the fruit shears. The fruit protection string bag is connected to a transmission shaft of the fruit shears. A rotary shaft of the fruit shears is fixed on the support pole. The forcing device, the pedaled lever mechanism, is used to provide force, the shear force is transmitted for cutting fruit branches through the wire-rope flexible shaft, the fruit shears and the fruit protection string bag can freely rotate around the rotary shaft with an opening constantly facing up, and fruits cut off are collected in the fruit protection string bag. The fruit picker has the advantages that the fruit picker is simple to operate, low i					
					
21.	Spectrometric analysis	EP3264989	2018-01-10	MICROMASS	99 %
A method of spectrometric analysis comprises obtaining one or more sample spectra for an aerosol, smoke or vapour sample. The one or more sample spectra are subjected to pre-processing and then multivariate and/or library based analysis so as to classify the aerosol, smoke or vapour sample. The results of the analysis are used for various surgical or non-surgical applications.					
					
22.	High -efficient cooling device of fruit vegetables	CN207721107	2018-08-14	QINGDAO SUNGREE FOODSTUFFS	99 %
The utility model discloses a high -efficient cooling device of fruit vegetables, including box, drive chain, transmission pole, tongs, support column, fruit vegetables basket, accuse water platform,conveyer belt and baffle, box base is established to the bottom half, and both ends are established cold water respectively and are entered the mouth and the delivery port, movable finger is established to the tongs, and movable finger is connected by the tongs pivot, the mobile fruit vegetables basket handle that snatches, there is resolute vegetables basket handle above the fruit vegetables basket, connects by the pivot of fruit vegetables basket between fruit vegetables basket and the fruit vegetables basket handle, transmission pole and conveyer belt are driven by inverter motor respectively, tongs department establishes infrared sensor. The utility model discloses a low temperature cold water against the current cools off the fruit vegetables, and direction of delivery is opposite withcold water input direction for the fruit vegetables, can make the fruit vegetables reach best cooling effect, enables cold water make full use of again, the sensor supplementary down, the fruit vegetables are cooled off the automatic accuse water bench of putting in back, are transported whole process high efficiency, environmental protection, pollution -free by the conveyer belt automatically after accuse water is accomplished.					
					
23.	Hooking conveying type fruit picker	CN109328639	2019-02-15	NANCHANG UNIVERSITY	99 %
The invention relates to the field of fruit picking, in particular to a hooking conveying type fruit picker which comprises a picking head portion, a telescopic control device and a supporting device.The picking head portion and the telescopic control device are both fixedly connected with a main rod. The supporting device is connected with the main rod through a main supporting rod. Two hookingclaws fixed to a belt wheel on the picking head portion rotate along with the belt wheel so as to hook fruit stems on trees into the picker, a small round saw web is driven by a high-speed motor to cut off the fruit stems and the fruits are conveyed to the tail end of the picking head portion, the height of the picking head portion is controlled by controlling the distance of the operation handleto control the advancing and retreating of the picking head portion and adjust the rotation of an operation handle in the whole picking operation, and the all-directional control over the picking headportion is realized. The problem that an existing fruit picker is low in grabbing accuracy and prone to damaging the surfaces of the fruits and cannot conduct continuous picking is solved.					
					
24.	Cart type parallel pineapple assisted picking device	CN109041772	2018-12-21	ZHEJIANG SCI-TECH UNIVERSITY	99 %
Provided is a cart type parallel pineapple assisted picking device. The device comprises an outer frame, driving wheels, a grab cutting device for picking pineapples, a transmission mechanism, a collecting basket and a fruit conveying mechanism for conveying the pineapples into the collecting basket, the driving wheels are disposed on the left and right sides of the outer frame, the grab cutting device is mounted on a front portion of the outer frame, and the collecting basket is mounted on the rear portion of the outer frame; the fruit conveying mechanism is located between the grab cutting device and the collecting basket and embedded in the outer frame, the transmission mechanism is located at the bottom of the outer frame, and the transmission wheels are connected to the fruit conveying mechanism through the transmission mechanism. The invention provides the cart type parallel pineapple assisted picking device, and the device can effectively reduce the labor intensity of workers, achieve the combination of three functions of picking, collecting and transporting, be of pure mechanical structure, be convenient to operate, have strong adaptability, and be non-polluting for the environment and convenient to use.					
					
25.	Fruit picking device	CN202889966	2013-04-24	GUANGXI UNIVERSITY	99 %
A fruit picking device comprises a stress application device, a pair of fruit shears, a steel wire rope soft shaft, a supporting rod and a fruit protection net bag, wherein the stress application device in the fruit picking device is a pedal type lever mechanism, the stress application device is placed on the ground, the lower end of the steel wire rope soft shaft is fixed on the stress application device, the upper end of the steel wire rope soft shaft is connected with the end portion of the one knife handle of the fruit shears, the fruit protection net bag is connected with a transmission shaft of the fruit shears, and the transmission shaft of the fruit shears is fixed on the supporting rod. According to the fruit picking device, a force source is provided by the stress application device of the pedal type lever mechanism, fruit branches are clipped by shear force transmitted by the steel wire rope soft shaft, the fruit shears and the fruit protection net bag can freely rotate around the transmission shaft to keep the opening to being opened upwards always, and clipped fruit is collected in the fruit protection net bag. The fruit picking device has the advantages of being simple to operate, low on construction cost, light, convenient to use, and practical, enabling operators not to be tired easily, and the like.					
					

26. Method of speckle-noise pattern reduction and apparatus therefore based on reducing the temporal-coherence of the planar laser illumination beam before it illuminates the target object by applying temporal phase modulation techniques during the transmis... US20030098349 2003-05-29 99 %
 27. Fruit picking machine CN209105671 2019-07-16 98 %
 28. Device that assists in manual picking of fruit CN108886966 2018-11-27 98 %
 29. Method of speckle-noise pattern reduction and apparatus therefor based on reducing the temporal-coherence of the planar laser illumination beam before it illuminates the target object by applying temporal frequency modulation techniques during the trans... US6857570 2003-01-30 98 %
 30. Belt type fruit picking machine CN208273623 2018-12-25 98 %
 31. Vibrating prickly ash harvester CN208402506 2019-01-22 98 %

METROLOGIC INSTRUMENTS

HUAIAN FUMEIHAO AGRICULTURAL MACHINERY

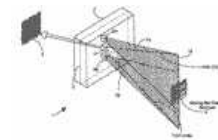
JIANGNAN UNIVERSITY

METROLOGIC INSTRUMENTS
GE JENBACHER

BEIFANG UNIVERSITY OF NATIONALITIES

CHONGQING WUTAN AGRICULTURE SERVICE

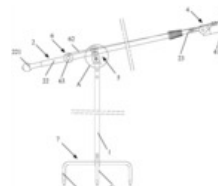
A planar laser illumination and imaging (PLIIM) based camera system capable of producing digital images with reduced levels of speckle-pattern noise. The PLIIM based camera system comprises a planar laser illumination array (PLIA) including a plurality of laser diodes for producing and projecting a planar laser illumination beam (PLIB), so as to illuminate an object as it is moving past said PLIIM based camera system. An image formation and detection (IFD) module is provided having a image detection array and imaging forming optics for providing the image detection array with a field of view (FOV). The PLIB and FOV are arranged in a coplanar relationship along the working range of the PLIIM based camera system so that the PLIB illuminates primarily within the FOV of the IFD module. A speckle-pattern noise reduction subsystem is integrated with the PLIA, for reducing the temporal-coherence of said planar laser illumination beam (PLIB) before the PLIB illuminates a target object. The speckle-pattern noise reduction subsystem carries out a temporal phase modulation technique during the transmission of the PLIB towards the target, so that the object is illuminate with a temporally coherent-reduced planar laser illumination beam (PLIB) and numerous substantially different time-varying speckle-noise patterns are produced at the image detection array over the photo-integration time period thereof. The numerous substantially different time-varying speckle-noise patterns are detected at the image detection array over the photo-integration time period, and the detected speckle-noise patterns are temporally averaged at said image detection array during the photo-integration time period thereof. As a result of such temporal averaging, the RMS power of observable speckle-noise patterns is reduced at the image detection array. By virtue of the present invention, it is now possible to enjoy the benefits of using laser-based illumination during high-speed imaging operations, without the adverse effects associated with speckle-pattern noise.



The utility model provides a fruit picking machine. The fruit picking machine comprises a chassis assembly, a transmission power assembly, a front axle suspension assembly, a conveying power assembly, a movable working platform assembly, a console assembly, a main conveying device, a side conveying device, a vertical conveying device, a rotating platform assembly, a waste fruit box assembly and aside anti-collision assembly. The main conveying device, the side conveying devices and the vertical conveying device are arranged, so that a plurality of picking personnel can pick in different directions, and the labor efficiency is maximized; a movable working platform is arranged, and picking personnel can stand on the movable working platform to pick fruits of different heights; the rotating platform assembly is arranged, the fruit boxing requirement is met, meanwhile, when the fruit box is full of fruits, the operation handle welding part is pulled down, and under the action of the gravity of the fruit box, the fruits are boxed; the rotating platform rotates, the fruit box slides to the forklift from the rotating platform, and time and labor are saved; operation is simple, working efficiency is high, and stability is high.

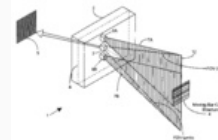


The invention discloses a device for assisting manual picking of fruit, belonging to the technical field of fruit picking. At that time of harvest fruit, the grower can fix the support rod on the ground and control the height of the fruit collection assembly connected to one end of the extension rod through the extension rod. When the fruit basket in the fruit collection assembly is adjusted to proper height. The fruit basket and the blade are in a second state, the blade is aligned with the fruit pedicel of the fruit to be picked, the rotating disk in the blade control assembly is rotated, the pulling rope fixed at one end of the knife bar of the blade drives the knife bar to rotate, the blade moves to the first state, the blade cuts the fruit pedicel of the fruit to be picked, and the fruit falls into the fruit basket. Then release the pulling rope on the rotating disk, and the spring returns the blade to the second state, and the fruit picking is completed. As that device can quickly collect fruit through the blade, the fruit farm is not required to consume more effort, the damage to the fruit can be avoided, and the efficiency of fruit harvest can be improved.

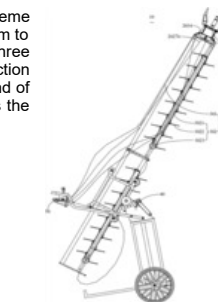


29. Method of speckle-noise pattern reduction and apparatus therefor based on reducing the temporal-coherence of the planar laser illumination beam before it illuminates the target object by applying temporal frequency modulation techniques during the trans... US6857570 2003-01-30 98 %

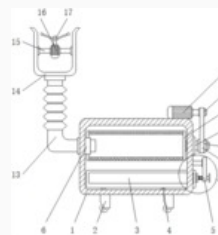
(US6857570)
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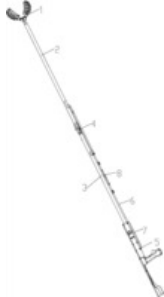
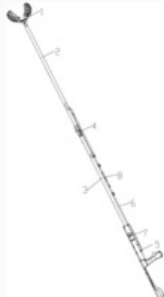
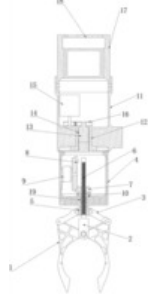
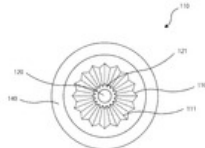
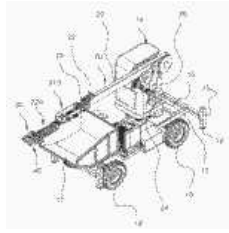
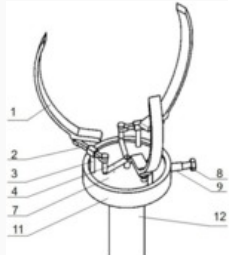


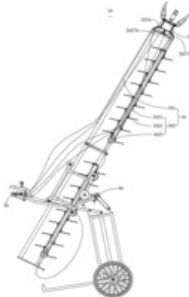
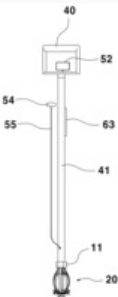
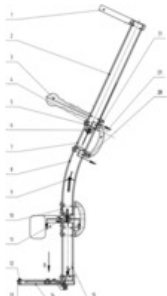
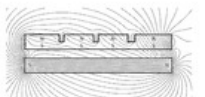
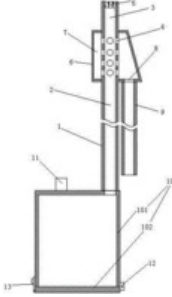
The utility model provides a belt type fruit picking machine includes picking mechanism, fruit transfer mechanism, frame, collecting box, picking mechanism's the lower extreme and the upper end fixedconnection of fruit transfer mechanism, fruit transfer establishment of institution is in the frame, and the frame still is equipped with supporting platform to hold the collecting box, picking mechanism includes mechanical claw component, gripper support, traction assembly, mechanical claw component includes at least three mechanical finger, the mechanical finger evenly sets up on the gripper support, and the mechanical finger includes first dactylus, second dactylus, third dactylus, and traction assembly includes first traction lever, second traction lever, third traction lever, first haulage rope, and the lower extreme of third traction lever is connected with the upper end of first haulage rope to move third traction lever motion through a towing rope, thereby it rotates to drive firstdactylus, second dactylus, third dactylus, thereby accomplishes the picking of fruit, the gripper support is cyclic annular, the lower extreme and the fruit transfer mechanism intercommunication of gripper support.

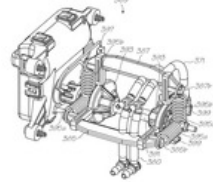
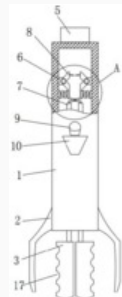
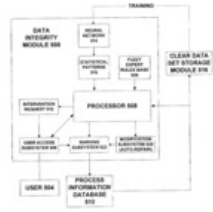
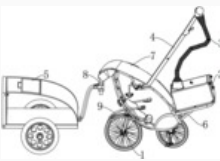


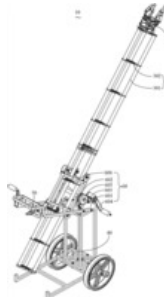
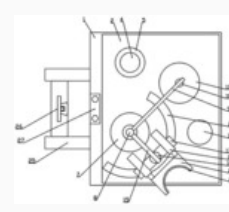
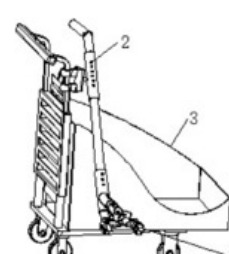
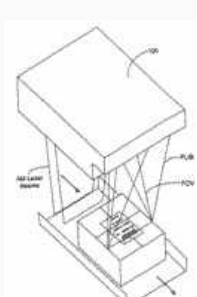
The utility model relates to an agricultural equipment technical field, and disclose a vibrating prickly ash harvester, including supporting the mount, the bottom fixed mounting who supports the mounthas the walking wheel, and the bottom of supporting the mount inner chamber has locking device with the outer wall of the surface joint leading wheel of collecting box with the bottom contact of supporting the mount inner chamber, the bottom fixed mounting who supports mount outside one side, and the top fixed mounting who supports mount inner chamber opposite side has fixing sleeve. This vibrating prickly ash harvester through the setting of mining head with vibrating head, utilizes the CD-ROM drive motor to adopt the mode of vibration to hit the prickly ash fruit down, and the mining headwho recycles carries the filter screen with the prickly ash fruit, and it is subaerial to have avoided present picking machine can hit the fruit down when gathering the prickly ash fruit, needs to pick up the prickly ash fruit come again, has reduced staff's work load and intensity of labour, has improved the efficiency of gathering to the prickly ash fruit.

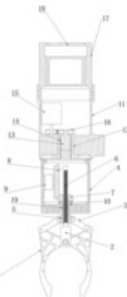
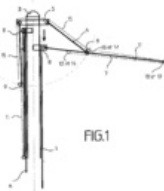
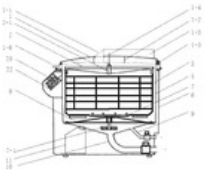
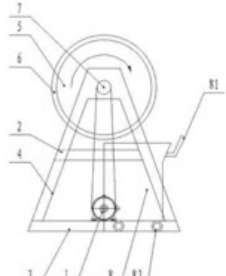


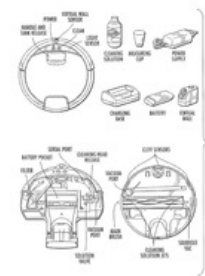
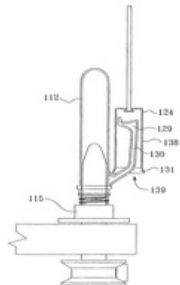
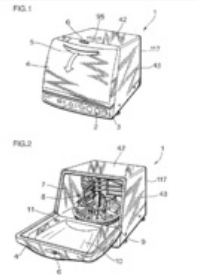
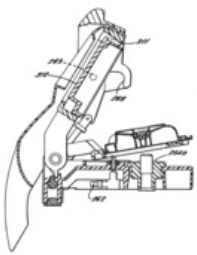
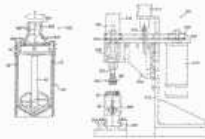
32.	One hand holds folding fruit picking device	CN207897415	2018-09-25	XIAN AERONAUTICAL UNIVERSITY	98 %
The utility model discloses an one hand holds folding fruit picking device, including the fruit picking device main part, the fruit picking device main part is including snatching subassembly, first folding rod, second folding rod, folding assembly and handheld assembly, is provided with in the fruit picking device main part to be used for control to snatch the subassembly opening and shutting with the folding control assembly who snatches control assembly with be used for controlling the folding action of folding assembly who snatches fruit, folding assembly includes a hinge member, the 2nd hinge member, hinge pin, a hinged joint board and A second hinge connecting plate, and handheld assembly includes that handle, arm drag and adapter sleeve, and handle fixed connection is just mutually perpendicular with adapter sleeve at adapter sleeve's lower extreme, and the arm drags along adapter sleeve's top that hinge member 1 set up and the arm drags and adapter sleeve's lower part fixed connection. The utility model discloses simple structure uses safe and reliable, and the practicality is strong, can singlehanded relaxation hold, and just alone can accomplish and pluck fruit, recovery process, and the fine protection fruit of ability among the picking process, avoid fruit to collide with.					
					
33.	Single-handheld folded fruit picker	CN108029345	2018-05-15	XIAN AERONAUTICAL UNIVERSITY	98 %
The invention discloses a single-handheld folded fruit picker. The single-handheld folded fruit picker comprises a fruit picker body. The fruit picker body comprises a capturing component, a first folding rod, a second folding rod, a folding component and a handheld component. The fruit picker body is provided with a capturing control component for controlling the capturing component to be opened and closed so as to capture fruits and a folding control component for controlling the folding action of the folding component. The folding component comprises a first hinge part, a second hinge part, a hinge shaft, a first hinge connecting plate and a second hinge connecting plate. The handheld component comprises a handle, an arm puller and a connecting sleeve. The handle is fixedly connected at the lower end of the connecting sleeve and is perpendicular to the connecting sleeve. The arm puller is installed along a length direction of the connecting sleeve and the top of the arm puller is fixedly connected with the lower part of the connecting sleeve. The single-handheld folded fruit picker is simple in structure, safe and reliable in use, and strong in practicability, and can be easily held by single hand. The fruit picking and recovering processes can be finished by one person, and the fruits can be protected well in the picking process, and the collision between the fruits is avoided.					
					
34.	Pineapple picking manipulator	CN208572771	2019-03-05	TIANJIN UNIVERSITY OF TECHNOLOGY	98 %
The utility model provides a pineapple picking manipulator, lead screw run through that pick control box body and gripper frame and the gripper is fixed links to each other, screw nut's the outside with the screw nut cover cooperation fix and is picking between control box body and the lead screw, at the first gear of screw nut's top installation, the lead screw runs through first gear, one side of first gear sets up the second gear, first gear and second gear mesh mutually, the second gear is with to pick the motor continuous, the articulated elements both ends link to each other with gripper frame and tongs respectively, link to each other through the connecting piece between the tongs, and the top of connecting piece links to each other with the lead screw is fixed, torsion shaft runs through the bottom of reversing the control box body, torsion shaft's bottom with pick that the control box body is fixed to link to each other, torsion shaft's top links to each other with roller gear, torsion motor and roller gear link to each other. Adopt and to snatch again torsional mode earlier and pick the pineapple, accomplish the mechanization process of gathering of pineapple, change the pineapple current situation that intensity of labour is big of gathering, improve the efficiency of gathering of pineapple.					
					
35.	Fruit juicer	WO2015/083387	2015-06-11	KABUSHIKI KAISYA LEBEN HANBAI KABUSHIKIGAISSYA LEBENHANBAI LEBEN HANBAI	98 %
Provided is a fruit juicer capable of separating and collecting seeds from fruit juice and pulp, not only reducing the time and effort necessary for said separation work but also being superior hygienically because utensils and hands are not used. A fruit juicer provided with a squeezing section, which is the part against which a fruit is pressed, and a receiving section for receiving the fruit juice squeezed out by the squeezing section, is provided with a seed-removing section, which forms a depression in the center of the squeezing section and is for catching seeds. The seed-removing section comprises an opening, a bottom, and a tubular circumferential wall that connects the opening to the bottom.					
					
36.	Palm fruit harvester	KR101784347	2017-11-06	CHO, YOUNG DONG	98 %
The present invention is intended to provide a palm fruit harvester, comprising: a vehicle body (10); a boom (20) moving from the vehicle body (10) toward a palm fruit (4) of the palm tree (2); a gripper assembly (30) provided on the boom (20) for holding the palm fruit (4) of the palm tree (2); and a cutter assembly (40) for picking up the palm fruit (4) from the palm tree (2) while holding the palm fruit (4) by the gripper assembly (30), wherein the vehicle body (10) is provided with a driver's seat (14) to which an operator enters, a wheel (13) for driving, and a dump (17) for holding the palm fruit (4), thereby capable of improving safeness of people harvesting palm fruits and shortening a palm harvesting time.					
					
37.	Twisting type apple picking rod and apple picking device	CN210017008	2020-02-07	NANJING INSTITUTE OF TECHNOLOGY	98 %
The utility model relates to a device is picked to wrench type apple harvesting pole and apple, wherein, motor and fixed moment carousel are established respectively under the fixed station in cavity and last cavity, and fixed moment carousel, pivot end installation three-jaw pushing hands are upwards worn out in the motor shaft. The outer edge of the upper end face of the fixed moment turntable is uniformly provided with 3 convex grooves along the circumferential direction, a T-shaped supporting piece is embedded in each convex groove, the top of each T-shaped supporting piece is provided with a transverse conduit, a pull rod is slidably connected in each transverse conduit, and the two ends of each pull rod are respectively hinged with a finger claw and the end part of a three-claw pushing claw. The motor shaft drives the three-jaw pushing hand to rotate, so that the pull rod slides and rotates along the T-shaped support piece, and then the 3 finger jaws are driven to gather together and grasp the apple. When the reaction force of the apple to the finger claw is larger than the resistance moment of the resistance marble to the fixed-moment turntable, the fixed-moment turntable rotates and twists down the apple. The utility model discloses simple structure is compact, picks the apple through the mode of wrench joint, can not harm the fruit tree and the fruit of picking, can save physical power and improve and pick fruit efficiency.					
					

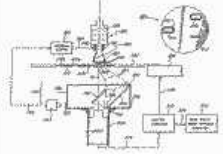
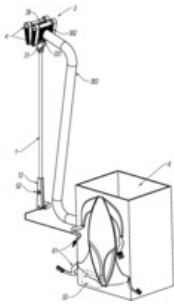
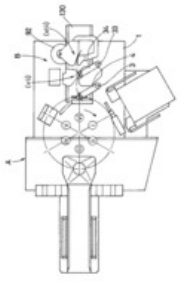
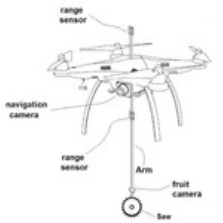
38.	Conveyor belt type fruit-picking machine	CN108496553	2018-09-07	BEIFANG UNIVERSITY OF NATIONALITIES	98 %
The invention provides a conveyor belt type fruit-picking machine. The machine comprises a picking mechanism, a fruit moving mechanism, a machine frame and a collecting box; the lower end of the picking mechanism is fixedly connected with the upper end of the fruit moving mechanism, the fruit moving mechanism is arranged on the machine frame, and the machine frame is further provided with a supporting platform for holding the collecting box; the picking mechanism comprises a mechanical claw assembly, a mechanical claw support and a traction assembly, the mechanical claw assembly comprises at least three mechanical fingers, the mechanical fingers are uniformly arranged on the mechanical claw support, and each mechanical finger comprises a first knuckle, a second knuckle and a third knuckle; the traction assembly comprises a first traction rod, a second traction rod, a third traction rod and a first traction rope, the lower end of the third traction rod is connected with the upper end of the first traction rope to drive the third traction rod to move through the first traction rope, and therefore the first knuckle, the second knuckle and the third knuckle are driven to rotate to complete grasping of fruits; and the mechanical claw support is a ring shape, and the lower end of the mechanical claw support communicates with the fruit moving mechanism.					
					
39.	Fruit harvesting apparatus	KR20170024284	2017-03-07	HONG, SUNG-JUN	98 %
The present invention relates to a fruit harvesting apparatus, and more specifically, to a fruit harvesting apparatus which cuts stems of fruits growing widely like melons and harvests the same without requiring a user to bend forward. Moreover, the fruit harvesting apparatus easily lifts even heavy fruits at a long distance to make harvesting convenient. According to the present invention, the fruit harvesting apparatus comprises: a collecting tongs portion in which fruits are placed; an extension pipe having a pipe shape and connected to the collecting tongs portion; and an apparatus handle connected to the other end of the extension pipe. The collecting tongs portion includes a plurality of collecting legs for placing fruits in an inner seating space, and prevents the fruits placed in the inner seating space by the collecting legs thereof from being dropped.					
					
40.	Device is picked to vertical pineapple	CN208739610	2019-04-16	FENG YU HUANG JINBAO LIU PENGFEI ZHANG YONG ZHOU YINGJUN	98 %
The utility model discloses a device is picked to vertical pineapple, including cover hand, body frame no. 1, body frame no. 2, body frame no. 3, handrail, grab handle, scissors and long handle, the cover hand sets up to the snap ring, and one side of cover hand is connected with body frame no. 1, the lower extreme of body frame no. 1 is fixed with the grab handle through the go-between, a locking screw and body frame thread tightening is passed through at the back that grab handle and go-between structure as an organic whole, grab handle and go-between are connected, two fixed connection of long handle connecting piece and body frame are passed through to the bottom of body frame no. 1, long handle sets up on the long handle connecting piece, two lower extremes of body frame have bodyframe no. 3 through the handrail connecting piece rigid coupling, the bottom fixedly connected with scissors of body frame no. 3, be equipped with the handrail in the handrail connecting piece. This device is picked to vertical pineapple, through mechanized design, collect press from both sides tight, cut, gather, place function in an organic whole, has improved work efficiency greatly, and has used convenient more and lightly.					
					
41.	Method and means for producing a magnetically induced indicia in a coating containing magnetic particles	EP1937415	2008-07-02	SICPA HOLDINGS SICPA	98 %
The invention concerns a device for magnetically transferring indicia, such as a design or an image, to a wet coating layer applied on a substrate, such as a sheet or a web, wherein the said coating layer comprises at least one type of magnetic or magnetizable particles; said device comprising a) at least one magnetized permanent-magnetic plate (2) carrying relief, engravings or cut-outs, mounted such that its relief surface remains accessible, b) at least one additional magnet (3), disposed below said at least one permanent-magnetic plate, facing the surface of the magnetic plate which is opposite to the relief, engraving or cut-out, and c) a holder (1), which has the mechanical function to hold the pieces together in fixed positions. A method for producing the device, the use of the device, and magnetically induced designs obtained with the device, which are useful for protecting currency, value- and identity documents, are disclosed as well.					
					
42.	Fixed-channel falling type fruit picking mechanism and method with negative-pressure suction picking	CN103891471	2014-07-02	LI SHENGZHE	98 %
The invention relates to the field of fruit picking, in particular to a fixed-channel falling type fruit picking mechanism with negative-pressure suction picking. The fixed-channel falling type fruit picking mechanism comprises a supporting rod and an airflow converging cavity. A fruit falling channel is formed in the supporting rod, extends in the length direction of the supporting rod and penetrates through the supporting rod. A fruit inlet is formed in the upper end of the supporting rod and communicated with the fruit falling channel. A blade is arranged on the fruit inlet, and the supporting rod is provided with multiple air holes communicated with the fruit falling channel and the airflow converging cavity. The airflow converging cavity is provided with an air outlet connected with a vacuum generator. The fixed-channel falling type fruit picking mechanism with negative-pressure suction picking and a method with negative-pressure suction picking are provided, wherein the fixed-channel falling type fruit picking mechanism and method are small in fruit damage in the process of separating the fruit from a fruit tree and saves labor in the process of collecting the fruit. The problems that in the process of separating the fruit from the fruit tree, fruit damage is severe, and time and labor are wasted in the process of collecting the picked fruit are solved.					
					

43.	Gripper for fruit picking tool	FR2530403	1984-01-27	MEZOGAZDASA ELEMISZERIP MEZOEGAZ ELEMISZER SZERVE MEZOGAZDASÁGI ÉS ELEMISZERIPARI SZERVEZO VÁLLALAT	98 %	
The tool for picking apples, pears, or other fruit which can be easily bruised, has a head mounted at the end of a long handle. The head has three or more fingers which are actuated by an electrical, pneumatic, or hydraulic drive. The long handle supports the electric cable, or pneumatic, or hydraulic pipe line which connects the head to the power source. In the case of an electrically operated device power can be supplied by a battery carried by the operator.						
44.	System for distributing fluid and gas within printer	EP2571697	2013-03-27	MEMJET TECHNOLOGY MERNJET TECHNOLOGY SILVERBROOK RESEARCH ZAMTEC	97 %	
A system for distributing fluid and gas within a printer is provided having a fluid container having three fluid ports, a first fluid path connecting the first fluid port to a printhead of the printer, a second fluid path connecting the second fluid port to the printhead, and a third fluid path connecting the third fluid port to a gas vent. The first and second fluid ports are configured so that fluid from the fluid container flows between the first and second fluid paths via the printhead and the third fluid port is configured so that gas flows between the fluid container and gas vent.						
45.	Portable mulberry picking device	CN210183919	2020-03-27	JIANGXI VALLEY SPRING ECO AGRICULTURE DEVELOPMENT	97 %	
The utility model discloses a device is picked to handy mulberry, including a pipe body, the top center department rigid coupling of body is equipped with the inlet pipe, the equal rigid coupling in both ends bottom is equipped with the fender handle about the body, the equal rigid coupling in inside top left and right sides of body is equipped with even board, two the one end of even board all has the piece of turning through first pivot movable mounting, two turn one side top of piece and all be equipped with clamping device, clamping device's one end is equipped with the cutter, the cutter passes through clamping device and turns the piece and link to each other. Portable mulberry harvesting device aims at through mulberries and inlet pipe, and the inside that the inlet pipe was stretched into to mulberries, and the cutter is corresponding with the mulberries root, just drives the pull rod motion through the extrusion grab handle, turns the piece and drives the cutter motion, and two cutters are to closing, and the cutter is cuted the root of mulberries, can pick fast, has reached and can carry out the effect of picking fast under the prerequisite of not destroying pulp and branch fast, increases and picks efficiency, reduces and picks the degree of difficulty.						
46.	Communication between machines and feed-forward control in event-based product manufacturing	EP1466279	2004-10-13	CALLAHAN CELLULAR BINFORMA LIABILITY KIMBERLY CLARK KIMBERLY CLARK WORLDWIDE	97 %	
Providing communication between machines (32A and 32B) and feed-forward control in event-based product manufacturing. Some of the disclosed embodiments include a system (30), method, and computer-readable media for communicating data relating to a material (34) between machines during a process (36) for feed-forward control. Also disclosed are an intelligent event-based manufacturing system including a process for converting a raw material (34) to a product (42) and a method of reducing the probability of waste, delay, or a quality defect in a process having process conditions for the manufacture of a product (42) from a sequentially trackable raw material (34). The embodiments are operable in an intelligent manufacturing system (30) including a process for converting raw materials (34) to a product (42), a process control system (54) including one or more sensors (46) capable of generating an alarm in response to an event that results in one of waste, machine delay, or decrease product quality, a data logger (58) associated with the process control system for obtaining event parameters associated with the event, a database on a server (170) for recording event parameters obtained by the data logger, and a reporting system cooperatively associated with the database (70) for reporting productivity parameters regarding the process derived at least in part from the event parameters.						
47.	Leaning type safe light and convenient vehicle for people to pick and husk chinese chestnuts	CN109479512	2019-03-19	XUZHOU SHENGDU SHI BIOTECHNOLOGY	97 %	
The invention discloses a leaning type safe light and convenient vehicle for people to pick and husk Chinese chestnuts. The leaning type safe light and convenient vehicle for people to pick and husk the Chinese chestnuts comprises a leaning type movable mechanism, a husking mechanism, a flexible telescopic gliding module, a wrapping type telescopic grabbing and picking mechanism and a detachable loading vehicle, wherein the husking mechanism is arranged on the leaning type movable mechanism; the wrapping type telescopic grabbing and picking mechanism is arranged on the leaning type movable mechanism; one end of the flexible telescopic gliding module is arranged on the wrapping type telescopic grabbing and picking mechanism; the other end of the flexible telescopic gliding module is arranged on the husking mechanism; and the detachable loading vehicle is detachably arranged at the rear end of the leaning type movable mechanism. The invention belongs to the field of farm tools, particularly, by the leaning type safe light and convenient vehicle for people to pick and husk the Chinese chestnut, the practicality is high, people pick the Chinese chestnuts comfortably, the working efficiency is improved, the labor intensity is reduced, the problems that people who pick the Chinese chestnuts easily suffer from cervical diseases when looking up to observe the Chinese chestnuts, and the Chinese chestnuts are difficult to pick due to over-high Chinese chestnut trees are solved, and husks of the Chinese chestnuts are automatically and nondestructively removed.						

48.	Formula of slowing down in grades fruit picking machine	CN208143857	2018-11-27	BEIFANG UNIVERSITY OF NATIONALITIES	97 %	
The utility model provides a formula of slowing down in grades fruit picking machine includes picking mechanism, fruit grading speed reduction transfer mechanism, frame, collecting box, the fruit grading speed reduction is shifted the mechanism and is installed in the frame to be located picking mechanism's below, the frame is equipped with supporting platform, and in order to hold the collectingbox, the lower extreme intercommunication that just shifts the mechanism with the fruit grading speed reduction is opened to the upper end of collecting box. Picking mechanism includes mechanical clawcomponent, gripper support, traction assembly, mechanical claw component includes at least three mechanical finger, and the mechanical finger evenly sets up on the gripper support, and the mechanicalfinger includes first dactylus, second dactylus, third dactylus, and traction assembly includes first traction lever, second traction lever, third traction lever, first haulage rope, and the grippersupport is cyclic annular, the lower extreme and the fruit transfer mechanism intercommunication of gripper support to the fruit that to pick successively gets into the collecting box through grippersupport, fruit transfer mechanism, the frame includes angle adjustment mechanism, walking frame.						
49.	Containing trolley used for picking apples	CN108934453	2018-12-07	ZHOU XINYONG	97 %	
The invention discloses a containing trolley used for picking apples. The containing trolley comprises a trolley body, a collecting basket replacing mechanism is arranged on the trolley body, and a collecting basket placing mechanism is arranged on one side of the collecting basket replacing mechanism; the collecting basket replacing mechanism comprises a containing table, a round groove, collecting baskets, metal rings, a servo motor, a rotating disc, a supporting mechanism, a first electric telescopic rod, a connecting rod, a connecting pillar, a grabbing table, a round groove, first electromagnets, a separating mechanism and a containing groove; the collecting basket placing mechanism comprises a fixing ring, a second electric telescopic rod, a supporting table, a third electric telescopic rod, a universal wheel, an arc-shaped sliding channel, fourth electric telescopic rods, a fixing table, a semicircular groove, second electromagnets and a positioning mechanism; a pushing handle is arranged on the upper surface of the trolley body and provided with a controller, and a rechargeable lithium battery is arranged on the upper surface of the containing table. The containing trolleyhas the advantages of being simple in structure and high in practicability.						
50.	Pineapple picking and collecting device	CN208874846	2019-05-21	HUNAN UNIVERSITY OF SCIENCE & TECHNOLOGY	96 %	
The pineapple picking and collecting device is characterized by comprising a picking part, a connecting part and a collecting part, the two ends of the connecting part are movably connected with the picking part and the collecting part respectively, and the connecting part rotates relative to the collecting part and drives the picking part to move. The picking part comprises a mechanical arm grabbing device. The mechanical arm grabbing device comprises a handle and eccentric wheels which are sequentially connected. a connecting rod and a bowl-shaped fixing clamp, the bowl-shaped fixing clamp comprises two curved surface clamping pieces and two clamping rods; two ends of the clamping rod are respectively connected with the curved-surface clamping piece and the connecting rod; wherein the handle comprises a connecting end, a driving end and a picking end which are sequentially connected, a guide through hole is formed between the driving end and the picking end, the picking end is provided with two parallel guide grooves which are formed at an interval, the eccentric wheel is located in the driving end, the connecting rod penetrates through the guide through hole, and the middle endsof the two clamping rods are hinged to the two parallel guide grooves respectively. The harvester integrates picking and collecting, and is high in collecting efficiency, flexible and labor-saving inoperation, low in cost and suitable for small-area planting users.						
51.	Planar laser illumination and imaging (plim) systems with integrated despeckling mechanisms provided therein	EP1344180	2003-09-17	METROLOGIC INSTRUMENTS	96 %	
Methods of and systems for illuminating objects using planar laser illumination beams having substantially planar spatial distribution characteristics that extend through the field of view (FOV) of image formation and detection modules employed in such systems. Each planar laser illumination beam is produced from a planar laser illumination beam array (PLIA) comprising a plurality of planar laser illumination modules (PLIMs). Each PLIM comprises a visible laser diode (VLD), a focusing lens, and a cylindrical optical element arranged therewith. The individual planar laser illumination beam components produced from each PLIM are optically combined to produce a composite substantially planar illumination beam having substantially uniform power density characteristics over the entire spatial extend thereof and thus the working range of the system. Preferably, each planar laser illumination beam component is focused so that the minimum beam width thereof occurs at a point or plane which is the farthest or maximum object distance at which the system is designed to acquire images.						
52.	Method and device for seamlessly reproducing a bit stream containing noncontinuous system time information	EP2160027	2010-03-03	PANASONIC BLUE LIGHT UNITED PANASONIC ELECTRIC INDUSTRY SANYO CHEMICAL INDUSTRIES	96 %	
A large-capacity optical disk (M) on which a plurality of system streams containing mutually-interleaved moving picture data and audio data are recorded. The system streams (VOB) are smoothly connected to each other. In each system stream (VOB) recorded on the disk (M), the STC which is referred to by signal processing decoders (3801, 3100, and 3200) in decoding the first system stream and the STC which is referred to by the signal processing decoders (3801, 3100, 3200) in decoding the second system stream which is successively reproduced after the first system stream are switched to each other. A reproducing device (DCD) for reproducing the data from the disk (M) is also disclosed.						

53.	Assistor is picked to litchi	CN208258444	2018-12-21	FOSHAN UNIVERSITY	96 %	
The utility model discloses an assistor is picked to litchi, include feed zone, adjust the pars contractilis of length and be used for the application of force to cut the operating portion of branch,the both ends of pars contractilis respectively with feed zone and operating portion fixed connection, the operating portion is connected with the feed zone transmission, when using, only need draw the mechanism in with the circular arc hooks several litchi, then the manual handle of pressing down makes a round trip about the cubic, and two pawls drop -down in - process with restoring to the throneat the steel wire respectively promote the ratchet and have rotated a week, and this cycle process has just realized the picking and shearing of fruit, when the branch is cut off after, and come off(the hand indefatigability) of fruit when auto -lock attribute that the ratchet was taken certainly can prevent the abrupt halt operation, it can to put down the fruit gently afterwards. Just can pickseveral at a picking process, tens even, having improved work efficiency greatly, the tired sense that has also reduced the fruit grower is the degree of difficulty that picks with plucking the fruit. The utility model discloses still have simple structure, convenient operation, the easy advantage of implementing.						
54.	Ware is picked to portable pineapple	CN208572772	2019-03-05	TIANJIN UNIVERSITY OF TECHNOLOGY	96 %	
The utility model provides a ware is picked to portable pineapple, including the gripper, snatch controlling means, twist reverse controlling means and supplementary back of the body frame, controlling means's one end is being snatched in the gripper setting, the other end that snatches controlling means with twist reverse controlling means and link to each other, twist reverse controlling means and supplementary back of the body frame links to each other. Adopting and snatching torsional mode earlier again and pick the pineapple, accomplish the mechanization process of gathering of pineapple,change the pineapple current situation that intensity of labour is big of gathering, improve the efficiency of gathering of pineapple greatly, practice thrift more work resources, simultaneously, supplementary back of the body frame can be undertaken external force and alleviate the upper limbs and bear a burden, suitably slows down the tired joint of arm and bears a burden.						
55.	Fruit picking flight vehicle	CN108633482	2018-10-12	SOUTH CHINA UNIVERSITY OF TECHNOLOGY	96 %	
The invention relates to a fruit picking flight vehicle. The fruit picking flight vehicle comprises a flight vehicle rack, a visual system, a picking cutting system, a control system and a power system; the visual system and the picking cutting system are both controlled by the control system; the control system comprises a visual information processing system, a picking control system and a flight control system; and the visual system comprises a left lens, a right lens, a left sensor and a right sensor and is used for identifying fruits and positioning picking points. The fruit picking flight vehicle has the advantages that a fruit picker is combined with a flight vehicle to achieve the automation of a fruit picking technology, the flight freedom of the flight vehicle is large in the air, and the disadvantage that a mechanical arm type fruit picker loaded by a wheel type or crawler type trolley has low efficiency is overcome; not only is the labor strength of fruit farmers reduced, the labor productivity is improved, the production cost is reduced, the timely harvest of the fruits is ensured, the fruit quality is ensured, but also the fruit picking flight vehicle has a great driving effect on promoting agriculture scientific and technological progress and accelerating agricultural modernization process in China.						
56.	Frame for objects that open out, such as umbrellas	EP1239748	2002-09-18	CASSAGNE SERGE CASSAGNE SERGE PIERRE CLEMENT	96 %	
The invention relates to a structure which opens out and can be used as a frame for an umbrella, a parasol, a stall cover, a grapnel, a floating anchor, a space antenna a spraying boom protection device or a fruit gathering device. Said structure has branches (7) which are joined to a strut in an articulated manner and which are supported by arms (4) that are joined to the strut and at their other end, to said branches, in an articulated manner. The invention is characterized in that the strut consists of two parts; an inner part (1) and an outer part (6) which slide in relation to each other, and in that the branches (7) are articulated on a "runner" piece (8) that is fixed to the top of the outer part (6) of a strut and are supported by the articulated arms (4) in their opened-out position. At their strut end, said arms are articulated on a "stop" piece (5) which is fixed to the top of the inner part (1) of the strut (1). The invention is also characterized in that the inner part (1) of the strut is longer than the outer part (6) of the strut and in that said outer part constitutes the element that transmits the movement required to open and close the object.						
57.	Vegetable washing method capable of separating and splitting impurities, and machine for implementing same	WO2014/173179	2014-10-30	ZHANG, QISI	95 %	
A vegetable washing method capable of separating and splitting impurities and a machine therefor. The method comprises putting fruit and vegetable into a washing basket, then driving the wash basket to rotate by an electric motor so as to force water flow to circulate repeatedly, as a result separating the impurities and the vegetable. The method has the following three technical features of A, B and C, or at least has one of them. A. using a method for preventing the impurities thrown outside the washing basket together with the water from circularly falling into the basket again together with the water to gradually purify the vegetable in the basket; B. using a vortex center draining method to discharge the sewage and impurities; C. using a method for making the vegetable in the washing basket periodically centripetal and centrifugal motion to flip and turn the placement angle of the vegetable in the basket. The vegetable washing method enables the impurities of different specific gravities to split into different spaces, and then to be removed.						
58.	Peanut falls fruit machine	CN207836221	2018-09-11	YANG RUHONG	95 %	
The utility model provides a peanut falls fruit machine, including the filter screen, extraction fan and filter, the bottom plate is square plate structure, and wherein leave a blank in the right sidemiddle part, for the rectangle, the tripod is equipped with two departments, welds respectively in the front side and the rear side of bottom plate, for the A line structure, is formed by flat sealing of tube, and the through -hole is stayed to the top, the cylinder is hollow metal section of thick bamboo structure, and the quality is less, it is the shallow pattern to receive the fruit case, andthe bottom width equals the rectangle width that the bottom plate was left a blank, and length equals the rectangle length that the bottom plate was left a blank, and receives fruit case left side bottom and leave the trompil, [the type structure is welded in receiving fruit case right side for the pipe welds in the pushing hands, the filter screen welds in receiving fruit incasement portion side on the lower side, and the sieve diameter is 5mm, the utility model discloses can the high efficiency separation peanut body to the during operation does not almost have the dust and produces, needs the human input few, can will fall fruit efficiency and improve more than 2.5 times, and the cost of manufacture is low, is applicable to each flower producing area and uses.						

59.	Autonomous surface cleaning robot for wet and dry cleaning	EP1850725	2007-11-07	IROBOT	95 %	
An autonomous floor cleaning robot (100) includes a transport drive and control system (300,900) arranged for autonomous movement of the robot over a floor for performing cleaning operations. The robot chassis (102) carries a first cleaning zone (A) comprising cleaning elements arranged to suction loose particulates up from the cleaning surface and a second cleaning zone (B) comprising cleaning elements arranged to apply a cleaning fluid onto the surface and to thereafter collect the cleaning fluid up from the surface after it has been used to clean the surface. The robot chassis carries a supply of cleaning fluid and a waste container (D) for storing waste materials collected up from the cleaning surface .						
60.	Improvements in pet blow moulding machines	EP2004386	2008-12-24	B&R INDUSTRIES BEE & EARLE INDUSTRIES PITIWAI GRAIL ASIA INTEGRATED PLASTICS SANGRAAL ASIA 1 more...	94 %	
A blow moulding machine for blow moulding a container having an integrally formed handle; said container blow moulded from a previously injection moulded preform; said preform comprising a body portion and said integrally formed handle; said machine including a preform loading station at which said preform is oriented by a preform orienting apparatus.						
61.	Dishwasher for washing dishes by rotating a dish washing basket	EP0820718	1998-01-28	SHARP	94 %	
A dishwasher (1) includes a cabinet (117) having an opening, a door (4) provided to be opened/closed at the opening of cabinet (117), a washing chamber member (40) provided in cabinet (117) and forming a washing chamber (7) facing the opening, a washing nozzle (26) provided facing in a prescribed direction to washing chamber (7), a circulation pump (32) coupled to the washing nozzle (26), the bottom portion of washing chamber (7) and an external drain outlet, a driving source (22) provided outside the washing chamber (7), a power transmission mechanism (69) provided at a corner on one side in cabinet (117) behind cabinet (117) and outside the washing chamber (7), and a control circuit (53) controlling the circulation pump (32) and driving source (22). By the power transmitting mechanism (69), a dish washing basket (8) placed in washing chamber (7) is rotated. Since power transmitting mechanism (69) is placed in a corner behind washing chamber (7) of cabinet (117), the dishwasher (1) can be made smaller. A dish washing basket for the dishwasher is also disclosed. <IMAGE>						
62.	Machine for the preparation of beverages	EP1440637	2004-07-28	DOUWE EGBERTS CRAFT FOOD RESEARCH & DEVELOPMENT KRAFT FOODS R&D SARA LEE	94 %	
A closure mechanism for a beverage preparation machine (201) comprising a lower part (255) and an upper part (256), the upper part and lower part being movable relative to one another from an open position in which a beverage cartridge (1) can be received in the closure mechanism and a closed position in which the beverage cartridge is fixedly retained between the upper part and lower part, wherein in the closed position the closure mechanism contacts a top surface (11) and a bottom surface of the beverage cartridge at or near a centre of the beverage cartridge to exert a compressive force of greater than 50N. <IMAGE>						
63.	Specimen vial sealing apparatus and method	EP1436199	2004-07-14	GENERAL PROBE PRODESSE HOLOGIC JEN MONO MONGEN MONOGEN	93 %	
Method and apparatus for applying seals made of thin material to the open tops of containers, e.g., specimen containers for holding biological fluid that are processed automatically. A measured length of sealing material is advanced across and pressed against the top of the container (20) to effect a seal. Depending on the type of sealing material used, sealing may be accomplished by application of pressure alone, by application of heat and pressure, or by application of ultrasonic energy and pressure. Excess sealing material optionally may be folded against the container sides by means of a folding member adapted to surround a container (20) when the sealing head is lowered. Motor-driven rollers advance the sealing material, while a platen (854) on a movably mounted sealing head presses the sealing material into engagement with the container.						

64.	Methods for pruning fruit plants	US20200077589	2020-03-12	HARVESTMOORE	93 %
This disclosure includes a method for pruning a fruit plant. An exemplary method step includes obtaining an image of the fruit plant that has branches. Next, creating exclusion zones surrounding the branches. Then pruning the fruit plant based upon the exclusion zones.					
					
65.	Automated laminography system for inspection of electronics	EP0355128	1990-02-28	AGILENT TECHNOLOGIES FOUR PI SYSTEMS FOUR PIE I SYSTEMS	93 %
A tomographic inspection system wherein the electron beam (285) of a microfocus X-ray tube (200) is deflected in a circular scan pattern onto the tube anode (287) in synchronization with a rotating detector (30) that converts the X-ray shadowgraph into an optical image and derotates the image so as to be viewed and integrated in a stationary video camera (256). A computer system (270, 272) controls an automated positioning system (230) that supports the item under inspection (210) and moves successive areas of interest into view. In order to maintain high image quality, a computer system (270, 272) also controls the synchronization of the electron beam deflection and rotating optical system, making adjustments for inaccuracies of the mechanics of the system. The computer system (270, 272) can also operate under program control to automatically analyze data, measure characteristics of the item under inspection (210) and make decisions regarding the acceptability of the item's quality. The invention produces high resolution images in rapid succession so as to be suitable for use in conjunction with manufacturing production lines and capable of inspecting electronic devices (212), solder connections (214), printed wiring boards (210) and other assemblies.					
					
66.	Mechanical arm with synchronous shearing function	CN108942992	2018-12-07	FUJIAN UNIVERSITY OF TECHNOLOGY	93 %
The invention relates to a mechanical arm with a synchronous shearing function. The mechanical arm comprises a rod body, a pull rod and a meshing mechanism; the rod body is of a hollow structure, the meshing mechanism is locked and fixed to the top end of the rod body, and the pull rod is arranged in the rod body in a penetrating manner and drives the meshing mechanism to move; the meshing mechanism comprises a pair of shaft base plates, a pull rod shaft, upper and lower rotating shafts, upper and lower meshing arms, blades and synchronous assemblies; the pair of shaft base plates are locked and fixed to the two sides of the top end of the rod body to be used for positioning the upper and lower rotating shafts, gears are arranged on the upper and lower rotating shafts and are meshed with each other at the end of the pull rod to transmit power, and the power is transmitted to the blades on cutter shafts at the front ends of the upper and lower meshing arms through the synchronous assemblies; and the pull rod shaft is further fixed to the end of the pull rod, and the pull rod shaft drives the upper and lower meshing arms to achieve the meshing motion. The mechanical arm has the beneficial effects of being ingenious in conception, capable of achieving meshing and pulling at the same time and direct driving; in cooperation with motor drive, high-frequency automatic reciprocated meshing motion is achieved; the design of the upper and lower blades vertical to fruit bases is adopted, and the branch running defects are avoided.					
					
67.	Packaging method for binding mouth of bag with tape	JP2000238721	2000-09-05	GENERAL PACKER	93 %
PROBLEM TO BE SOLVED: To improve packaging operation efficiency by fully automating a series of processes of grasping the mouth portion of a packaging bag, opening the mouth of the bag and filling contents into it, firmly twisting the mouth portion of the bag after that, and tying the twisted portion by the attachment of a tape thereto. SOLUTION: While both right and left side edges of a packaging bag supplied in a bag-feeding process (i) is kept gripped with grips, the packaging bag is transferred to an opening process (ii), and in a filling process (iii), contents are filled into the packaging bag opened in that process. At the time, in vibrating processes (iv) and (v), the bottom of the packaging bag is vibrated to make the filled contents even. Thereafter, the bag is transferred to a take-out process (vi). Here with the mouth portion of the bag grasped and gathered to the middle by means of a widthwise gathering clamp, the drawn mouth portion of the bag is grasped with a middle clamp. Then, with the mouth portion of the bag kept grasped, swing arm is turned and moved to a bundling process (vii), and the bundled portion is firmly twisted by rotating a rotary clamp. Subsequently, the twisted portion of the packaging bag is tied with a tape in a tying process (viii). COPYRIGHT: (C)2000,JPO					
					
68.	Device, system and method for harvesting and diluting using aerial drones, for orchards, plantations and green houses	EP3500085	2019-06-26	TEVEL ADVANCED TECHNOLOGY TAIWEI AERIAL ROBOT TECHNOLOGY TEBEL ADVANCED TECHNOLOGIES TEBEL ADVANCED TECHNOLOGIES TEL ADVANCED TECHNOLOGIES TEVEL ADVANCED TECHNOLOGIES 1 more...	93 %
The present invention provides an improved, autonomous unmanned aircraft vehicle (UAV) for harvesting or diluting fruit, and a control unit for coordinating flight and/or harvesting missions thereof, as well as a system and method for harvesting fruits.					
					

69.

Method of optically scanning an information plane and optical record carriers and scanning apparatuses suitable for use of said method.

EP0343727

1989-11-29

PHILIPS ELECTRONICS

PHILIPS

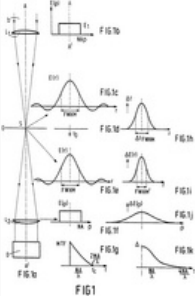
PHILIPS GLOEILAMPENFAB

PHILIPS GLOEILAMPENFABRIEKEN

US PHILIPS

92 %

When scanning an optical record carrier with a diffraction-limited scanning spot (S), the size of the effective scanning spot (S_{min}) can be considerably reduced by utilising the energy distribution within the scanning spot (S) in combination with a non-linear optical layer (22) in the record carrier (1) so that the resolution is increased both during reading and during writing.



70.

Powder container and image forming apparatus

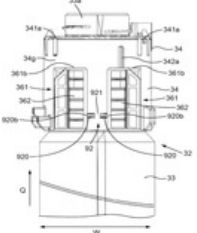
EP2972591

2016-01-20

RICOH

92 %

A powder container contains powder used for forming an image and is to be attached to an image forming apparatus. The image forming apparatus includes: a conveying nozzle to convey the powder; a powder receiving hole that is provided on the conveying nozzle and receives the powder from the powder container; an apparatus main-body gear to transmit a driving force to the powder container; and a container receiving section that is arranged around the conveying nozzle and receives the powder container. The powder container includes: an opening that is provided on one end of the powder container in a longitudinal direction; a nozzle receiver that is arranged in the opening and receives the conveying nozzle; a rotary conveyor that **rotates** to convey the powder to the powder receiving hole; and a container gear that is provided near the opening and drives the conveyor by meshing with the apparatus main-body gear. The container gear is arranged so as to mesh with the apparatus main-body gear at a position closer to the opening than the powder receiving hole in the longitudinal direction. The opening is to mate with the container receiving section.



71.

Portable, extendible and retractable device

EP0650405

1995-05-03

FRIEDMAN MARK M

FRIEDMAN

FRIEDMAN MARK

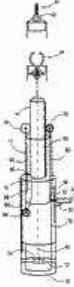
HAMMER

HAMMER MORDECHAI

4 more...

92 %

An extendible-retractable device, which is made up of a number of interconnected members (10, 12, 14) and to which a suitable tool (44) may be attached. The device makes it possible to continually change the position of the tool (44) as a task is being performed. The device includes members (10, 12, 14) which are attached to each other through flexible cables (16, 22, 30, 32) so that relatively small movements of a **handle** (20) or similar device in the hand of the user results in relatively large extension or retraction movements of the farthest member (14) which carries the tool (44).



72.

A digital recording and reproducing apparatus

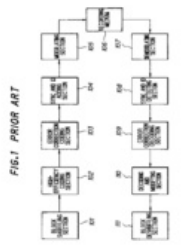
EP0692916

1996-01-17

SHARP

92 %

A digitally recording and reproducing apparatus simultaneously records two kinds of digital signals of an identical video program, generated by high-efficiency coding, or a relatively high bit-rate signal and a relatively low bit-rate signal, onto the approximately the same positions on the tape. When the low bit-rate signal is commonly used for normal playback and search-playback or when it is used only for the search-playback, the amount of the search-playback data is adjusted so that data on a number of frames as to be a unit for edit work may be recorded onto an integer number of tracks. <MATH>



73.

Electric telescopic picking frame for dragon fruits

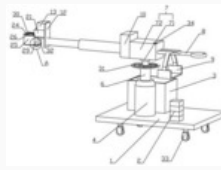
CN210247568

2020-04-07

Xianning Xianan District special fruit planting professional cooperative

92 %

The utility model belongs to the technical field of **fruit** picking, in particular to an electric telescopic picking frame of dragon fruits, which comprises a bottom plate, universal wheels are arranged on the bottom plate, a heavy block is arranged on the bottom plate, a containing box is arranged on the bottom plate, a supporting column is arranged on the bottom plate, the supporting column is provided with first threads, a spring is arranged at the bottom of the supporting column, the supporting column is connected with a lifting screw rod, the lifting screw rod is provided with second threads matched with the first threads, a **rotating** steering wheel is arranged on the lifting screw rod, the lifting screw rod is connected with a **rotating** mechanism, the **rotating** mechanism is connected with a **handle**, a heavy frame is arranged on the **handle**, the **rotating** mechanism is connected with an electric cylinder, the electric cylinder is connected with a supporting plate, the supporting plate is connected with a servo motor, the servo motor, the power output end of the servo motor is connected with a gear, and the gear is meshed with a first gear matched with the gear.



74.

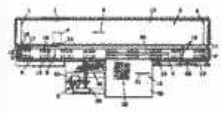
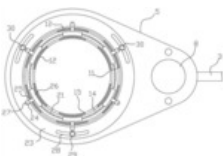
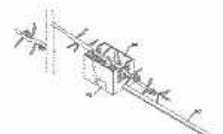
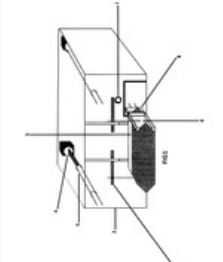
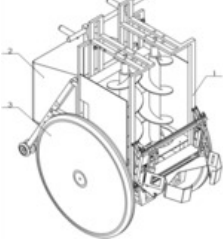
Apparatus for mechanically harvesting of **fruit** growing on trees and nut

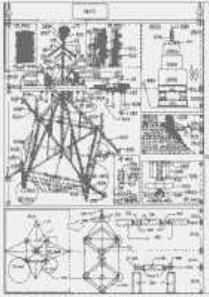
FR1470159

1967-02-17

91 %

No abstract available

75.	Apparatus for binding stem of flowering plant	JP09295606	1997-11-18	YASHIMA SHOKAI	91 %	
PROBLEM TO BE SOLVED: To reliably defoliate the lower leaves of respective stems, prevent the commercial value of flowers bundled from being reduced, and improve the efficiency of binding work by defoliating the lower leaves of the stems of flowering plants by a defoliating means while they are being kept in a separate and parallel state, and gathering the flowering plants to bind their stems by a binding means after defoliating the lower leaves. SOLUTION: When stems W of a plurality of flowering plants are set between press protrusions 13 of a fore side transfer conveyor 2 in a separate and parallel state, the forward end portions of the stems W are set on a rear side transfer conveyor 3, and the base end portions of the stems W are set on a stem receiving belt 34, whereby the stems W are transferred. During transfer, the base end portions of the stems W of the flowering plants are cut by a rotary saw plate 21 of a cutting means 18, and the length of the stems are made uniform. The lower leaves W(sub 1) of each stem of the respective flowering plants thus cut and transferred are then defoliated by the rotary action of a leaf-defoliating body of a defoliating means 22 while they are being kept in the separate and parallel state. The stems W of the plurality of flowering plants are then gathered into a bundle by a gathering means 32 and are subsequently bound by a binding means 29 with a binding string pulled and drawn out of a bobbin B by the action of an internal means 29. COPYRIGHT: (C)1997,JPO						
76.	Protective notch-adjustable fruit picker	CN108811748	2018-11-16	CENTRAL SOUTH UNIVERSITY	91 %	
The invention discloses a protective notch-adjustable fruit picker. An upper panel and a lower panel are arranged at the end of a telescopic rod; an outer sleeve is arranged on the upper panel; an inner sleeve is arranged on the lower panel; the outer sleeve sleeves the inner sleeve; notches are formed in the upper end openings of the outer sleeve and the inner sleeve; triangular chutes are formed in the bottom surfaces of the notches; an annular saw blade is arranged between the outer sleeve and the inner sleeve; the annular saw blade is arranged on a driving wheel; the driving wheel is connected with a motor; a storage battery and a switch are arranged on the telescopic rod; the storage battery and the switch are connected with the motor through wires; the outer sleeve is sleeved with an adjusting ring; supporting rods are arranged on the adjusting ring; connecting rods are arranged on the supporting rods; the connecting rods are connected with arc-shaped plates; the arc-shaped plates are arranged between the inner sleeve and the outer sleeve; the connecting rods are connected with the supporting rods through mounting bolts. The protective notch-adjustable fruit picker is low in cost, free of fruit damage and high in picking speed, and has a lower requirement for judging the accurate positions of apples by human eyes, the notches can be shielded, the size and number of the notches can be adjusted, and use is more flexible and safer.						
77.	Distribution and input device of nuclear radiation leakage control dual structure block tank reactor precipitator body for nuclear reactor equipment in various types of nuclear reactor equipment power plant operation replacement nuclear waste treatment ...	KR20140094482	2014-07-30	LEE, WOO SUNG	91 %	
The present invention relates to a distribution and input device of a nuclear radiation leakage control dual structure block tank reactor precipitator body for nuclear reactor equipment in various types of nuclear reactor equipment power plant operation replacement nuclear waste treatment shielding devices of a global hydro nuclear power plant body. More specifically, various types of nuclear reactor facilities in a light-water reactor operation replacement nuclear waste treatment shielding device of a nuclear power plant is composed of a boiling water reactor and a pressurized water reactor in a nuclear reactor using water.						
78.	Portable coffee harvesting machine	US4538405	1985-09-03	VICTOR M ALEXANDRINO	91 %	
A harvesting apparatus and method which are preferably employed for harvesting coffee berries are disclosed. The apparatus includes rotating spindles with helicoidal threads. In one embodiment, the spindles are driven by a motor, and in a second embodiment, the spindles rotate for engaging the berries or the branch as the operator moves the apparatus along a branch. The embodiment without a motor drive is ultra-light and may be operated without fatigue. The threads are designed to pull the fruit to be harvested off a branch and throw it free of the apparatus. The fruit may be collected by placing a net on the ground so that the fruit falls into it. In a preferred embodiment a small basket surrounds the rotating spindles to catch harvested berries.						
79.	Method and machines for transforming initial sealed packagings into irregular cubic or polyhedral packagings by means of sealing and cutting flaps	EP2857316	2015-04-08	PACK SAVE PLANET PACK SAVE PLANET ESSEY JER PARK SARBANES PLANET S ELEGANS PLANET WRAPPED STORAGE	90 %	
Transforming initial container with at least two sides of flexible material like film coil, which are sealed with fluids and/or pasty and with solid or not inside, into three-dimensional geometric body shape. The process comprising of the following stages: 1-The initial container is grabbed preferably by central transversal area or one of its ends, by one or two fixing clamps (3) keeping a constant pressure force (adjustable) inward, but with adjustable damping to take back when original container increases in volume. 2-One or more impact clamps/bodys (6) hit one or two of perimeter sides, starting one, two, three, four or more flaps or triangles, and also to the same time the initial container is transforming blowing up or increasing it volume into three-dimensional geometrical body we desired [rectangular prism/cubic figure (if four flaps are sealed or sealed and cut) or irregular multi-faceted (if one, two, three flaps are sealed or sealed and cut)]. 3-Consecutive, one, two, three, four or more flaps or triangles created, are sealed (8) or sealed and cut (8) transversely (or approximately) to the area that is making contact; the flap and the rest of container. Advantages: -All the container sides may be smooth without flaps. -Improve Environmental and economic savings; not being necessary the use of cardboard in film and avoid flaps, further lowering the volume of waste and energetic cost and because helps the recycling. -The possibility to produce smaller 3D containers. -Dosage is easier and clean to increase the pressure. *Applicant certifies at the instance its proposal to publish 8 figure attached with the summary.						
80.	Supplementary device of picking of parallel pineapple of cart based	CN208523243	2019-02-22	ZHEJIANG SCI-TECH UNIVERSITY	90 %	
The utility model provides a supplementary device of picking of parallel pineapple of cart based, includes outer frame, transmission wheel, is used for to pluck picking cutting device, drive mechanism, collection basket and being used for carrying the fruit conveying mechanism in the collection basket with the pineapple of pineapple, the left and right sides of outer frame is provided with a transmission wheel respectively, pick on the front portion that cutting device installed frame outside, collection basket installs on the rear portion of outer frame, the fruit conveying mechanism be located pick between cutting device and the collection basket and inlay in outer frame, drive mechanism is located frame rest base portion, the transmission wheel passes through drive mechanism with fruitconveying mechanism connects. The utility model provides a supplementary device of picking of parallel pineapple of cart based can effectively reduce workman intensity of labour, has realized that three functions of harvesting, collection and transportation combine, the pure mechanical structure of the device moreover, operate portable, adaptable by force, pollution -free to the environment, convenient to use.						

81.	Flood damage adjustment distribution input device	KR20170001964	2017-01-06	LEE, WOO SUNG	89 %
The present invention relates to a distributing and dispensing apparatus for a flood control machinery for a flood control facility, comprising: a plurality of distribution shafts; a construction machine control unit; a power production control unit; a power transmission control unit; a harmful red tide prevention control unit; a disaster prevention control unit; a fish and shellfish scattering control unit; and a floodgate control unit. As such with such a configuration, the present invention is possible in preventing flooding in advance by controlling quickly the flooding. 					
82.	Manipulator with synchronous shearing function	CN208826651	2019-05-07	FUJIAN UNIVERSITY OF TECHNOLOGY	89 %
The utility model relates to a manipulator with a synchronous shearing function. The manipulator comprises a rod body, a pull rod and an occlusion mechanism, the rod body is of a hollow structure, the meshing mechanism is locked at the top end of the rod body, and the pull rod is arranged in the rod body in a penetrating mode and drives the meshing mechanism to act. The meshing mechanism comprises a pair of shaft seat plates, a pull rod shaft, an upper rotating shaft, a lower rotating shaft, an upper meshing arm, a lower meshing arm, blades and a synchronous assembly. The pair of shaft seat plates are locked on the two sides of the top end of the rod body and used for positioning the upper and lower rotating shafts, and gears are arranged on the upper and lower rotating shafts, meshed with racks at the ends of the pull rods to transmit power and transmitted to blades arranged on cutter shafts at the front ends of the upper and lower meshing arms through synchronous assemblies; a pull rod shaft is further fixed to the end of the pull rod and drives the upper meshing arm and the lower meshing arm to achieve meshing action. The utility model has the characteristics of ingenious conception, continuous biting and dragging, and direct driving; by matching with motor driving, high-frequency automatic reciprocating occlusion action is realized; the design of upper and lower blades perpendicular to pedicels is adopted, so that the defect of branch displacement is avoided.					
83.	Auxiliary picking mechanical arm for pineapples	CN109571400	2019-04-05	WUHAN UNIVERSITY OF TECHNOLOGY	89 %
The invention discloses an auxiliary picking mechanical arm for pineapples. The auxiliary picking mechanical arm for pineapples comprises a fixed housing, an arm support plate, a grabbing structure, a power connection structure and a radial fixed hook, wherein the fixed housing is connected with the arm support plate, the grabbing structure and the power connection structure are installed in the fixed housing and the arm support plate separately, and the radial fixed hook is installed outside the fixed housing; the power connection structure comprises a plurality of scissor-fork connection rods, an outer fixed guide rail and an inner slide plate, the grabbing structure comprises a push plate and two grabbing jaw heads, the middle parts and the end parts of the plurality of scissor-fork connection rods are hinged in pairs to form an X-shaped scissor-fork connection rod structure, and one end of the X-shaped scissor-fork connection rod structure is connected with one end of the inner slide plate through a spring; and the other end of the X-shaped scissor-fork connection rod structure is connected with the other end of the inner slide plate and the grabbing jaw heads, the inner slide plate is slidably installed in the outer fixed guide rail, the outer fixed guide rail is installed in the fixed housing, and the push plate is installed at one end of the inner slide plate and located at the same end as the grabbing jaw heads.					
84.	Apple picking mechanical arm	CN108633472	2018-10-12	GUANGDONG UNIVERSITY OF TECHNOLOGY	88 %
The invention belongs to the technical field of agricultural machinery, and particularly relates to an apple picking mechanical arm. The apple picking mechanical arm comprises a power mechanism and a picking mechanism; the power mechanism provides power for the picking mechanism; the picking mechanism performs a swinging motion to grip apples; the picking mechanism rotates to the preset angle after picking up the apples. The apple picking mechanical arm solves the technical problems that a pull wire of an existing pull fruit picking mechanical device is broken due to improper use and an inner rod cannot be reset.					
85.	Device for manipulating matter	EP0554361	1993-08-11	MEDTRONIC RAYCHEM	87 %
The present invention accordingly provides a device or apparatus for manipulating matter in a confined or inaccessible space, comprising manipulator means at least partly constructed of one or more bent or twisted elongate shape memory alloy members (14) having pseudoelasticity at the intended manipulation temperature, and a hollow housing (10) (preferably of elongate tubular form) or cannula capable of holding at least the shape memory alloy member(s) in a relatively straightened state, and actuating means (20, 22) for extending the shape memory alloy member(s) from the housing (10) to manipulate matter within the said space and for withdrawing the shape memory alloy member(s) into the housing, the arrangement being such that the shape-memory alloy member(s) (14) bend(s) or twist(s) pseudoelastically in a lateral or helical sense to manipulate the matter on extending from the housing at the said manipulation temperature, and become(s) relatively straightened on withdrawal into the housing at the said temperature. Preferably the invention provides such a device or apparatus which is of elongate form for surgical manipulation of matter within a living body, and which has the manipulator means at its distal end with the shape memory alloy member(s) having pseudoelasticity at the temperature to be encountered within that body, and wherein the actuating means is operable from the proximal end of the device.					
86.	Magneto-optical read head	EP0436424	1991-07-10	THOMSON MULTIMEDIA THOM CONSUMER ELECTRONICS THOMSON CONSUMER ELECTRONICS	87 %
The disclosed head is essentially comprised of a structure in planar layers deposited during one deposition process: a ultrafine magnetic layer (11), an air-gap layer (10) and a magnetic layer (9) for closing the magnetic circuit. The magnetic layers are engraved in order to define the elementary adjacent heads to read the multitrack bands.					
87.	Tissue repair with space-seeking spirals of filament	EP2688499	2014-01-29	ALLEVA MEDICAL ALEEVA MEDICAL JEFFREY & YEUNG TERESA T YEUNG YEUNG JEFFREY E. 3 more...	86 %
A distal portion of a filament (126B, 126C) is extended beyond the distal end of a needle (101) with a gripper (111). The needle with the extended filament is inserted into a cannula (230) with snagging points (231) at the distal opening of the cannula in tissue. The snagging points of the cannula hook and retain the distal portion of the filament. During partial withdrawal of the needle, a section of filament is deposited in the lumen of the cannula between the distal ends of the needle and cannula. When the needle is re-advanced, the section of filament is expelled or pushed out of the cannula into tissue. The needle is then rotated, the gripper engages and spirals the expelled filament, burrowing into tissue. The needle can further advanced to push and pack the spiral of filament deep into the tissue. The knotlike filament spiral (126) is individually formed by rotation of the needle and friction between the extended filament and tissue. The process of needle partial withdrawal, re-advancement, rotation and pushing is repeated to pack and fill the tissue with interconnecting spirals of filament to prevent migration from tissue. Spiraling of the filament driven by the rotating needle is space seeking, filling, fitting or conforming to fortify, bulk, fill, cushion or repair the tissue. Bulking with filament spirals can repair degenerated disc, urinary incontinence, fecal incontinence or other defective tissue. The filament spirals can also be used as a suture anchor deep within tissue.					
88.	Retractable umbrella-shaped orange picking arm	CN109168615	2019-01-11	ZHEJIANG UNIVERSITY OF TECHNOLOGY	86 %
A retractable umbrella-shaped orange picking arm comprises a retractable mechanism, a shearing mechanism, an outer shifting mechanism and an inner grabbing mechanism, wherein the retractable mechanism comprises an inner cylinder and an outer cylinder which are in mutual sleeving connection and can slide relatively along the axial direction, the bottom end of the inner cylinder is provided with a force applying part for grabbing, and the shearing mechanism for picking oranges is arranged between the top end of the inner cylinder and the top end of the outer cylinder; the shearing mechanism comprises a cutting mechanism for cutting oranges and a crank-connecting rod mechanism for controlling opening and closing of the cutting mechanism, the cutting mechanism is arranged at the movable end of the crank-connecting rod mechanism, and the crank-connecting rod mechanism is arranged between the inner cylinder and the outer cylinder of the retractable mechanism; the outer shifting mechanism is arranged on the periphery of the shearing mechanism, and the mounting end of the outer shifting mechanism is hinged on the inner cylinder of the retractable mechanism and the control end is hinged with the outer cylinder of the retractable mechanism; and the inner grabbing mechanism is circumferentially hinged on the inner cylinder of the shearing mechanism. The retractable umbrella-shaped orange picking arm has the beneficial effects that positioning of an orange is realized through four devices, oranges in high places and oranges with thorns in branches and leaves can be harvested safely for an orange grower, the harvesting efficiency can be improved, and the labor intensity can be reduced.					
89.	Apparatus for harvesting olives and similar products	EP2699076	2014-02-26	MINELLI ELETTROMECCANICA	86 %
The apparatus for harvesting olives and similar products comprises a support body (2) suitable to be grasped; a shaker unit (3) comprising a containment box (7) suitable to be mounted at the top of the support body (2); at least one comb sector (6) shaping a support structure (9, 90, 99) provided with a plurality of teeth (10), carried mobile by the containment box (7); a motor member to actuate the comb sector (6) in a substantially swinging motion, a motor shaft (12) arranged substantially aligned to the longitudinal axis of the support body (2) and suitable to be actuated in a rotary motion by the motor member. The apparatus also comprises a first kinematic chain (14) actuated by the motor shaft (12), suitable to transmit a first rotary motion, and a second kinematic chain (15) also actuated by the motor shaft (12) and suitable to transmit a second motion of the substantially alternated type.					

90.	End effector and fruit picking machine tool hand that contains this end effector	CN207606845	2018-07-13	JIANGNAN UNIVERSITY	85 %
The utility model provides an end effector, it can solve the technical problem that current resolute vegetables picking manipulator structure is complicated, the equipment is taken time, manufacturing cost is high. It includes palm and finger, and the finger supports in the palm through the dactylus support respectively, connects the carousel after the tendon rope other end runs through the palm, and the carousel is fixed in the pivot of motor, its characterized in that: the finger is including first dactylus, second dactylus and third dactylus, first dactylus is articulated through first articulated elements with the second dactylus, the cover is equipped with the first torsional spring that makes the outside upset of first dactylus on the first articulated elements, the second dactylus passes through the second articulated elements with the third dactylus and articulates, the cover is equipped with the second torsional spring that makes the outside upset of second dactylus on the second articulated elements, the inboard of third dactylus lower extreme is passed through the third articulated elements and is articulated with the dactylus support, the outside of its lower extreme is supported in the arc groove of dactylus support through the guiding axle, the arc groove of dactylus support uses the third articulated elements to arrange as the centre of a circle, the first dactylus of finger is connected to the one end of tendon rope.					
91.	Multifunctional pear picker and picking method	CN108811756	2018-11-16	HUAZHONG AGRICULTURAL UNIVERSITY	85 %
The invention discloses a multifunctional pear picker and a picking method. The multifunctional pear picker comprises a telescopic rod; a collecting rod mechanical arm is fixed on the telescopic rod; the top of the connecting rod mechanical arm is provided with a three-jaw manipulator; the lower end of the telescopic rod is fixedly connected with a fruit conveying pipe; the other end of the fruit conveying pipe communicates with an automatic packaging collecting box. Through the multifunctional pear picker provided by the invention, the working efficiency of fruit picking can be improved.					
92.	Method and apparatus for detection of foam in specimen containers	EP3465612	2019-04-10	BIOMERIEUX	84 %
The present invention is directed to a method and apparatus for detecting foam in a specimen container. The method includes the following steps: transporting a specimen container into a locator well; centering the specimen container in the locator well; rotating the specimen container around a vertical axis in the locator well; imaging the specimen container during the rotation ; analyzing an image of the specimen container captured during the rotation ; and detecting foam in the specimen container based on the analysis of the image. An apparatus configured to perform the steps is also provided. The method and apparatus may be used in conjunction with a system for automatically determining whether a sample is positive for microorganism growth.					
93.	Substrate processing device, device manufacturing system and device manufacturing method	WO2013/094286	2013-06-27	NIKON NIKON CORPORATION	84 %
A substrate processing device (1011) is provided with: a first support component (1021) that supports one member object of a set consisting of a first object (M) and a second object (P), said member object being supported such that, in one member area of a set consisting of an illumination area (IR) and a projection area (PA), said member object aligns with a first surface (p1001) that curves with a specified curvature and in the form of a cylindrical surface; and a second support component (1022) that supports the other member object of the set consisting of the first object and the second object, said member object being supported such that, in the other member area of the set consisting of the illumination area and the projection area, said member object aligns with a specified second surface (p1002). A projection optical system (PL) is provided with a deflecting component for propagating an image-forming light beam such that within a principal ray of the image-forming light beam, which extends from the illumination area to the projection area, the principal ray between the first surface and the projection optical system is oriented in a radial direction not perpendicular to the second surface, said direction being a first-surface radial direction.					
94.	Percussive rock drill bit with flushing grooves	EP2902583	2015-08-05	SANDVIK	84 %
A percussive rock drill bit having a head (100) and a shank (101) in which a plurality of flushing grooves (107) extend radially outward and axially rearward from a front face (103). The flushing grooves are configured to optimise the axially rearward flow of rock particles and fines entrained in the flushing fluid. In particular, each groove is generally convex relative to a longitudinal axis (102) of the drill bit and is declined continuously relative to the axis from a first groove end to a second groove end.					
95.	Processing materials	EP2888035	2015-07-01	XYLECO SILICO	83 %
(EP2888605) Materials, such as biomass feedstocks (e.g., plant biomass, animal biomass, and municipal waste biomass) are processed to produce useful products, such as fuels. Conveying systems, such as flowing gas conveying systems and such as closed-loop flowing gas conveying systems are described. Many potential lignocellulosic feedstocks are available today, including agricultural residues, woody biomass, municipal waste, oilseeds/cakes and seaweed, to name a few.					
96.	Robotic kitchen including a robot, a storage arrangement and containers therefor	EP3389955	2018-10-24	MBL MB	83 %
Embodiments of the present disclosure are directed to the ability of being able to create complex robotic humanoid movements, actions, and interactions with tools and the instrumented environment by automatically building movements for the humanoid; actions and behaviors of the humanoid based on a set of computer-encoded robotic movement and action primitives. The primitives are defined by motions/actions of articulated degrees of freedom that range in complexity from simple to complex, and which can be combined in any form in serial/parallel fashion. These motion-primitives are termed to be minimanipulations and each has a clear time-indexed command input-structure and output behavior/performance profile that is intended to achieve a certain function. Minimanipulations comprise a new way of creating a general programmable-by-example platform for humanoid robots. One or more minimanipulation electronic libraries provide a large suite of higher-level sensing-and- execution sequences that are common building blocks for complex tasks, such as cooking, taking care of the infirm, or other tasks performed by the next generation of humanoid robots. Embodiments of the present disclosure are also directed to a robotic kitchen, a storage arrangement and containers therefor.					
97.	Rhizoma ligustici wallichii harvester	CN110637587	2020-01-03	XIHUA UNIVERSITY	83 %
The invention discloses a Rhizoma ligustici wallichii harvester which comprises a rack, a soil loosening part, two clamping and conveying parts, two fruit picking parts, a soil shaking part, a transmission part, a hanging frame, a divider and a depth limiting wheel. The soil loosening part, the hanging frame and the divider are arranged at the front end of the rack, the soil loosening part is arranged below the divider, the hanging frame is arranged above the divider, the clamping and conveying part and the fruit picking part are symmetrically mounted on the rack, the clamping and conveying parts are positioned between the soil loosening part and the fruit picking part, and the soil shaking part is arranged on the rack. The problem of blockage of cut Rhizoma ligustici wallichii seedlings due to unsmooth discharging of the same, the problem of difficulty in separating Rhizoma ligustici wallichii from soil caused by existence of Rhizoma ligustici wallichii stubbles, withered grass and alot of big blocky soil and the problems of great digging resistance, high machine load and high power consumption are solved.					
98.	Process cartridge and image forming apparatus	EP0679966	1995-11-02	CANON	83 %
A process cartridge detachably mountable to a main assembly of an image forming apparatus includes an electrophotographic photosensitive member; process means actable on the photosensitive member; a first projection for positioning the process cartridge relative to the main assembly when the process cartridge is mounted to the main assembly, the first projection being outwardly projected from a first frame adjacent an axial end of the photosensitive member; a second projection for functioning as a pivot when the process cartridge is demounted from the main assembly, the second projection being outwardly projected from a first frame; a third projection for positioning the process cartridge relative to the main assembly when the process cartridge is mounted to the main assembly, the third projection being outwardly projected from a second frame adjacent another axial end of the photosensitive member; a fourth projection for functioning as a pivot when the process cartridge is demounted from the main assembly, the fourth projection being outwardly projected from the second frame. <IMAGE>					
99.	Container having folding side wall	EP2408677	2012-01-25	IFCO SYSTEMS IFTSO SISTEMS	83 %
The present invention relates to a container (1) having folding side walls, comprising a hinge connection (7) which virtually excludes a sagging of the bottom (2) compared to the side wall (4) even under pressure. The container (1) can be produced particularly easily and cost-effectively because the bottom (2) can be produced using an injection molding method without slide in the tool because of the special hinge connection (7), thereby enabling a simple tool design.					
100.	Improvements to sanding disks	EP0868262	1998-10-07	SAINT GOBAIN ABRASIVES NORTON	83 %
Accessories for an angle grinder include a disposable rotary sanding disk having quite large shaped ventilating/viewing apertures, for use with a resilient backing plate also having shaped ventilating apertures. The apertures of one or both parts are shaped so that snagging of the apertures on projections from the work surface is minimized and to facilitate air flow across the work surface during use. This air flow helps in cooling the work and ejecting detritus, so minimising clogging effects. The ventilating apertures also facilitate viewing the work to be sanded through the spinning disk during the abrasion process, so that operator feedback is immediate. The holes also give the sanding disk more resilience so that a greater area comes in contact with the work and the disk wears more evenly over its abrasive surface.					