

Base : FAMPAT**SEARCH STRATEGY****SS Results**

21	54	17 AND ((HERBICID+ OR FERTILIZ+ OR INSECTICID+ OR PESTICID+) AND (PULSE+) AND (ELECTRIC+ OR ELECTRONIC+ OR AC OR DC))/TI/AB/CLMS
20	1	(CN2245337)/PN
19	49	17 AND ((HERBICIDE+ OR FERTILIZER+ OR INSECTICIDE+ OR PESTICIDE+) AND (PULSE+) AND (ELECTRIC+ OR ELECTRONIC+ OR AC OR DC))/TI/AB/CLMS
18	10	17 AND ((HERBICIDE+ OR FERTILIZER+ OR INSECTICIDE+) AND (PULSE+) AND (ELECTRIC+ OR ELECTRONIC+ OR AC OR DC))/TI/AB/CLMS
17	184936	16 AND PD<2017-08-31
16	219886	(FUMIGAT+ OR SPRAY+ OR PULVERI+)/TI
15	4	14 AND (HERBICIDE+ OR FERTILZER+ OR INSECTICIDE+)/TI/AB/CLMS
14	373	13 AND PD<2017-08-31
13	423	((FUMIGAT+ OR SPRAY+ OR PULVERI+) AND PULSE+)/TI
12	400	9 AND PD<2017-08-31
11	174	10 AND PD<2017-08-31
10	191	9 AND (PRESSU+)/TI/AB/CLMS
9	431	7 AND (SPEED+ OR RPM OR REVOLUTION+)/TI/AB/CLMS
8	7027	6 AND (SPEED+ OR RPM OR REVOLUTION+)/TI/AB/CLMS
7	726	6 AND (PUMP+)/TI/AB/CLMS
6	12426	5 AND (MOTOR+)/TI/AB/CLMS
5	29754	3 AND (ELECTRIC+ OR ELECTRONIC+)/TI/AB/CLMS
4	440175	2 AND (ELECTRIC+ OR ELECTRONIC+)/TI/AB/CLMS
3	49763	2 AND (PULSE+)/TI/AB/CLMS
2	927260	..SEMSEARCH "ELECTRIC SPRAYER" 100 "ELECTRICAL MOTOR" 100 "USER BACK" 76 "PUMPING" 75 "BATTERY" 61 "EXTERNAL CONTROL POINT" 55 "ELECTRONIC SYSTEM" 52 "LIQUID" 42 "ELECTRICAL MOTOR SPEED" 29 "DISCHARGE PRESSURE" 28 "SPRAYER POSTURE" 28 "LITHIUM ION BATTERY" 26 "MOVEABLE BELT CARRIER" 26 "ROTATION SPEED" 26 "CHARGE INDICATOR" 25 "PULSE SERIES" 25 "SET TIME INTERVAL" 25 "CONTROL KNOB" 23 "DISCHARGE" 23 "DISTORTION" 22 "PRESSURE GAUGE" 22 "SPRAYER" 22 "DC MOTOR" 21 "NOZZLE" 21 "STRAP" 21 "MOTOR" 20 "PORTABLE" 20 "POWER" 20 "TRANSPORT" 20 "SPEED" 19 "PULSE" 18 "PUMP" 18 "BELT" 17 "TURNING" 16
1	0	(CO20170008952)/PN

Search strategy

Query

(FUMIGAT+ OR SPRAY+ OR PULVERI+)/TI

1 AND PD<2017-08-31

2 AND ((HERBICID+ OR FERTILIZ+ OR INSECTICID+ OR PESTICID+) AND (PULSE+) AND (ELECTRIC+ OR ELECTRONIC+ OR AC OR DC))/TI/AB/CLMS

54 Documents

Publication numbers	Title	Current assignees
KR101202002 B1	Automatic solution sprayer and portable agricultural chemical spraying apparatus comprising same	JOO JAE YONG
WO2013179431 A1	Liquid-agent-spraying device, electrifying/spraying head, and liquid-agent-spraying method	HOCHIKI
KR19940015407 A	Airconditioner attachiing perfume units and method therefor	SAMSUNG ELECTRONICS
KR20010049688 A	Heating control apparatus of fumigation type control device for scattering agricultural chemicals	HANDOO IPEM
KR20050103731 A	Electrostatic spraying apparatus for agriculturalchemicals	KOREA RURAL DEVELOPMENT ADMINISTRATION RDA, ...
DE102015204992 B3	Device for compensating for yaw and/or roll movements of an agricultural sprayer	HOCHSCHULE FÜR TECHNIK & WIRTSCH DRESDEN
WO200548704 A2	Spray device for spraying liquids, and nozzle holder	LECHLER
IT7848601 D0	Remote control spraying apparatus	JOHNSON COMMERCIAL MARKETS
CA2250506 A1	Modulated MIG spray welding method	SOUDURE AUTOGENE FRANCAISE
CN104642286 A	Device and method for simulating pesticide spraying depositing	BEIJING RESERACH CENTER FOR INFORMATION TECHNOLOGY AGRICULTURE
CN101926319 A	Automatically speed-changing swing type greenhouse spraying device	CHINA AGRICULTURAL UNIVERSITY
BR102014024708 A1	SPRAY OF PRECISION [ELETRO]-ELETRONICO OF USED CHEMICAL PRODUCTS IN AGRICULTURE	ANDROCIOLI JOSÉ ROBERTO, ...
CN204146201U U	Novel pesticide spraying device	LIU JIE
CN202310979U U	Pesticide spraying control device	BEIJING RESERACH CENTER FOR INFORMATION TECHNOLOGY AGRICULTURE
JP2013049040 A	Liquid spraying device and liquid spraying head	HOCHIKI
WO200481499 A2	Flow control and monitoring for spray nozzles	CAPSTAN SYSTEMS
CN202162097U U	Pulse jet mist sprayer	DING NING
CN102415363 A	Nuisanceless electronic spraying type bug killer	MING PEIXIANG
DK8300440 D0	Fluid container	ICI - IMPERIAL CHEMICAL

Publication numbers	Title	Current assignees
		INDUSTRIES
WO9211759 A1	Spraying device having integrated dosing means.	PROLION
ES2519915 A2	Equipment of application by portable pulverization controlled by GPS for educational use and investigation	UNIVERSIDAD DE SEVILLA
GB8329803 D0	Spraying unit	CIBA GEIGY
CN103949363 A	Sprayer control device with card-swiping timing function	GUANGXI TIANYUAN BIOCHEMISTRY
CN201291177U Y	Variable pesticides spraying vehicle	BEIJING RESERACH CENTER FOR INFORMATION TECHNOLOGY AGRICULTURE
DE2422173 A1	HOUSING FOR A BATTERY-OPERATED ELECTRICAL CLOCK	BAYER PHARMA
CN105557666 A	Pesticide spraying machinery automatic leveling system	ZHAO JIAN
CN105532619 A	Pesticide spraying device with optimized control system	YANG BING
DE102011054742 A1	Device and method for detecting the presence and amount of plants in an area and controlling an agricultural implement to minimize the use of spraying liquid	AGRI CON PREC FARMING
CN104604830 A	Three-dimensional air-assisted sprayer for vineyard	SHANDONG AGRICULTURAL UNIVERSITY
CN103329873 A	Automatic swing insecticide spraying vehicle under grape trellis	HAN XIONGFENG
WO2016192024 A1	Spraying system having a liquid flow and rotating speed feedback	SZ DJI TECHNOLOGY
EP-363168 A2	Computerized fertilizer injector system	LABBATE CLIMATE CONTROL SYSTEMS
CN201913018U U	Spraying and plant protecting equipment based on low-level static electricity technique and automatic targeting technique	BEIJING KINGPENG INTERNATIONAL HI TECHNOLOGY
CN203803690U U	Card swiping timing sprayer control device	GUANGXI TIANYUAN BIOCHEMISTRY
CN106070156 A	Variable-rate spraying system based on PLC and control method thereof	CHONGQING UNIVERSITY OF SCIENCE & TECHNOLOGY
CN201632355U U	Pulsed power sprayer	LIU HONGWEI
GB2128900 A	Ionising spray	CHRISTOFIDIS THEOKTISTE, ...
CN201997410U U	Mist sprayer	LIU HONGWEI
DE102011108480 A1	Field sprayer e.g. pulled-type field sprayer, for attachment in	CARBOFIBRETEC

Publication numbers	Title	Current assignees
	trailer for dispensing e.g. fertilizer on ground, has controller for controlling engagement of nozzle, and measuring units for detecting position of conduit	
CN205648790U U	Automatic pesticide sprayer of little row pitch posture crops	NORTH WEST AGRICULTURE & FORESTRY UNIVERSITY
CN101574077 A	Spraying medicine application vehicle used for preventing and treating crop diseases and pests	JIANGSU UNIVERSITY
CN104615059 A	Control system of spraying robot for hyphantria cunea larva net curtain	LIAOCHENG UNIVERSITY
CN104542545 A	Low-temperature normal-pressure plasma activated water spraying and disease preventing device for crops	ZHEJIANG UNIVERSITY
CN204540504U U	Device for multi-functional pesticide spraying nozzle that agricultural machine used	XU ZHENSONG
CN105984588 A	Novel variable mist spraying system based on unmanned rotorcraft	WU TONGKUN
CN101972721 A	Controllable spraying device	WUHAN UNIVERSITY
PT--82791 A	Apparatus for the weighted dosing of granular or pulverulent products	CHARBONNAGES STE CHIMIQUE
CN204374710U U	American white moth larva net curtain spraying robot control system	LIAOCHENG UNIVERSITY
CN104686480 A	Spraying control system for agricultural chemical spray rod	DALIAN CITY SHAHEKOU DISTR SMALL MEDIUM & MICRO ENTPR SERVICE CENTER
JP07327433 A	Apparatus for opening and closing shutter of spraying machine	SASAKI
DE1907310 A1	Device for automatically or manually spraying a pressurized fluid	IKETANI TAISHO
DE102010023380 A1	System for direct dosing of plant protection agents, during treatment of injection water stream in field spraying device in e.g. agricultural area, has metering pump fixed in container and driven from outer side in hydraulic manner	WICHMANN
GB2039202 A	A control system for an agricultural spraying machine or the like	CURTIS LONG DEVELOPMENT
US5340025 A	Wind controlled spraying	PEARCE GEORGE W

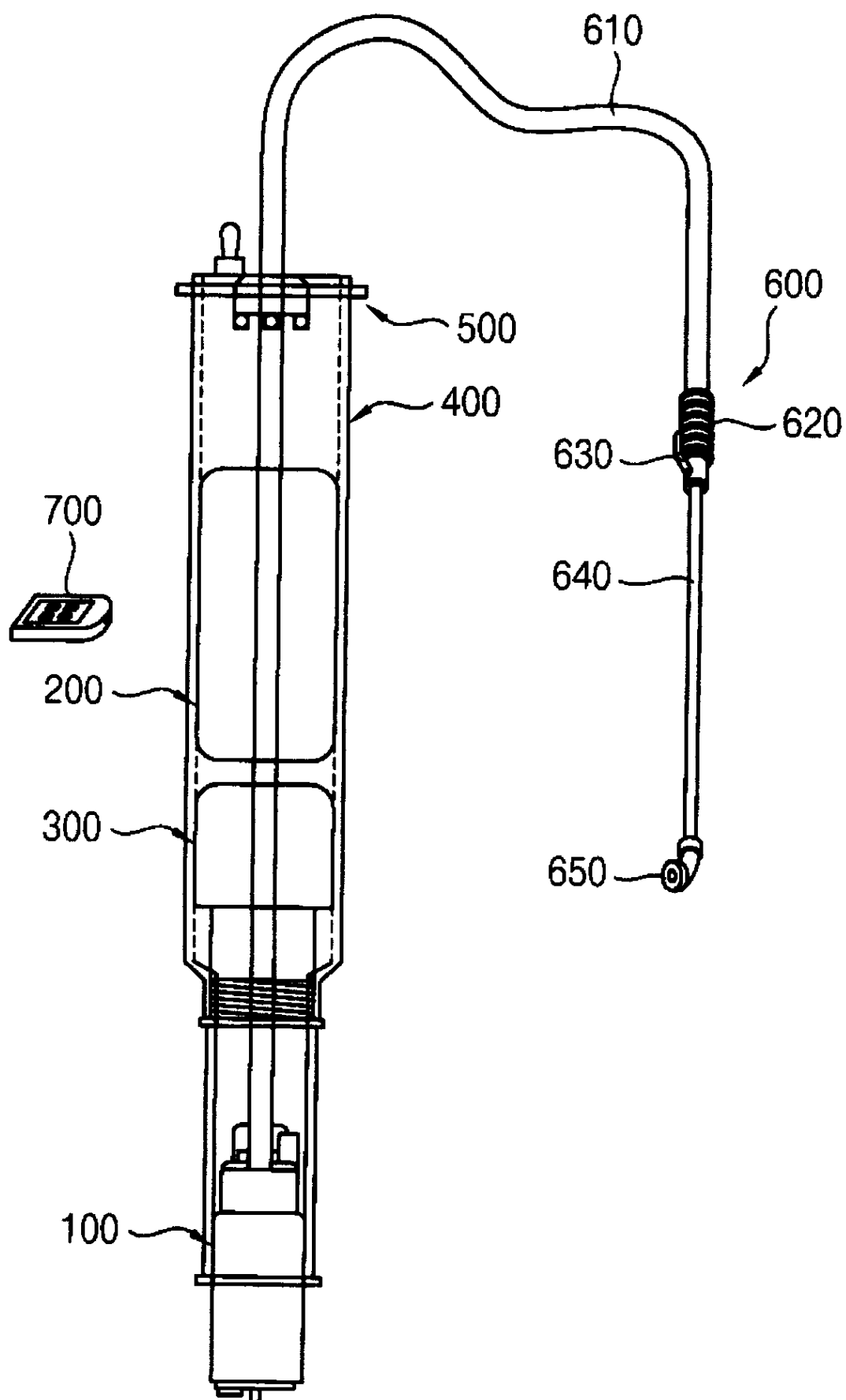
Family 1/54 - FAMPAT - ©Questel

Title

(WO201446372)

Automatic solution sprayer and portable agricultural chemical spraying apparatus comprising same

Images

1000

Publication data including kind & date

KR101202002	B1	2012-11-15	KR101202002
WO2014046372	A1	2014-03-27	WO201446372

**Abstract**

(WO201446372)

Disclosed are an automatic solution sprayer and a portable agricultural chemical spraying apparatus comprising the same. The agricultural chemical is discharged from a storage tank by means of a pump driven by a motor, which motor is supplied with **electric** power by a battery pack through a **pulse** width modulation controller. A switching unit is employed to selectively drive the motor according to the external working environment so as to save the battery power when the agricultural chemical is not being discharged. The pump, power source unit and switching unit are mounted inside a cylindrical housing through which a spraying unit is arranged so as to connect to the pump. Thus an automatic agricultural chemical spraying apparatus is formed with reduced power consumption and easy maintenance regardless of the shape and structure of the storage tank.

Inventors

LEE MYUNG-NO

JOO JAE-YONG

LEE KI-JONG

Latest standardized assignees - inventors removed

JOO JAE YONG

Family 2/54 - FAMPAT - ©Questel

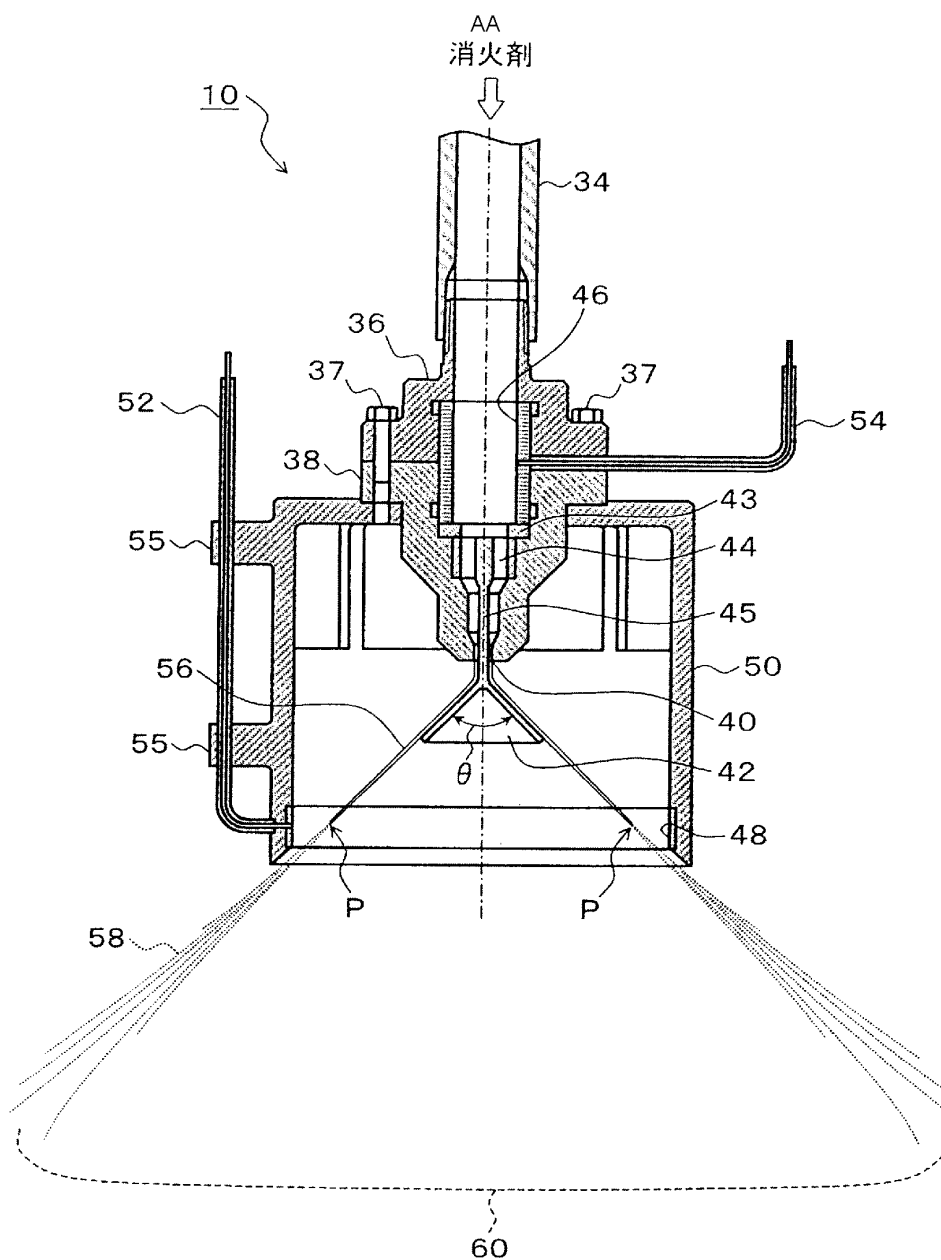
Title

(WO2013179431)

Liquid-agent-spraying device, electrifying/spraying head, and liquid-agent-spraying method

Images

[図3]



AA... EXTINGUISHING AGENT

Publication data including kind & date[WO2013179431](#)

A1

2013-12-05

[WO2013179431](#)[KR20150024311](#)

A

2015-03-06

[KR20150024311](#)**Abstract**

(WO2013179431)

A liquid-agent-spraying device equipped with a liquid-agent supply apparatus for pressure-supplying an aqueous-liquid agent via a tube, an electrifying/spraying head which electrifies and sprays particles of the liquid agent supplied by the liquid-agent supply apparatus, and is positioned in a spraying compartment, and a voltage-application unit for applying an electrifying voltage to the electrifying/spraying head, wherein the electrifying/spraying head is provided with: a nozzle for spraying the liquid agent into an exterior space; a liquid-agent-side electrode unit for contacting the liquid agent, and positioned in the interior of the nozzle; a deflection/spraying member for deflecting, in a desired direction, the liquid agent

discharged from the nozzle, and after forming a film flow, dividing/separating the same into a particle-group flow, and spraying; and an induction-electrode unit positioned near the division-separation section of the film flow.

Inventors

TSUJI TOSHIHIDE

YOSHIDA TETSUO

Latest standardized assignees - inventors removed

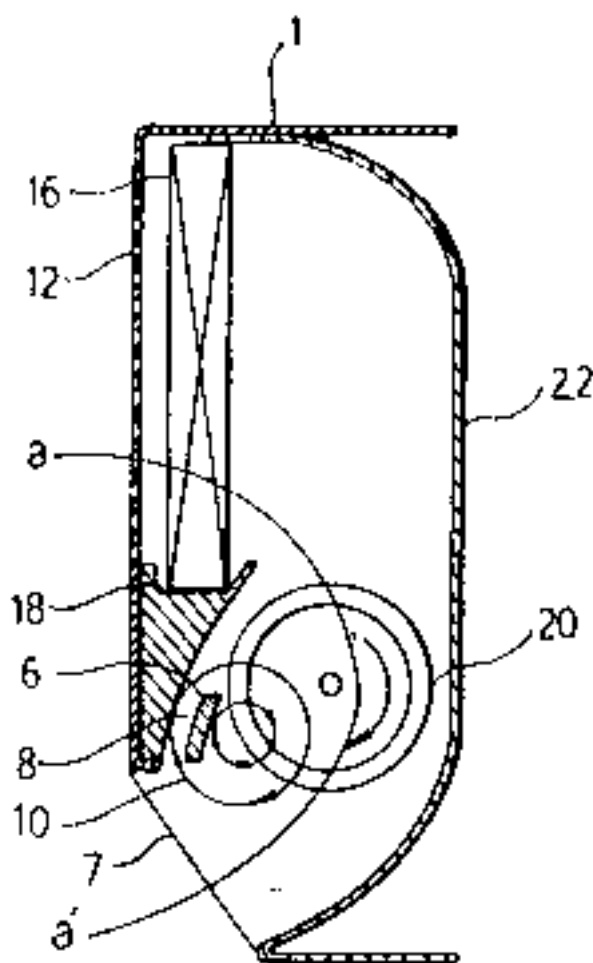
HOCHIKI

Family 3/54 - FAMPAT - ©Questel

Title

(KR100125736)

Airconditioner attaching perfume units and method therefor

Images**Publication data including kind & date**

KR19940015407	A	1994-07-20	KR19940015407
KR0125736	B1	1998-04-01	KR100125736

**Abstract**

(KR100125736)

An air conditioner with a fragrant **insecticide** spraying unit having: a key input part receiving air conditioner operating order and a fragrance and an **insecticide** discharge control order from user; a room temperature sensing part; a room sensing part sensing comfort of the room; an indoor microcomputer controlling overall operation of an indoor machine according to the data outputted from the key input part, the room temperature sensing part and the room sensing part; a fan motor control part controlling the operation of the fan motor by the control signal of the microcomputer; a fragrance unit burning a solid fragrance for removing the offensive smell among the room air; an **insecticide** spray unit spraying the **insecticide** into the

cool air to kill harmful insects; and a control means controlling ON/OFF of the fragrance unit or insecticide spray unit; is disclosed.

Inventors

KIM, TAE DUK

Latest standardized assignees - inventors removed

SAMSUNG ELECTRONICS

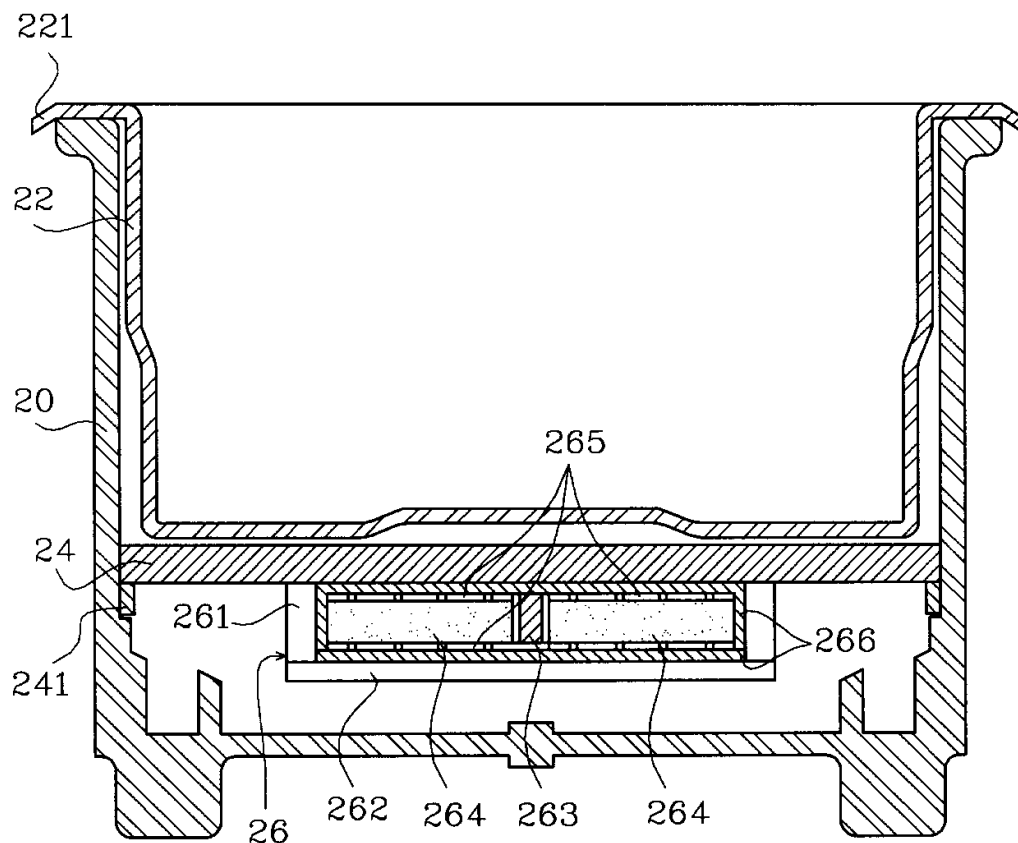
Family 4/54 - FAMPAT - ©Questel

Title

(KR100469985)

Heating control apparatus of fumigation type control device for scattering agricultural chemicals

Images



Publication data including kind & date

KR20010049688 A 2001-06-15 KR20010049688

KR100469985 B1 2005-02-04 KR100469985



Abstract

(KR100469985)

PURPOSE: Provided is a heat controller in a fumigator for agricultural chemicals which partially rectifies input AC and supplies for a PTC heater so that it switches AC to heat at proper temperature as kinds of agricultural medicines to be fumigated.

CONSTITUTION: In the fumigator for the agricultural chemicals which includes a body(20), a storage tank(22), a heating plate(24) and a heater(26), the heat controller in the fumigator for agricultural chemicals comprises the parts of: a partial rectifier which is connected to the heater serially and rectifies AC partially; a switching tool which is connected to the heater and the partial rectifier serially and switches AC; and a generation tool for switching signal which controls switching operation in a switching element.

Inventors

LEE KYONG U

Latest standardized assignees - inventors removed

HANDOO IPEM

Family 5/54 - FAMPAT - ©Questel

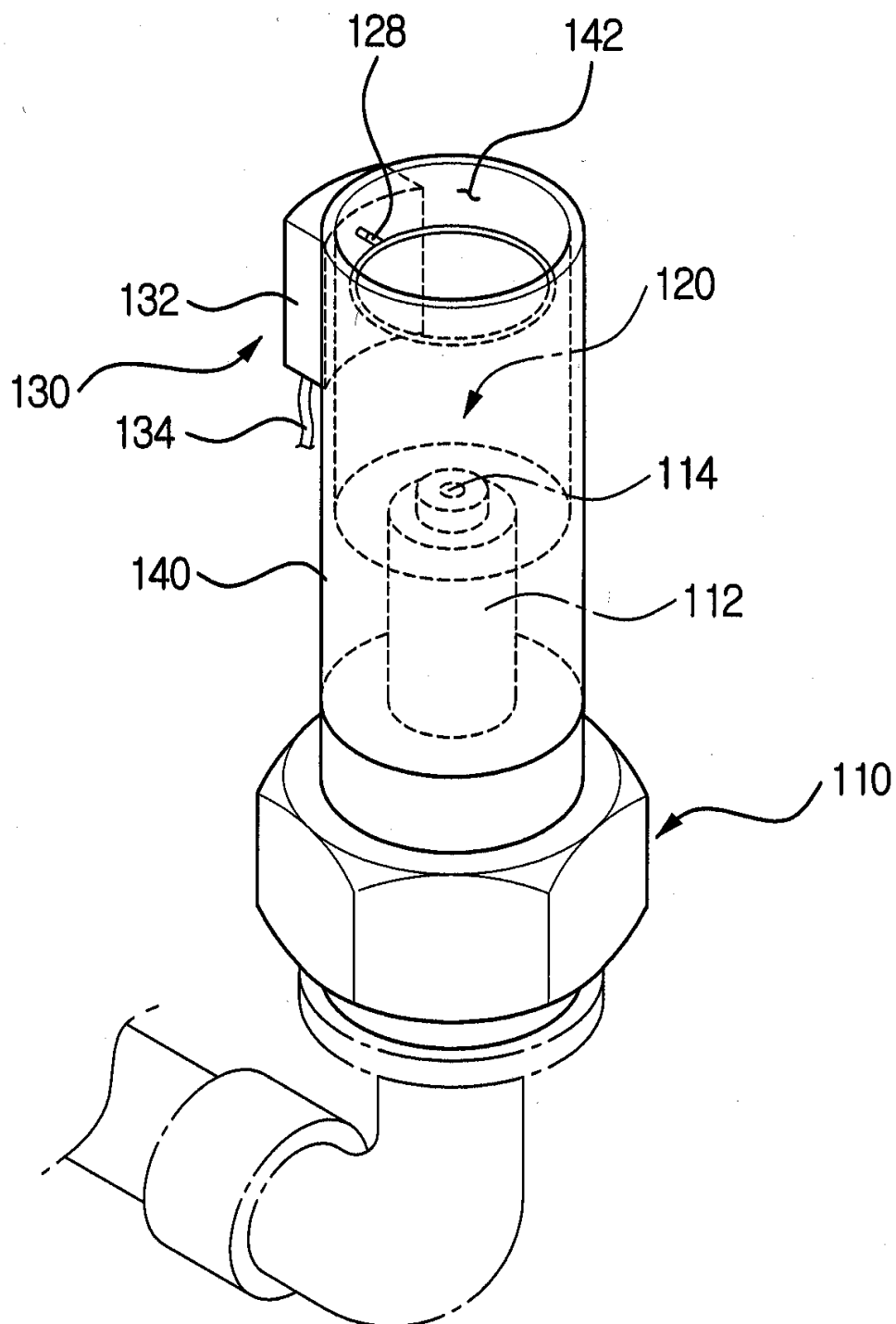
Title

(KR100538645)

Electrostatic spraying apparatus for agricultural chemicals

Images

100



Publication data including kind & date

KR20050103731	A	2005-11-01	KR20050103731
KR100538645	B1	2005-12-23	KR100538645

**Abstract**

(KR100538645)

PURPOSE: An electrostatic type of agricultural chemicals spraying apparatus is provided to noticeably reduce current loss during working and improve spraying efficiency by charging liquid droplets sprayed from a nozzle port with **electricity** and partially exposing an electrode loop coated with insulating material to offer the **electric** charge.

CONSTITUTION: The apparatus(100) comprises a nozzle body(110), an **electric** element(120), a voltage feeder(130) and a cap frame(140).The nozzle body(110) is connected to body of the apparatus or end part of a pipe, and built with the **electric** element(120) and the cap frame(140).The **electric** element(120) which is **electrically** connected to the voltage feeder(130) charges liquid droplets sprayed with **electricity**.The **electric** element is located at front of a nozzle port(114), consists of conductive material and comprises an electrode loop and an insulation coating to cover outer side of the electrode loop.The insulation coating is partially stripped to form at least one electrode hole(126), through which the electrode loop is partially exposed.

© KIPO 2006

Inventors

KANG TAE KYUNG
LEE DONG HYUN
LEE CHAE SIK
PARK SUK HO
CHOI DUK KYU
KIM CHUNG KIL
KWAK TAE YONG
MOON JAE DUK
KANG MOON SIK

Latest standardized assignees - inventors removed

KOREA RURAL DEVELOPMENT ADMINISTRATION RDA
PARU

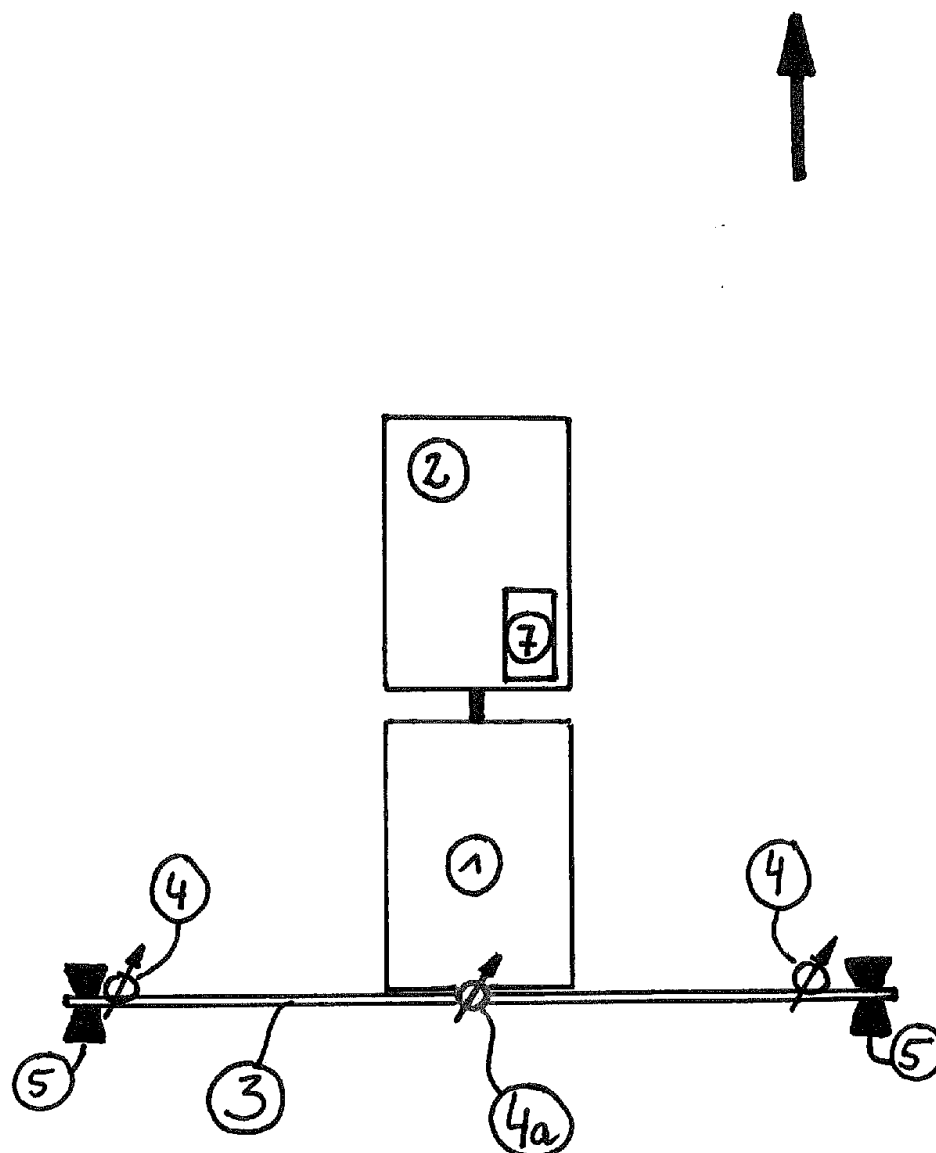
Family 6/54 - FAMPAT - ©Questel

Title

(EP3069608)

Device for compensating for yaw and/or roll movements of an agricultural sprayer

Images

Fig.1**Publication data including kind & date**

DE102015204992	B3	2016-04-28	DE102015204992
EP3069608	A1	2016-09-21	EP3069608
EP3069608	B1	2017-12-13	EP3069608

**Abstract**

(EP3069608)

A device for compensating for yaw - and/or rolling motion of a sprayer (1), a field-syringe (1) for application of liquid **pesticides** and/or **fertilizers** of one and/or in the field sprayer (1) shaped reservoir separated by pump through a spray bar (3) having a dispensing nozzle. The spray bar (3) on both sides of the sprayer (1) perpendicular to the driving direction flush. The sprayer (1) is attached to an agricultural machine (2) or attached as a self-propelled field sprayer (1) structure. It have at least one acceleration (4) sensor, to the field sprayer (1) and/or on the spray bar (3) and located movements in at least one axle is detected, is provided. Preferably in the area of the ends of the spray bars (3) at least two compressed air nozzles (5), their outlet ports diametrically in a horizontal or vertical axis at the spray bar (3) present or thereon. The air nozzles (5) are means for generating and storing compressed air for supplying the compressed air nozzles with pressurized air. In between the compressed (6) -air jet (5) deflection supplies are respectively valves are provided, the compressed air nozzle (5) are associated. The at least one acceleration (4) sensor **electronics** (7) associated. The **electronic** (7) system controls the respective valves for the compensation of the at least one acceleration sensor (4) detected yaw - and/or roll movements.

Inventors

WILD KARL

Latest standardized assignees - inventors removed

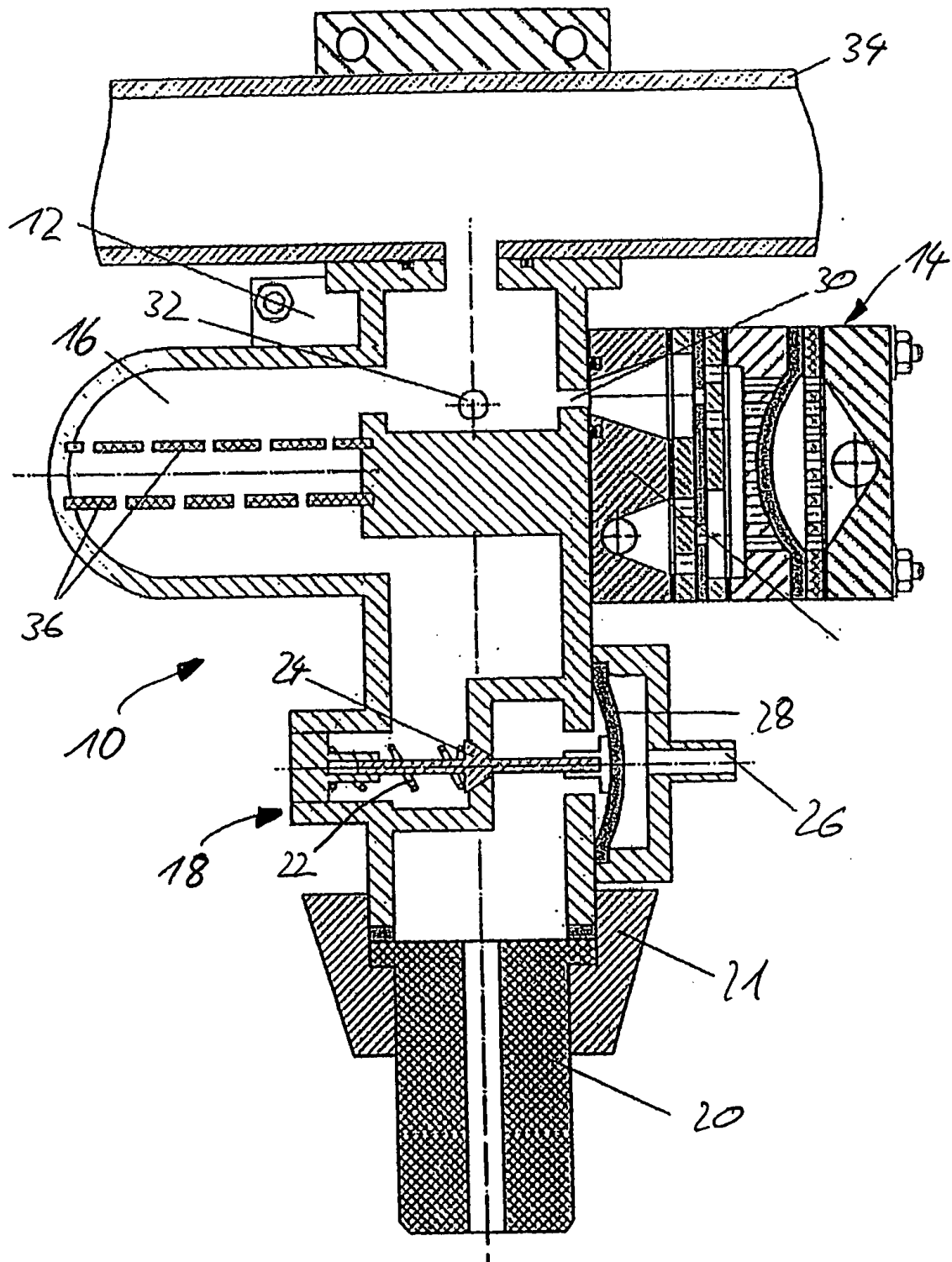
HOCHSCHULE FÜR TECHNIK & WIRTSCH DRESDEN

Family 7/54 - FAMPAT - ©Questel

Title

(EP1691601)

Spray device for spraying liquids, and nozzle holder

Images

WO2005048704	A2	2005-06-02	WO200548704				
DE10353789	A1	2005-08-11	DE10353789				
EP1691601	A2	2006-08-23	EP1691601				
US20070040050	A1	2007-02-22	US20070040050				
WO2005048704	A3	2007-07-05	WO200548704				

Abstract

(EP1691601)

The invention relates to a spray device for spraying liquids, especially for agricultural purposes, said spray device comprising a carrier liquid tank, a carrier liquid pump, a plurality of spray nozzles (20), associated nozzle holders (10) for connecting the spray nozzles to a carrier liquid line (34), at least one active ingredient tank, and a plurality of dosing pumps (12, 14) that are used to transport active ingredients and can be connected to the active ingredient tank. According to the invention, at least one dosing pump is associated with each nozzle holder by means of a fluid connection. The inventive spray device can be used, for example, to spray specific areas of a field with active ingredients.

Inventors

WICHMANN WOLF-DIETER

Latest standardized assignees - inventors removed

LECHLER

Family 8/54 - FAMPAT - ©Questel

Title

(US4182491)

Remote control spraying apparatus

Images

received from a remote control device. A digitized feedback signal including a number of **pulses** per unit time from the metering pump to the remote control device indicates the rate of flow of the liquid through the metering pump. The remote control device compares the digitized feedback signal with a control voltage to generate the digitized input signal which is a **pulse-width** modulated signal, which digitized input signal maintains the flow rate of the liquid. A pressure switch connected to the nozzle insures a predetermined pressure therein before the metering pump will begin feeding liquid to the nozzle.

Inventors

COLLE EDWARD D

FUSSELL EDESEL M

NORMAN RICHARD O

PARKE JAMES G

Latest standardized assignees - inventors removed

JOHNSON COMMERCIAL MARKETS

Family 9/54 - FAMPAT - ©Questel

Title

(EP-909604)

Modulated MIG spray welding method

Images

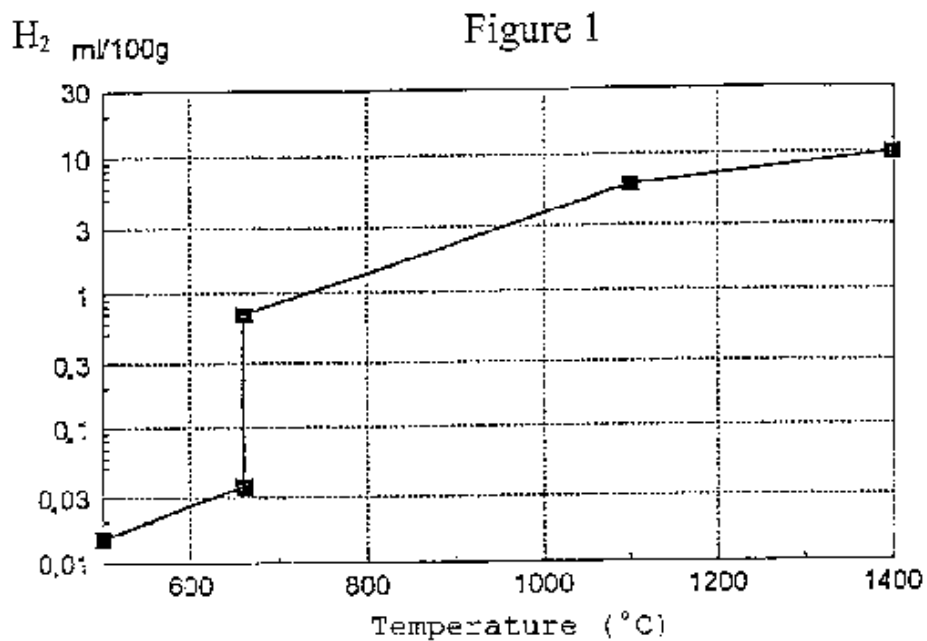
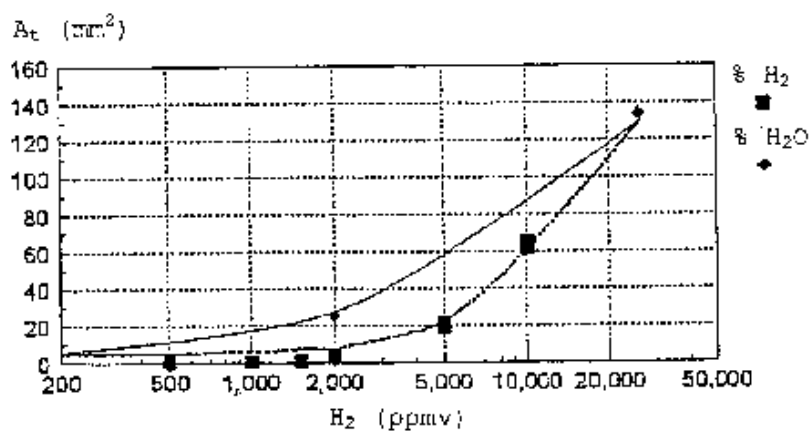


Figure 2



Publication data including kind & date

CA2250506	A1	1999-04-16	CA2250506
EP0909604	A1	1999-04-21	EP-909604
FR2769863	A1	1999-04-23	FR2769863
AU8833298	A	1999-05-06	AU9888332
JPH11188483	A	1999-07-13	JP11188483
BR9804493	A	1999-11-03	BR9804493
FR2769863	B1	1999-12-17	FR2769863
US6111218	A	2000-08-29	US6111218
AR017352	A1	2001-09-05	AR-17352
AU741276	B2	2001-11-29	AU-741276



BRPI9804493	A1	2003-02-25	BR199804493
EP0909604	B1	2003-04-23	EP-909604
AT238126	T	2003-05-15	ATE238126
DE69813720	D1	2003-05-28	DE69813720
EP0909604	B9	2003-12-17	EP-909604
DE69813720	T2	2004-02-05	DE69813720



Abstract

(EP-909604)

A method of MIG welding with a protective gas and in a modulated spray regime involves a current modulation with a modulation frequency of less than 60 Hz and with a low modulation time of between 2 and 20 mins. The protective gas contains at least 90 % of helium, argon or a mixture of these gases and at most 1.95 % of at least a minority gaseous compound chosen from among oxygen and carbon dioxide. The welding device, the welding generator and the utilization of the device or generator for the electric arc welding of aluminum, aluminum alloy, carbon steel or stainless steel components, together with the components thus welded and equipment produced by this welding method are also claimed.

Inventors

MATILE OLIVIER

PLOTTIER GERARD

Latest standardized assignees - inventors removed

SOUDURE AUTOGENE FRANCAISE

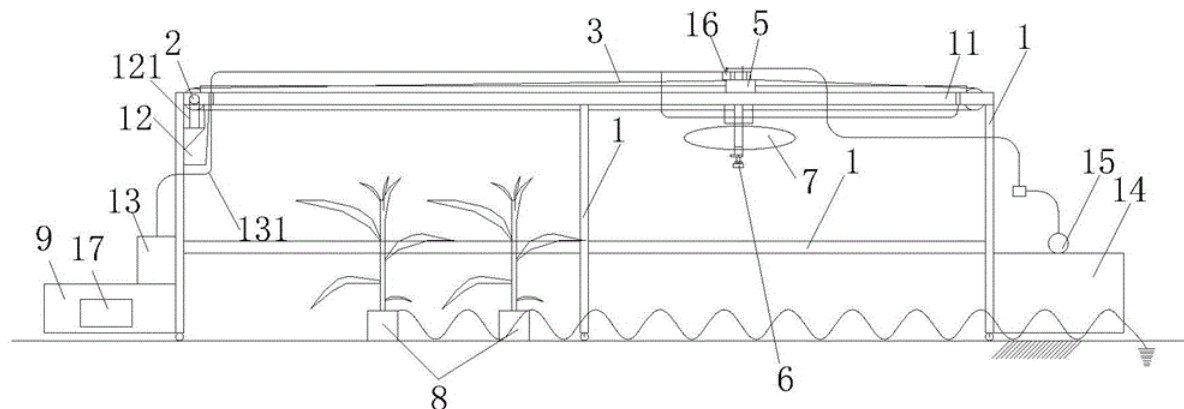
Family 10/54 - FAMPAT - ©Questel

Title

(CN104642286)

Device and method for simulating pesticide spraying depositing

Images



Publication data including kind & date

CN104642286	A	2015-05-27	CN104642286
CN104642286	B	2017-04-26	CN104642286B



Abstract

(CN104642286B)

The invention provides a device and a method for simulating pesticide spraying depositing. The device comprises a base frame, a pair of parallel shaft rods, a pair of parallel slide rails, a movable rod, a pesticide sprayer, a fan, a depositing device and a controller, wherein the base is provided with a pair of parallel transverse beams which extend along the horizontal direction, the shaft rods penetrate through the transverse beams and are vertical to the transverse beams, the shaft rods are connected by at least one synchronous belt, and synchronously rotate under the action of the synchronous belt, the slide rails are fixedly arranged on the transverse beams, the movable rod is vertical to the transverse beams, is arranged on the slide rails, and is fixedly connected with the synchronous belt so as to synchronously slide on the slide rails along with the synchronous belt, each pesticide sprayer is arranged under the movable rod, the fan is synchronously

moved along with the movable rod, the depositing device is used for collecting the depositing amount of **pesticide** liquid, and the controller is used for controlling the sliding speed of the movable rod, and the flow rate of the **pesticide** liquid of each **pesticide** sprayer. The device has the advantages that a wind field formed by the spraying operation of rotorcrafts and the like can be simulated, so the testing data is obtained; the testing cost is greatly reduced, and the utilization rate of **pesticide** is greatly improved.

Inventors

ZHAO CHUNJIANG

MA WEI

WANG XIU

ZOU WEI

WANG JIHUAN

Latest standardized assignees - inventors removed

BEIJING RESERACH CENTER FOR INFORMATION TECHNOLOGY AGRICULTURE

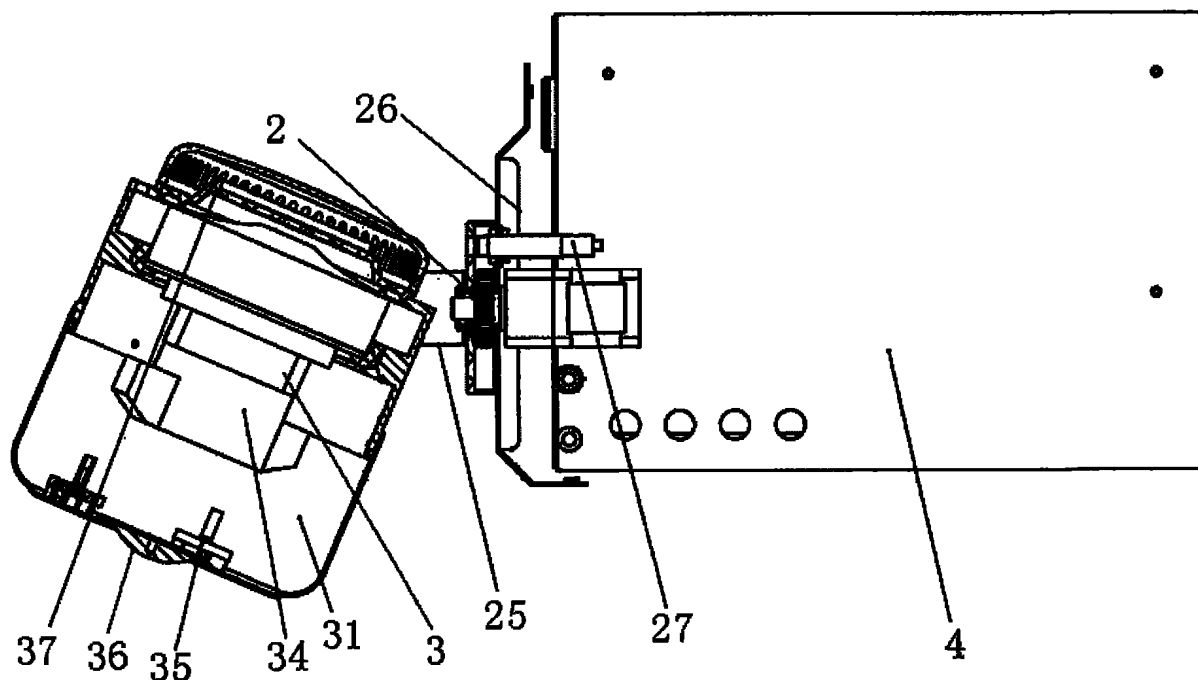
Family 11/54 - FAMPAT - ©Questel

Title

(CN101926319B)

Automatically speed-changing swing type greenhouse spraying device

Images



Publication data including kind & date

CN101926319	A	2010-12-29	CN101926319
CN101926319	B	2011-08-31	CN101926319B



Abstract

(CN101926319B)

The invention relates to an automatically speed-changing swing type greenhouse spraying device. The automatically speed-changing swing type greenhouse spraying device is characterized by comprising a machine frame, wherein the machine frame is provided with a swing mechanism which is connected with a spraying mechanism; a medicine-chest is fixed on one side of the machine frame, while an **electriccabinet** is fixed on the other side of the machine frame; the machine frame is arranged on a guide rail in a sliding mode through a traveling mechanism; the swing mechanism comprises a motor which is connected with the **electric** cabinet; an output end of the motor is connected with a driving gear which is meshed with a driven gear arranged on an output shaft; one end of the output end is fixedly connected with a U-shaped support, while the other end is rotatably connected with a fixed plate arranged on the machine frame; the fixed plate is provided

with a proximity switch which is electrically connected with the electric cabinet; the spraying mechanism comprises a medicament conveying pipe which is arranged in a spray cap; the medicament conveying pipe is provided with a flow control valve and a flow sensor; the flow sensor and the flow control valve are electrically connected with the electric cabinet; a medicament inlet end of the medicament conveying pipe is connected with the medicine-chest, and a medicament output end is connected with a spray head body through an electric fan and a vortex generator; and the electric fan and the vortex generator are electrically connected with the electric cabinet.

Inventors

QI LIJUN

SHEN CHUNHUA

FU ZETIAN

YUAN XUE

LI YONG

JI RONGHUA

ZHANG JIANHUA

Latest standardized assignees - inventors removed

CHINA AGRICULTURAL UNIVERSITY

Family 12/54 - FAMPAT - ©Questel

Title

(BR102014024708)

SPRAY OF PRECISION [ELETRO]-ELETRONICO OF USED CHEMICAL PRODUCTS IN AGRICULTURE

Images

FIG. 1

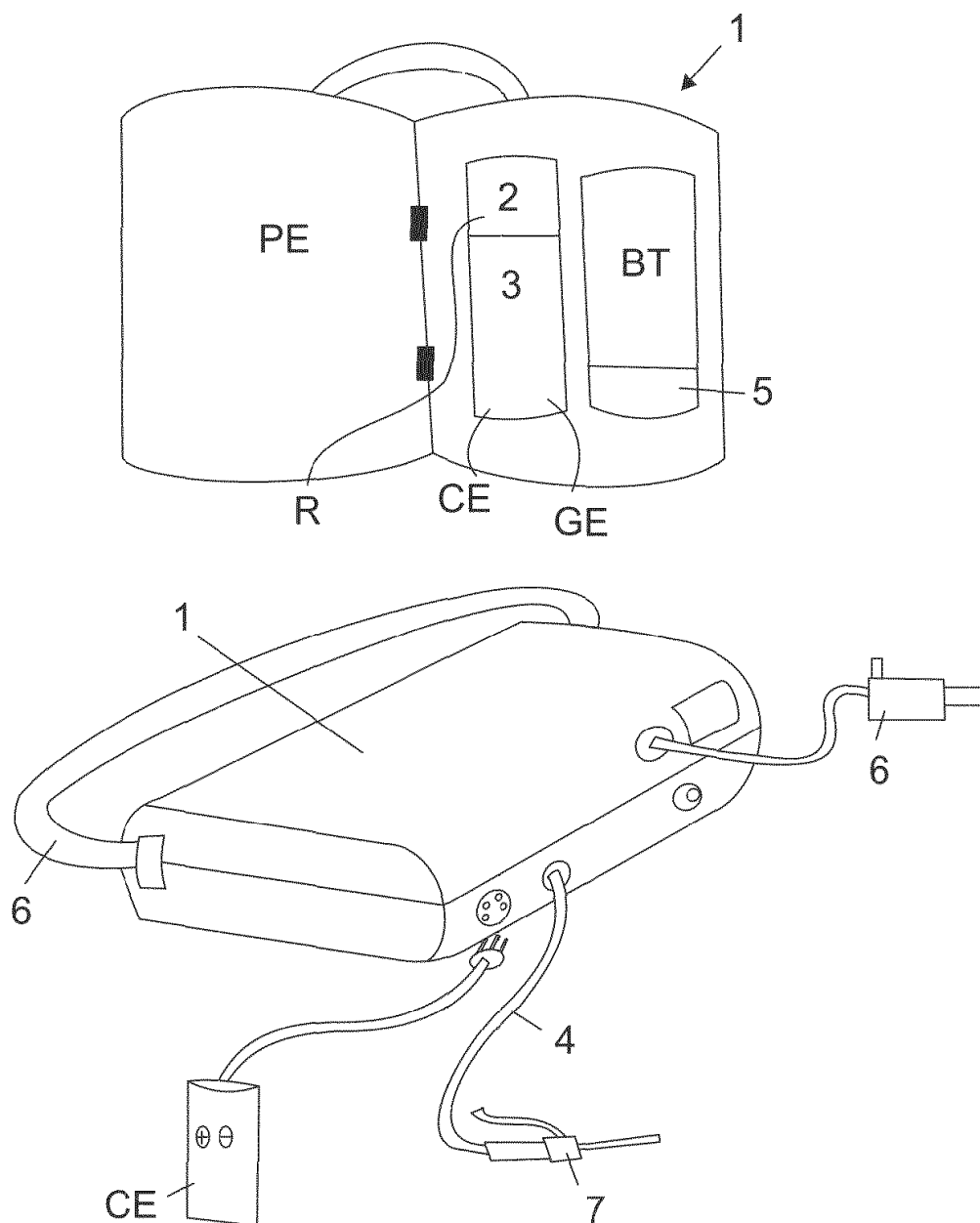
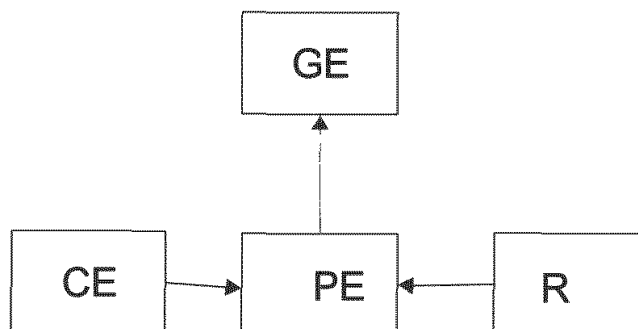


FIG. 2



Publication data including kind & date

BR102014024708 A1 2014-10-14 BR102014024708

BR102014024708 A2 2016-05-24 BR102014024708

**Abstract**

(BR102014024708)

Electro-**electronic** Spray of precision of used chemical products in agriculture. new model of electro-**electronic** spray of precision of chemical products used in agriculture, directed the research in general for the universities, centers of research, producing companies of agricultural defensives and seeds. which comes to supply the necessities in this field as for the spraying with controlled constant outflow and pressure, in particular to apply you dose decreases, used in seek areas, directed the annual cultures such as; corn, sorghum, soy, beans, and others, where they are used for tests of I look toxicity in the plants with **herbicides**, comparative tests between fungicides, [foliares] **insecticides**, seasonings, and others, as for application with **insecticide** and fungicide in [paniculas] of sorghum and the corncobs after the [envelopamento] of the same with appropriate bags of paper, and also used in the vegetation houses.

Inventors

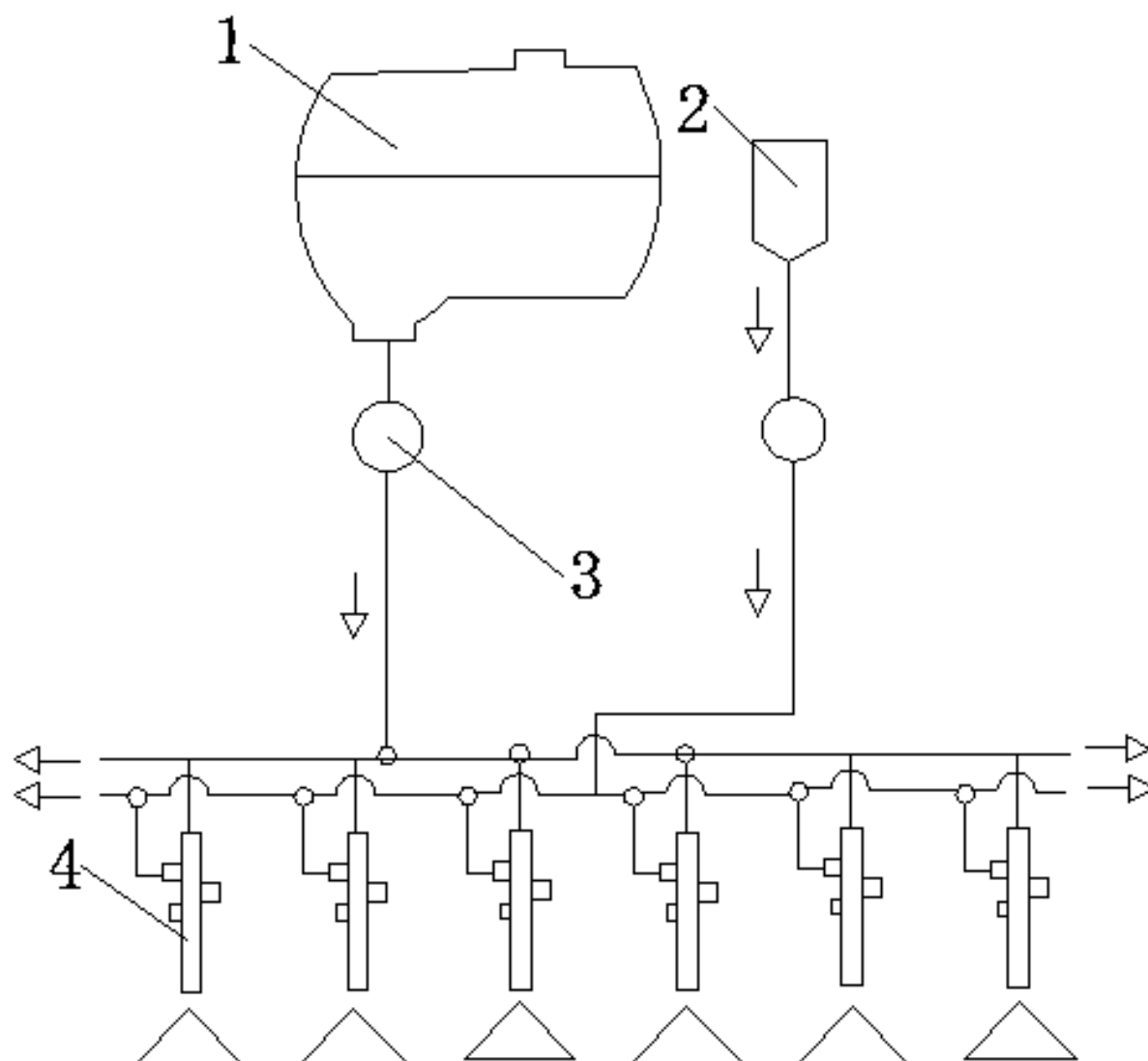
ANDROCIOLI JOSÉ ROBERTO

PEREIRA RENATO JOSÉ GUIMARÃES

Family 13/54 - FAMPAT - ©Questel

Title

(CN204146201U)

Novel **pesticide** spraying device**Images**

Publication data including kind & date

CN204146201

U 2015-02-11 CN204146201U

**Abstract**

(CN204146201U)

The utility model relates to the technical field of agricultural equipment, in particular to a novel **pesticide** spraying device. A water tank and a **pesticide** tank are connected in parallel by a pipeline; the water tank and the **pesticide** tank are respectively connected with a pressure pump; a mist spraying execution unit is arranged at the connecting part of the water tank and the **pesticide** tank; the mist spraying execution unit comprises rapid response valves. Through a spray nozzle direct injection type **pesticide** spraying system adopting an electromagnetic method, that the **pesticides** and water are stored separately is realized, and the **pesticides** and water are uniformly mixed in a mixing chamber in the spraying process, so that the **pesticide** waste is avoided and contact time of an operator and the **pesticides** is also shortened; the **pesticides** are injected from spray nozzles, so that the time that the **pesticides** reach the spray nozzles is obviously shortened. According to the utility model, through the rapid response valves adopting the electromagnetic principle, a PWM (**pulse** width modulation) mode and a closed ring control strategy, the injection volumes of the **pesticides** and the **pesticide** spraying concentration are accurately changed under the condition that the characteristics of sprayed fog drops keep basically unchanged; the rapid response valves are mounted in parallel, so that different types of **pesticides** can be injected according to the spraying environment and targeted spraying on multiple targets is realized.

Inventors

LIU JIE

GAO SHU

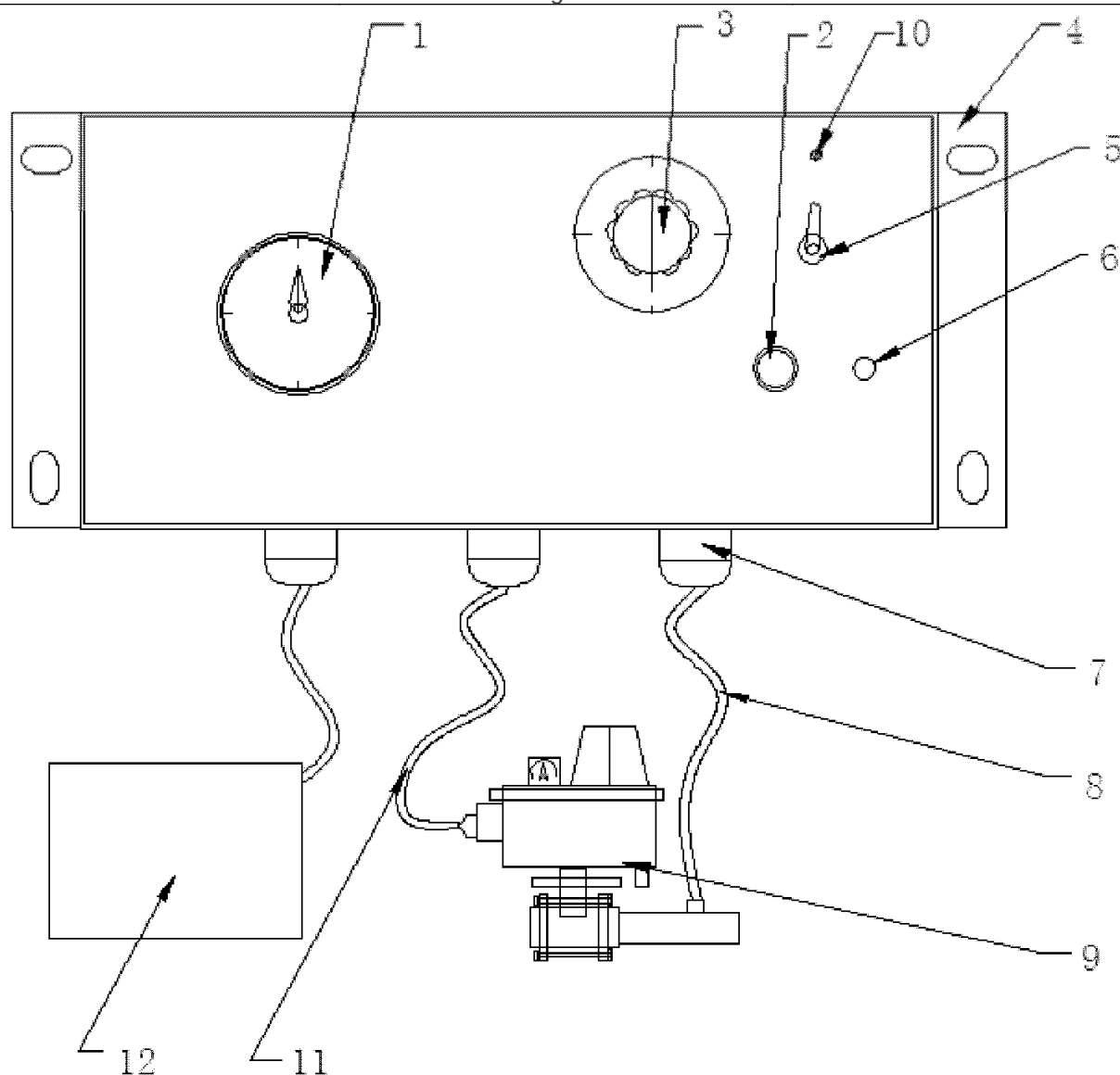
LIU TIANHAO

Family 14/54 - FAMPAT - ©Questel

Title

(CN202310979U)

Pesticide spraying control device**Images**



Publication data including kind & date

CN202310979

U

2012-07-11

CN202310979U



Abstract

(CN202310979U)

The utility model discloses a **pesticide** spraying control device. The device comprises an adjustable potentiometer, a singlechip, a **pulse** generating module, a flow valve, a **pesticide** spraying gun and an adjusting switch, wherein the adjustable potentiometer, the singlechip, the **pulse** generating module and the flow valve are **electrically** connected sequentially; the flow valve is connected with the **pesticide** spraying gun; the adjustable potentiometer is used for providing a digital signal for the singlechip; the singlechip receives the digital signal from the adjustable potentiometer and provides a **pulse** signal for the flow valve through the **pulse** generating module; the flow valve adjusts the opening degree of the flow valve according to the **pulse** signal so as to control the **pesticide** dose of the **pesticide** spraying gun; the adjusting switch is **electrically** connected with the singlechip; and when the adjusting switch is turned off, the digital signal is provided for the singlechip through the adjusting switch. The **pesticide** dose of the **pesticide** spraying gun can be controlled by controlling the opening degree of the flow valve through the adjusting switch and the adjustable potentiometer, so a **pesticide** is uniformly sprayed.

Inventors

MA WEI

WANG XIU

ZHAI ZHANGYUAN

ZHOU JIANJUN

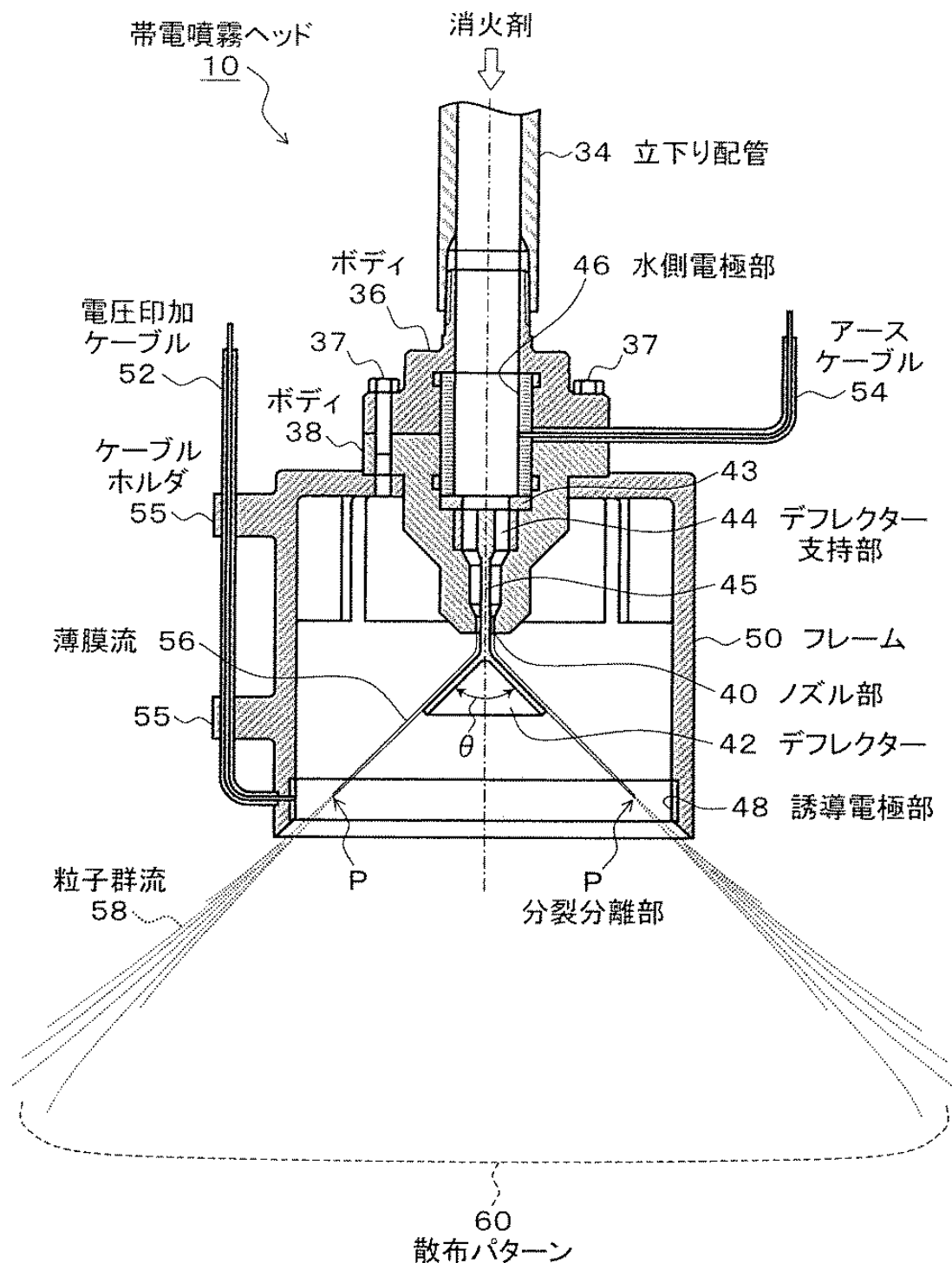
Latest standardized assignees - inventors removed

Family 15/54 - FAMPAT - ©Questel

Title

(JP2016163882)

Liquid spraying device and liquid spraying head

Images**Publication data including kind & date**

JP2013049040	A	2013-03-14	JP2013049040
JP5922363	B2	2016-05-24	JP5922363
JP2016163882	A	2016-09-08	JP2016163882
JP6080329	B2	2017-02-15	JP6080329



Abstract

(JP6080329)

PROBLEM TO BE SOLVED: To provide a liquid spraying device and a charging spraying head which permits a charging spraying effect having high adhesion and the like utilizing a Coulomb force by securing a satisfactory charge quantity even when a spray amount increases. **SOLUTION:** In a charging spraying head 10 which is installed on a spray cooling division, a dust-proof spray division, an agricultural chemicals spraying division or a plant growth division and the like, aqueous liquid is supplied to the charging spraying head 10 via a pipe line, the jetted liquid is deflected to an arbitrary direction to form a thin film flow 56, is broken up and separated into particle group flows 58, is sprayed and is charged by applying an external electric field to break-up separation part P neighborhood of the particle flows 58. The charging spraying head 10 includes: a nozzle part 40 which jets the liquid to an external space; a liquid side electrode part 46 which is arranged on an inner part of the nozzle part 40 and comes into contact with the liquid; a deflector 42 which deflects the liquid released from the nozzle part 40 to an arbitrary direction, forms a thin film flow 56, thereafter, breaks-up and separates the thin film flow into the particle group flows 58 and performs spraying; and an inductive electrode part 48 which is arranged on the break-up separation part P neighborhood of the thin film flow 56. **SELECTED DRAWING:** Figure 3

Inventors

TSUJI TOSHIHIDE

Tetsuo Yoshida

Latest standardized assignees - inventors removed

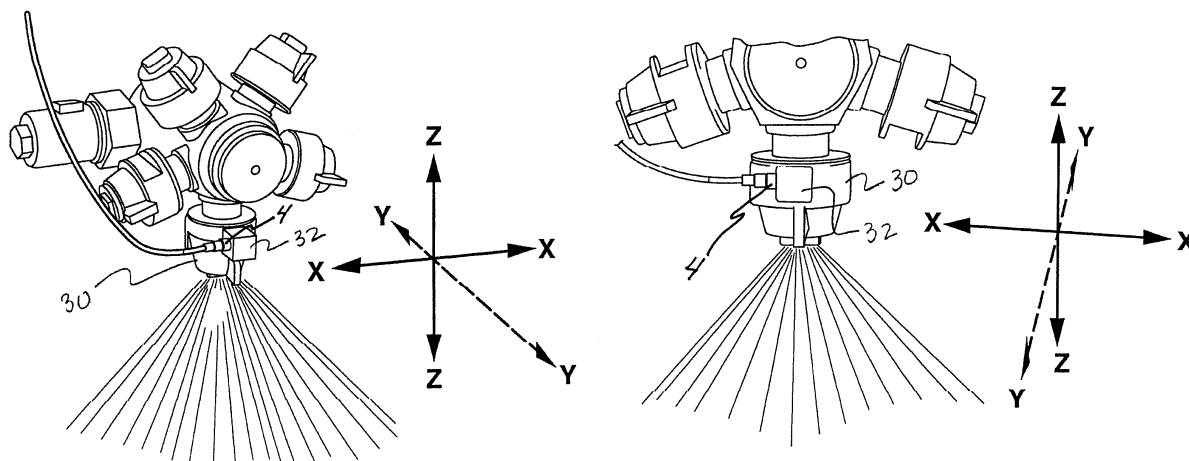
HOCHIKI

Family 16/54 - FAMPAT - ©Questel

Title

(WO200481499)

Flow control and monitoring for spray nozzles

Images**Publication data including kind & date**

WO2004081499	A2	2004-09-23	WO200481499
CA2517031	A1	2004-09-23	CA2517031
AU2004219715	A1	2004-09-23	AU2004219715
US20050000277	A1	2005-01-06	US20050000277
US7311004	B2	2007-12-25	US7311004
WO2004081499	A3	2008-08-07	WO200481499
AU2004219715	B2	2009-08-20	AU2004219715
AU2004219715	B8	2009-12-17	AU2004219715
CA2517031	C	2013-01-08	CA2517031

**Abstract**

(WO200481499)

An apparatus and process for monitoring fluid flow through a nozzle is disclosed. A vibration sensor, such as an accelerometer, is mounted to a nozzle. The vibration output received from the sensor is then analyzed to determine whether or not the nozzle is operating properly. Through the present invention, information can be obtained regarding variations in flow rate, and/or variations in spray pattern and droplet size spectra. If the nozzle flow pulsates, the vibration sensor may also provide information regarding whether the nozzle is pulsating according to a desired frequency duty cycle or waveform.

Inventors

GILES D KEN

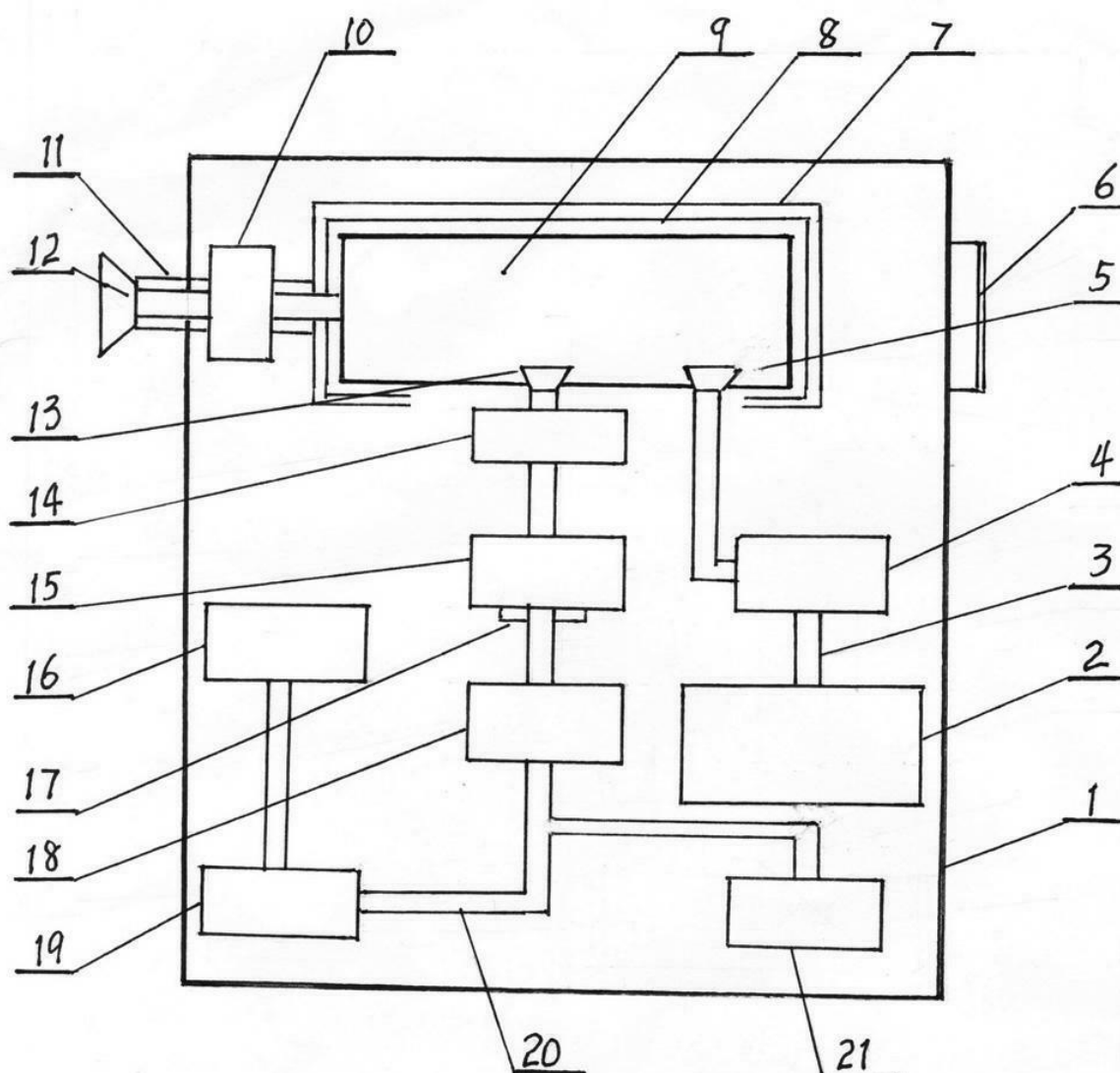
Latest standardized assignees - inventors removed

CAPSTAN SYSTEMS

Family 17/54 - FAMPAT - ©Questel

Title

(CN202162097U)

Pulse jet mist sprayer**Images****Publication data including kind & date**

CN202162097

U

2012-03-14

CN202162097U

**Abstract**

(CN202162097U)

The utility model belongs to the field of **pesticide** spraying equipment, relates to a sprayer, and particularly provides a **pulse** jet mist sprayer, which is mainly characterized in that an existing sprayer is improved, a combustion jet device is connected

with a **pesticide** spraying nozzle, a **pulse** fuel supply device is connected with the combustion jet device, the **pesticide** spraying nozzle is communicated with a combustion chamber of the combustion jet device, a jet pipe is connected outside an air outlet of the combustion chamber, an air pump of the **pulse** fuel supply device is connected with a fuel tank through an air delivery pipe, the fuel tank is sequentially connected with a one-way valve, a carburetor, a **pulse** sheet, an **electric** fire maker and a fuel spray nozzle through a fuel delivery pipe, the fuel spray nozzle is communicated with the combustion chamber of the combustion jet device, and further a fogging agent tank is parallelly connected with the fuel tank or connected with a liquor tank. The **pulse** jet mist sprayer has the advantages of avoidance of mechanical wear, failure reduction, **pesticide** economization, **pesticide** effect improvement, high range, wide atomizing scope, expansion of applicable places and the like. A model machine tested in limited quantities is normal in operation, fine in performance and applicable to insect killing, disinfection and epidemic prevention with **pesticides** for warehouses, greenhouses, orchards, high stalks, dense crops and places not easy to reach.

Inventors

DING NING

DING QINGBO

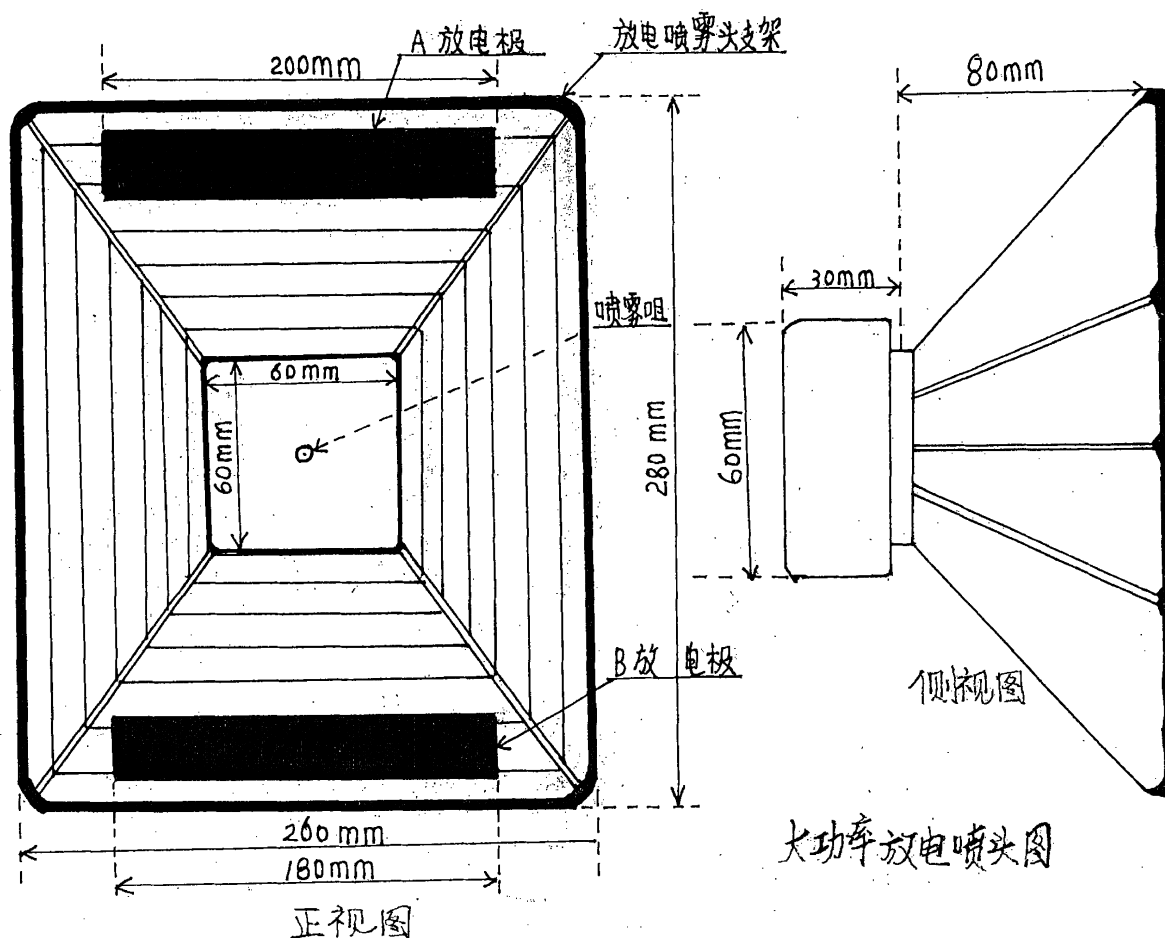
Family 18/54 - FAMPAT - ©Questel

Title

(CN102415363)

Nuisanceless **electronic** spraying type bug killer

Images



Publication data including kind & date

CN102415363

A 2012-04-18 CN102415363



Abstract

(CN102415363)

For many years, a traditional **pesticide** sprayer plays an important role of killing insects and pests in the long-term

agricultural production and can also be an unnecessary production tool of capturing grains from mouths of the insects. However, the aims of killing the insects and pests are achieved by a traditional mode and method for killing the insects and pests by spraying **pesticides** by means of introducing toxic **pesticides**. The facts prove that the pollution of the **pesticides** to the environment and the hazard to human health is an undisputable fact. The production and income increase of agriculture is continuously realized by the traditional mode and method for killing the insects and pests by spraying the **pesticides**, which is remarkable unfeasible. The invention discloses a nuisanceless **electronic** spraying type bug killer for agricultural production and relates to an agricultural **electronic** bug killer. The agricultural **electronic** bug killer can be particularly used for realizing the killing of the pests in the agricultural production by using an **electronic pulse** technology and is convenient for use; and according to the agricultural **electronic** bug killer, the agricultural input cost is saved and the defects of the pollution to the environment and the hazard to the human health caused by a traditional manner of spraying the **pesticides** to kill the pests can be effectively overcome, and thereby the aims of the nuisanceless insect killing modern agricultural scientific production and novel environment-friendly idea are achieved in true sense.

Inventors

MING PEIXIANG

Family 19/54 - FAMPAT - ©Questel

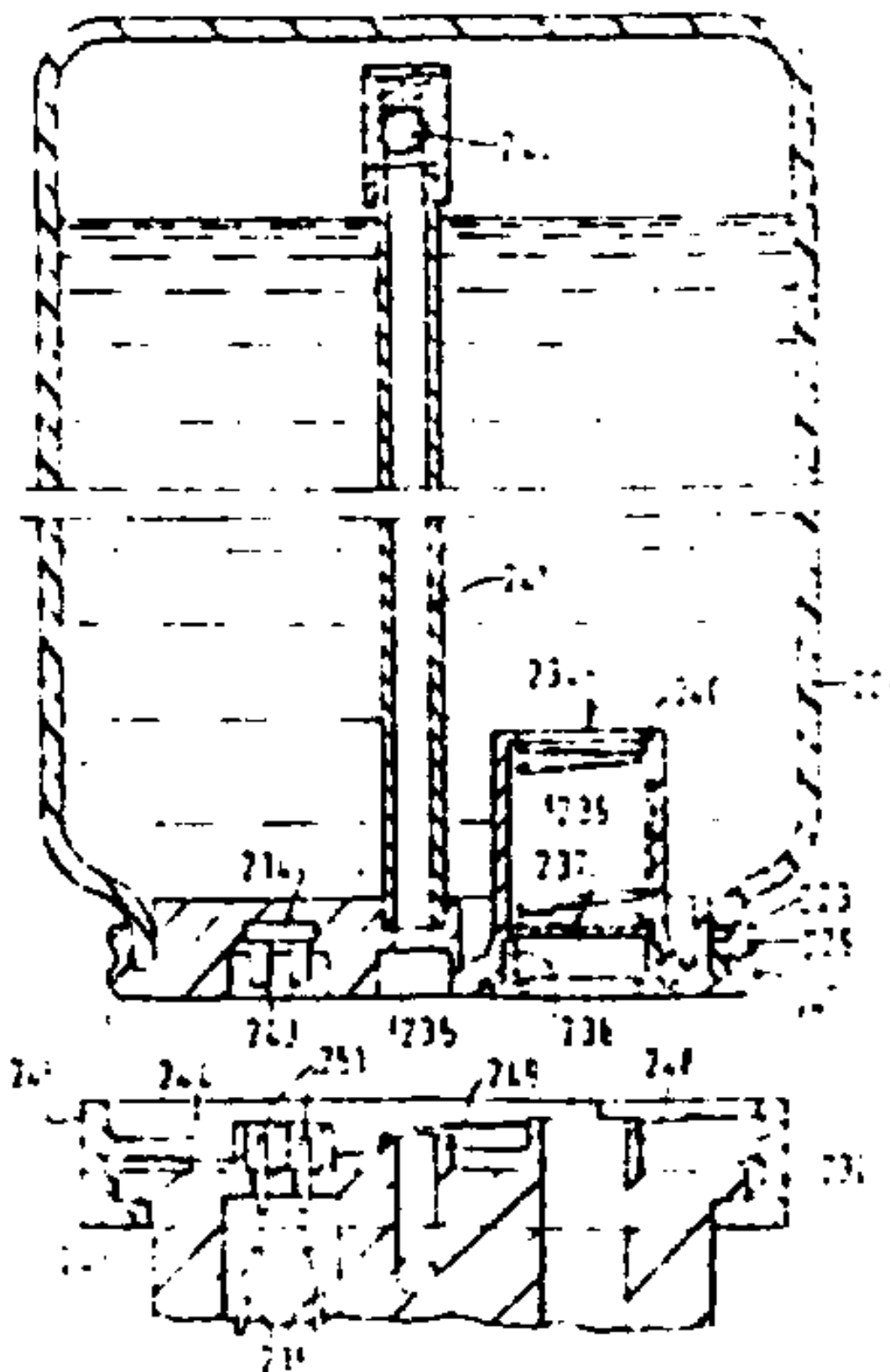
Title

(EP--86029)

Fluid container

Images

FIG 1



(EP--86029)

A container (209) having attached to it at least one memory device (214) carrying information relating to the intended contents of the container (209); the device being operably connectable to operating means including means responsive to information communicated from said memory device (214) whereby an operation actively involving the contents of the container (209) may be performed in a manner at least partly determined by the characteristics of the contents.

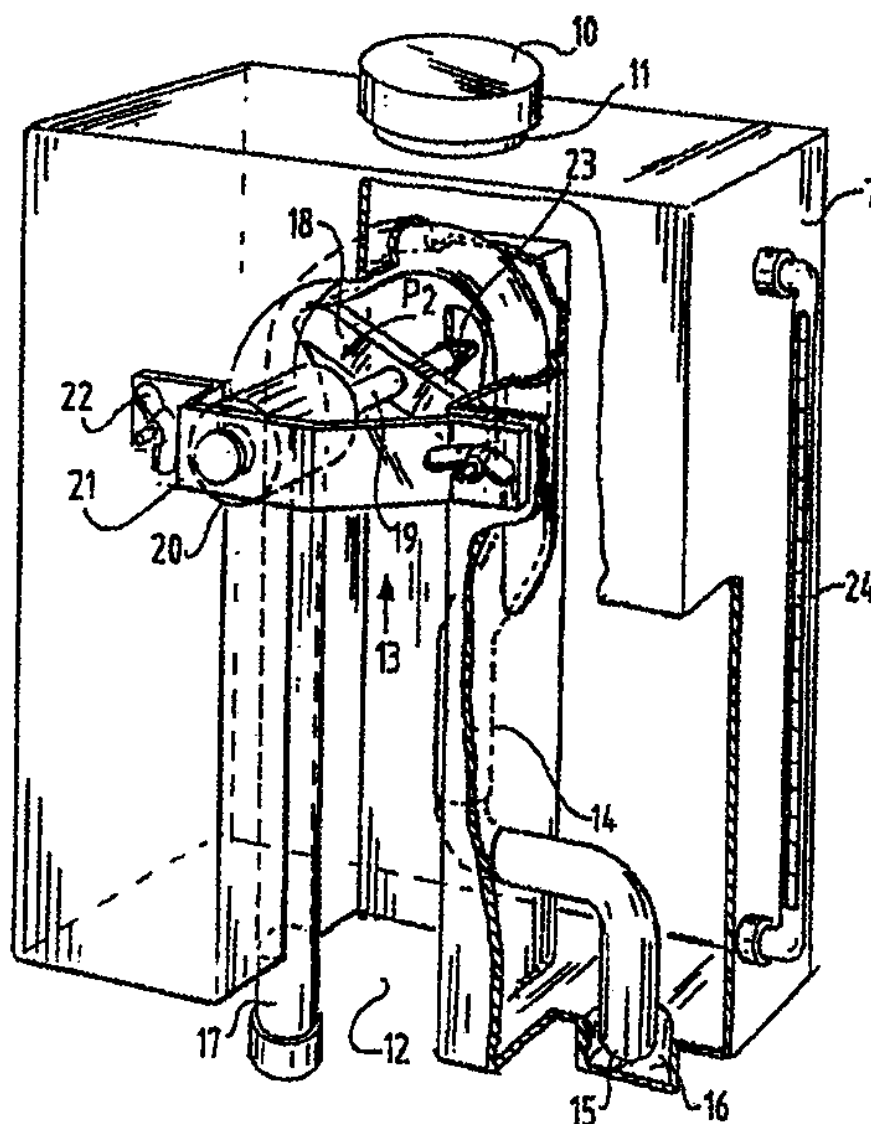
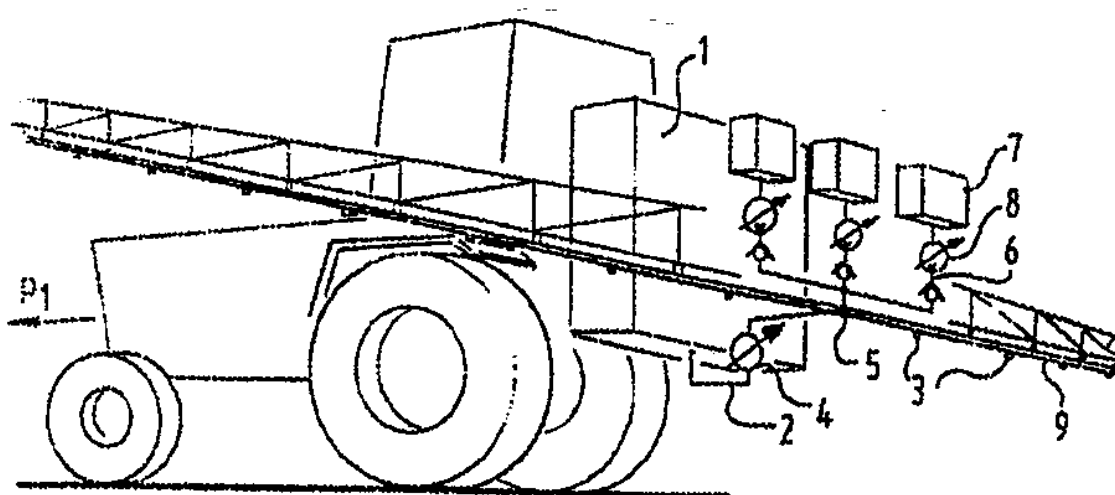
COFFEE, RONALD ALAN
BENNETT, PETER CHARLES
HOUGHTON, LEONARD ERIC
JOHNSON, GRAHAM CHARLES

ICI - IMPERIAL CHEMICAL INDUSTRIES

(EP-519043)

Spraying device having integrated dosing means.

Images



Publication data including kind & date

WO9211759	A1	1992-07-23	WO9211759
NL9100017	A	1992-08-03	NL9100017
EP0519043	A1	1992-12-23	EP-519043



Abstract

(EP-519043)

A device for spraying crop treating agent such as nutrients and/or **pesticides/herbicides**, which device comprises a source (1) for a liquid carrier, one or more spray members (3) connected to the source via a line (2), at least one container (7) for a concentrate of crop treating agent for mixing with the liquid carrier, pressure means (4) for carrying the liquid carrier, via the line (2) to the spray members, and pump dosing means (8) for carrying the concentrate into the line, wherein according to the invention the container (7) for the concentrate is formed integrally with at least the pumping means (8), whereby the lines for the concentrate (6) become considerably shortened or superfluous and whereby the delivery opening of the container can be connected directly to the main line for the liquid carrier.

Inventors

BORGMAN FOKKO PIETER

Latest standardized assignees - inventors removed

PROLION

Family 21/54 - FAMPAT - ©Questel

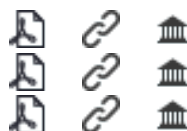
Title

(ES2519915)

Equipment of application by portable pulverization controlled by GPS for educational use and investigation

Publication data including kind & date

ES2519915	A2	2014-11-07	ES2519915
ES2519915	R1	2014-11-25	ES2519915
ES2519915	B1	2015-09-08	ES2519915

**Abstract**

(ES2519915)

The present invention consists of an equipment of application by portable pulverization controlled by GPS for educational use and investigation that allows to realize the application of located weed killer cradle in maps of bad grass with a system of pulverization controlled by GPS, integrating in a same platform elements of positioning, instrumentation of measurement and technology of variable application for educational use and investigation. The invention fits in the agriculture of precision and engineering of the natural resources.

Inventors

PEREZ RUIZ MANUEL

RODRIGUEZ LIZANA ANTONIO

Latest standardized assignees - inventors removed

UNIVERSIDAD DE SEVILLA

Family 22/54 - FAMPAT - ©Questel

Title

(GB2129663)

Spraying unit

Publication data including kind & date

GB8329803	D0	1983-12-14	GB8329803
GB2129663	A	1984-05-23	GB2129663
GB2129663	B	1985-12-18	GB2129663

**Abstract**

(GB2129663)

A proportional dosing unit for mounting on a vehicle comprises a) a pump; b) means for actuating the pump; c) as control for the pump actuation means, an impulse fractionator receiving **pulse** signals from a part of the vehicle which rotates at a speed proportional to the forward speed of the vehicle or by means of an **electrical** impulse from a radar speed detecting device; d) means for supplying liquid **pesticide** from a reservoir to the inlet of the pump; e) means of injecting the **pesticide**

leaving the exit of the pump into a fluid supply; and f) means for conveying the mixed **pesticide/fluid** supply to dispensing points on the vehicle.

Inventors

ENGLEFIELD GEORGE

RUSSELL JOHN HENRY

Latest standardized assignees - inventors removed

CIBA GEIGY

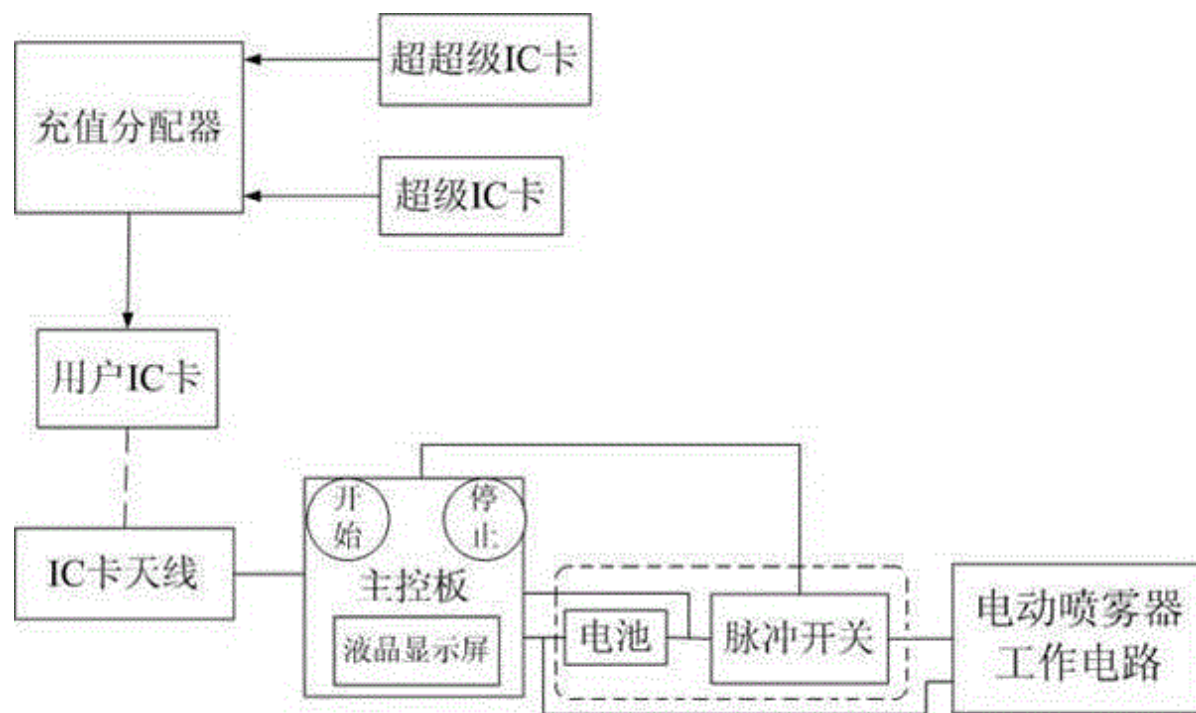
Family 23/54 - FAMPAT - ©Questel

Title

(CN103949363)

Sprayer control device with card-swiping timing function

Images



Publication data including kind & date

CN103949363	A	2014-07-30	CN103949363
CN103949363	B	2016-06-29	CN103949363B



Abstract

(CN103949363B)

The invention discloses a sprayer control device with a card-swiping timing function. The sprayer control device comprises a user IC card and a timing reading control system mounted on an **electric** sprayer, wherein the timing reading control system comprises a master control board, an IC card antenna and a working power supply; the working power supply mainly consists of a battery and a **pulse** switch, serially connected together; the control ends of the IC card antenna and the **pulse** switch are respectively connected with the master control board; the anode and cathode of the master control board are respectively connected with the anode and cathode of the battery; the anode and cathode of a working circuit in the **electric** sprayer are respectively connected with the anode and cathode of the working power supply. The control device is mainly used for controlling the service time and using permission of the **electric** sprayer, information of time balance of the IC card is transmitted in a **pulse** manner to control the power supply core of the sprayer, and use of the IC card in a time balance timing mode is realized, so that **pesticides** can be effectively prevented from being used excessively by a **pesticide** application worker during the prevention and treatment process of diseases, insect pests and weeds.

Inventors

YANG JIANBO

HU YAJUN

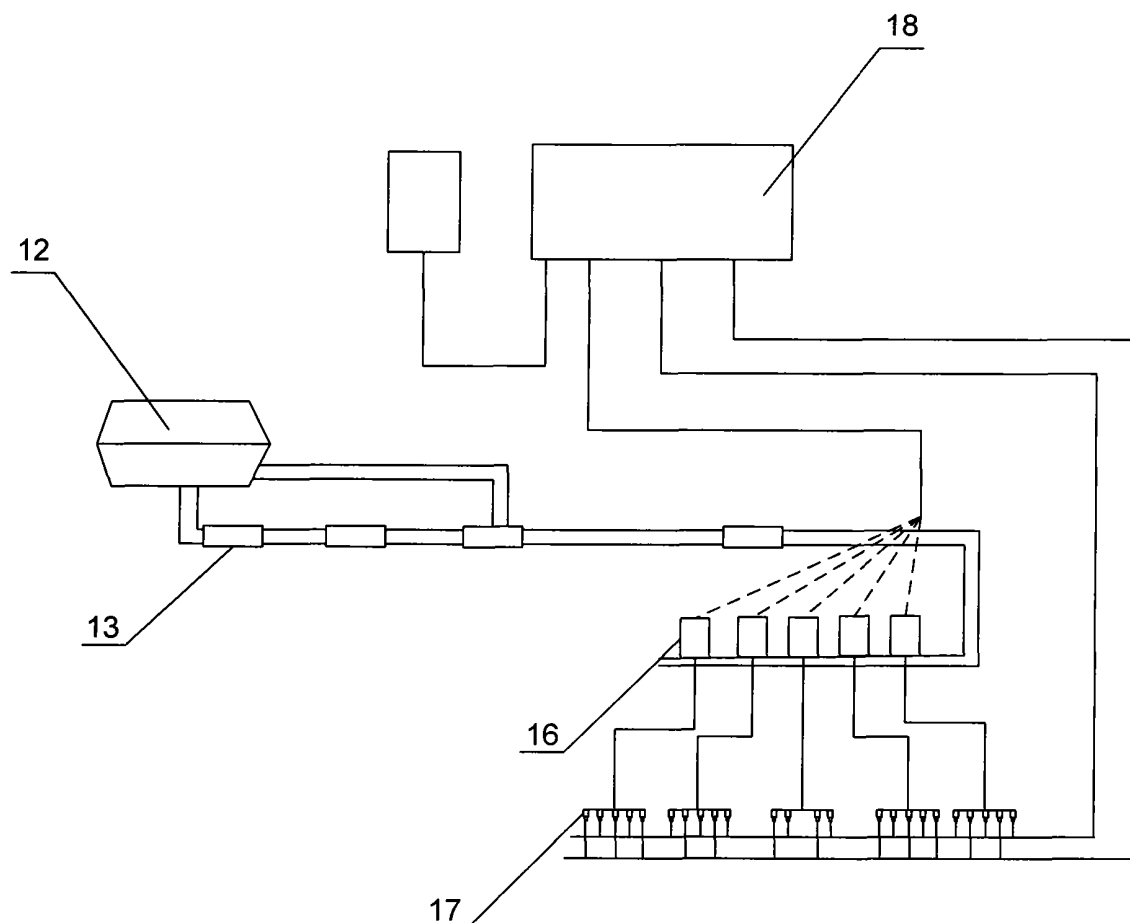
Latest standardized assignees - inventors removed

GUANGXI TIANYUAN BIOCHEMISTRY

Family 24/54 - FAMPAT - ©Questel

Title

(CN201291177U)

Variable **pesticides** spraying vehicle**Images****Publication data including kind & date**[CN201291177](#)

Y

2009-08-19

CN201291177U

**Abstract**

(CN201291177U)

The utility model discloses a variable agricultural medical spraying machine, which comprises a medical box, a membrane pump, an **electric** retaining valve, a spraying rod and a spraying controller, wherein, the membrane pump is connected with the medical box; the **electric** retaining valve is used for controlling the spraying quantity of the medicine liquid and is connected with the membrane pump; the spraying rod is connected with the **electrical** retaining valve and is provided with an electromagnetic valve spray head, and the electromagnetic valve spray head is fixed on the end part of the spraying rod; the spraying controller is used for controlling the opening and the closing of the electromagnetic valve spray head, and the odd electromagnetic valve spray head in the electromagnetic valve spray heads is connected with an odd control line, and the even electromagnetic valve spray head is connected with the even control line, and the odd and the even control lines are respectively connected with the spraying controller, and a **pulse** generating device is arranged inside the spraying controller. The variable agricultural medical spraying machine can precisely control the spraying quantity of the agricultural medicine, thereby improving the effective utilization rate of the agricultural medicine, and reducing the production cost, and reducing the environmental pollution.

Inventors

WANG XIU

MAO BAOLIN

JI JIANBIN

MA WEI

CHEN LIPING

MENG ZHIJUN

Latest standardized assignees - inventors removed

BEIJING RESERACH CENTER FOR INFORMATION TECHNOLOGY AGRICULTURE

Family 25/54 - FAMPAT - ©Questel

Title

(DE2617734)

HOUSING FOR A BATTERY-OPERATED ELECTRICAL CLOCK

Images



СОЮЗ СОВЕТСКИХ
СОЦИАЛИСТИЧЕСКИХ
РЕСПУБЛИК

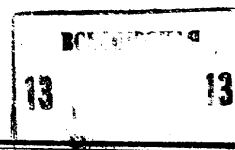
(19) **SU** (11) **1269732 A3**

(51) 4 C 05 C 9/00

ГОСУДАРСТВЕННЫЙ КОМИТЕТ СССР
ПО ДЕЛАМ ИЗОБРЕТЕНИЙ И ОТКРЫТИЙ

ОПИСАНИЕ ИЗОБРЕТЕНИЯ

К ПАТЕНТУ



- (21) 2134184/30-15
(22) 08.05.75
(31) P. 2422173.6
(32) 08.05.74
(33) DE
(46) 07.11.86. Бюл. № 41
(71) Шеринг АГ (DE)
(72) Вильгельм Коль, Роберт Айбнер,
Ганс-Генрих Нёлле, Альфред Шнайдер
и Николаус-Йоханн Молдовани (DE)
(53) 631,841.7(088.8)
(56) Патент Франции № 1466284,
кл. C 05 с//C 05 в, 15.07.65.

(54) УДОБРЕНИЕ ДЛЯ ВНЕКОРНЕВОЙ ПОД-
КОРМКИ РАСТЕНИЙ

(57) Изобретение относится к внекор-
невой подкормке растений и может

быть использовано в сельском хозяй-
стве. Целью изобретения является до-
стижение возможности внесения удоб-
рения как такового или совместно с
пестицидами ультранизкообъемным ме-
тодом. Состав удобрения содержит
21,8 мас.% мочевины в качестве мак-
ропитательного вещества, 7,5 мас.%
смеси сульфатов Cu, Fe, Mn, Mo, Zn,
Co в качестве микропитательного ве-
щества, 5 мас.% смеси фосфата слож-
ного алкилового эфира (C₁₂) и алкил-
сульфосукцината (C₁₂) в качестве
эмульгатора, 23,6 мас.% продукта
нейтрализации этилендиаминтетраук-
сусной кислоты триэтаноламином в
качестве ингибитора испарения воды
и 42,1 мас.% воды. 1 табл.

(19) **SU** (11) **1269732 A3**

Publication data including kind & date

DE2422173	A1	1975-11-27	DE2422173
JPS50157160	A	1975-12-18	JP50157160
DD118269	A5	1976-02-20	DD-118269
BR7502833	A	1976-03-16	BR7502833
DE2617734	A1	1976-11-04	DE2617734
AU8097575	A	1976-11-11	AU7580975
ZA7502892	B	1976-12-29	ZA7502892



GB1498373	A	1978-01-18	GB1498373
AU3517978	A	1978-07-20	AU7835179
AU500251	B2	1979-05-17	AU-500251
CA1075483	A	1980-04-15	CA1075483
CS199267	B2	1980-07-31	CS-199267
HU177253	B	1981-08-28	HU-177253
AU522510	B2	1982-06-10	AU-522510
JPS5754473	B2	1982-11-18	JP82054473
MX4876	E	1982-11-24	MX---4876
JP1175933	C	1983-11-14	JP1175933
DE2422173	C2	1984-11-22	DE2422173
SU1269732	A3	1986-11-07	SU1269732



Abstract

(DE2617734)

1498373 **Electric** clocks SEIKO KOKI KK **20** April 1976 [23 April 1975] 15935/76 Heading G3T In a battery clock with a case 1 having at least one battery compartment A 1 , A 2 , a second compartment B houses an electro-mechanical transducer, a circuit for driving the transducer, and a gear mechanism coupling the transducer to hands or other time indicators, a portion of the gear mechanism being supported by and passing through a wall of the second compartment. As described, each of two batteries E is detachably held in its respective compartment by contacts (3, 4) Fig. 1 (not shown). The transducer is a stepping motor comprising an air-cored coil L and a rotor 16 which is magnetically coupled to a second rotor 17 as in Specification 1496644. The rotor 17 drives a gear train and seconds, minute, and hour hands 27, 35, 39 as the coil receives **pulses** from an oscillator 5 and divider 6 mounted on a board 7. The moving parts are supported by plates 9, 11 and by case wall 1b. A knob 40 and pinion 41a are provided for setting, slip being permitted by a spring 32 which couples a wheel 33 to minutes arbor 26.

(From GB1498373 A)

Inventors

KITAI KIYOSHI

OGIHARA MASUO

SATO KOZO

SHINOZAKI NOBUO

Latest standardized assignees - inventors removed

BAYER PHARMA

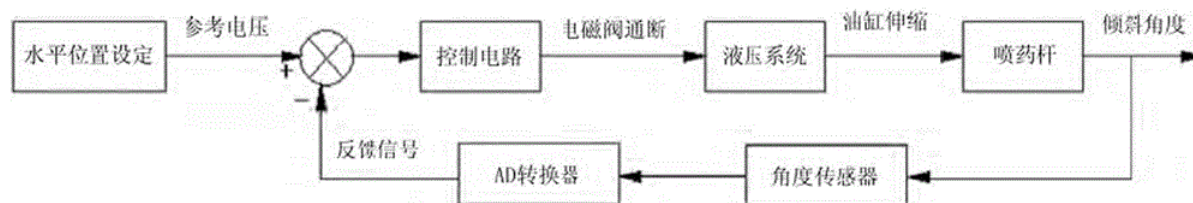
Family 26/54 - FAMPAT - ©Questel

Title

(CN105557666)

Pesticide spraying machinery automatic leveling system

Images



Publication data including kind & date

CN105557666 A 2016-05-11 CN105557666



Abstract

(CN105557666)

The invention relates to a **pesticide** spraying machinery automatic leveling system, and relates to the technical field of

electricity. The invention especially relates to a control system. The invention provides the **pesticide** spraying machinery automatic leveling system with improved application performance and assists in reducing **pesticide** wasting. The system comprises a horizontal position setting module, a control circuit, a hydraulic system, a **pesticide** spraying rod, an angle sensor, and an AD converter. The system is characterized in that the horizontal position setting module is sequentially connected to the control circuit, the hydraulic system, the **pesticide** spraying rod, the angle sensor and the AD converter; the **pesticide** spraying rod is controlled through hydraulic pressure and a single chip microcomputer; when the system meets a field with uneven terrain, an inclination detection device transmits collected signals to a single chip microcomputer circuit, a three-position four-way solenoid directional valve and a one-way proportional velocity regulating valve are controlled, and automatic leveling of the **pesticide** spraying device is completed by a hydraulic cylinder under driving; during a **pesticide** spraying rod inclination process, the angle sensor continuously detects and feeds back current inclination angles; the difference between feedback values and a reference value is obtained by the comparison of the single chip microcomputer, such that a close-loop negative feedback regulation system is formed.

Inventors

ZHAO JIAN

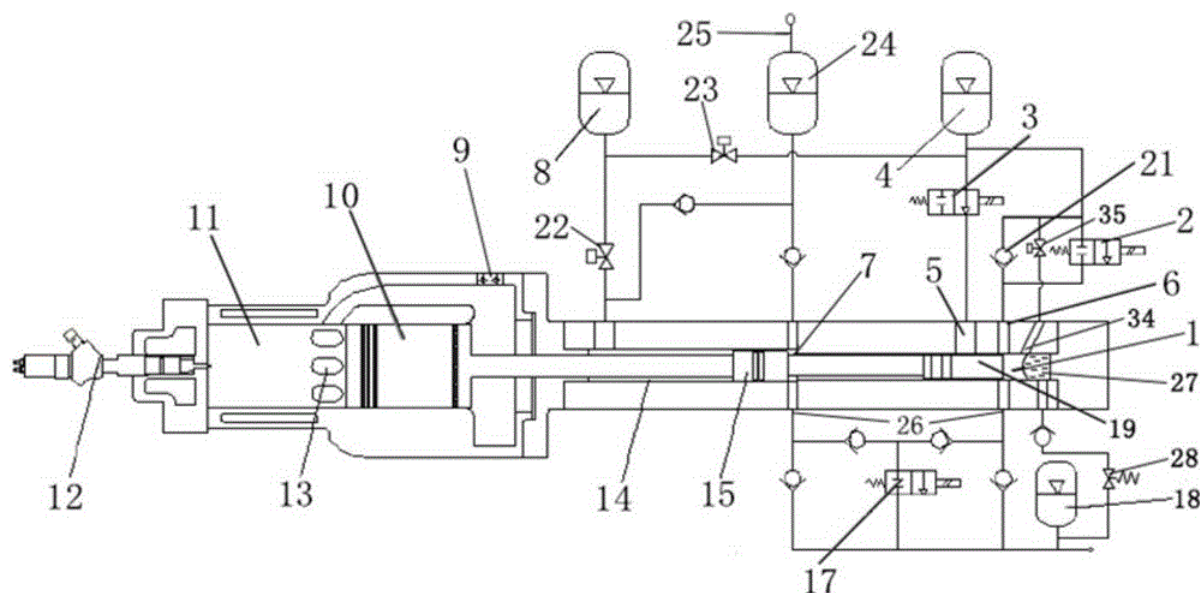
Family 27/54 - FAMPAT - ©Questel

Title

(CN105532619)

Pesticide spraying device with optimized control system

Images



Publication data including kind & date

CN105532619

A 2016-05-04 CN105532619



Abstract

(CN105532619)

The invention discloses a **pesticide** spraying device with an optimized control system. The **pesticide** spraying device comprises a **pesticide** spraying machine and an engine connected with the **pesticide** spraying machine. The engine is used for driving the **pesticide** spraying machine and comprises a power part, an oil spraying system and a hydraulic part. The hydraulic part comprises a compression cavity, a pump cavity, a return cavity and a hydraulic loop. The compression cavity is formed in the rear part of the engine and provided with a first oil port and a second oil port, wherein the first oil port and the second oil port are connected with a compression energy storage device through a first control valve and a second control valve respectively, the pump cavity is connected with a low-pressure oil path and a high-pressure oil path through check valves, and a return control valve and a low-pressure energy storage device are arranged on the low-pressure oil path. A pressure reducing valve is arranged on the part, between a high-pressure energy storage device and a cylinder body, of an oil pipe path, and a starting valve is arranged on the part, between the compression energy storage device and

the high-pressure energy storage device, of the oil pipe path. The **pesticide** spraying device is simple in structure, convenient to manufacture, high in scavenging efficiency, stable in performance and large in output torque, and a complete control system and a position detection system are designed.

Inventors

YANG BING

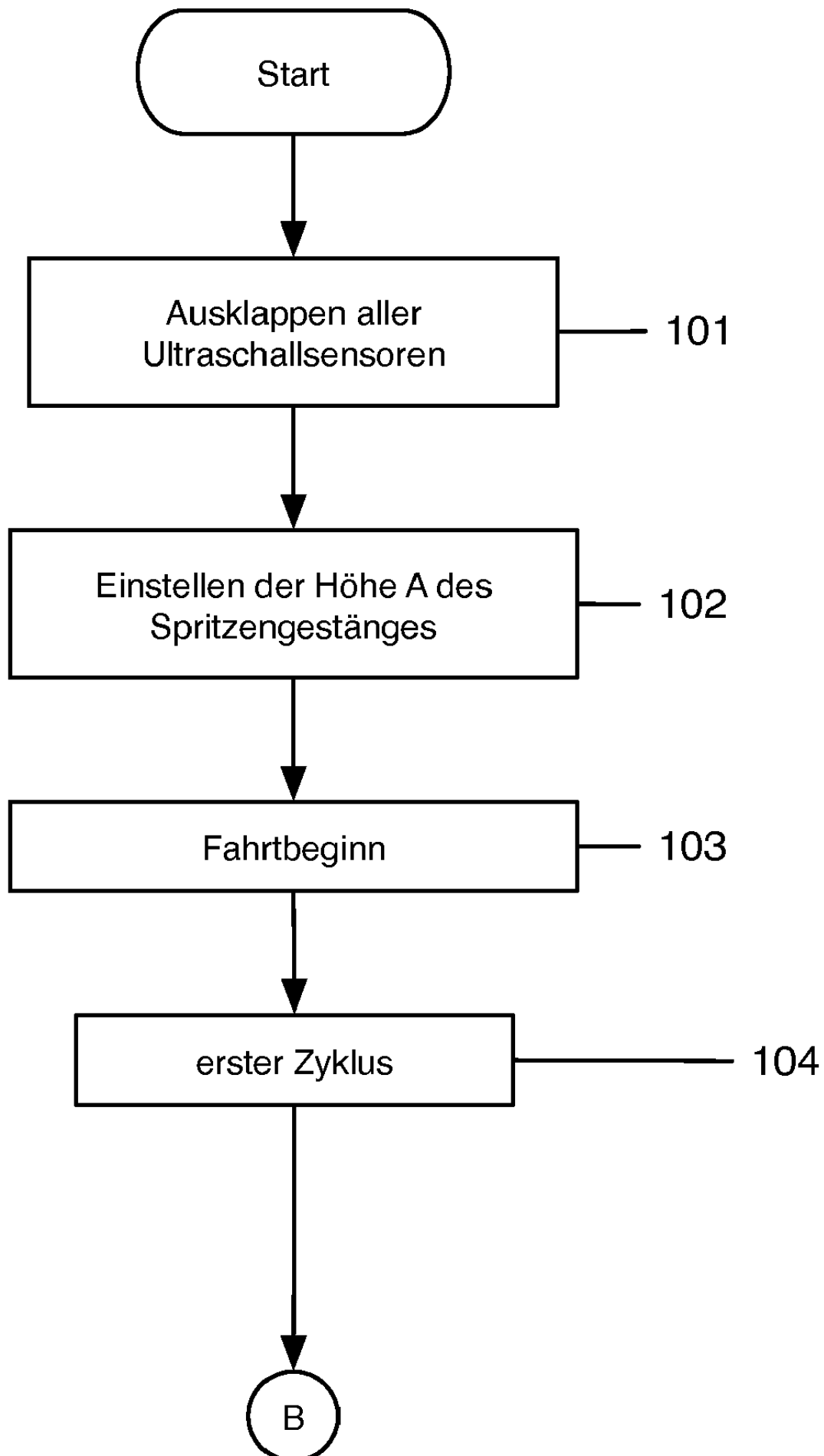
Family 28/54 - FAMPAT - ©Questel

Title

(EP2586304)

Device and method for detecting the presence and amount of plants in an area and controlling an agricultural implement to minimize the use of spraying liquid

Images



Publication data including kind & date

DE102011054742	A1	2013-04-25	DE102011054742
DE102011054742	B4	2013-05-02	DE102011054742
EP2586304	A1	2015-09-30	EP2586304
EP2586304	B1	2017-12-20	EP2586304

**Abstract**

(EP2586304)

The method involves determining the distance between the ultrasonic sensors and the surface of the ground vegetation in a cyclic manner and adjusting the height of the spraying rods when the distance between the ultrasonic sensors and the ground surface deviates from a preset value (102). The biomass is determined in a cyclic manner by producing a biomass value, which is a measurement for the actual biomass on the area probed by ultrasonic sensors. An independent claim is included for a device for determining the biomass of ground vegetation and the height control of spraying rods, particularly on an agricultural machine, particularly for executing the method.

Inventors

LEITHOLD PEER

Latest standardized assignees - inventors removed

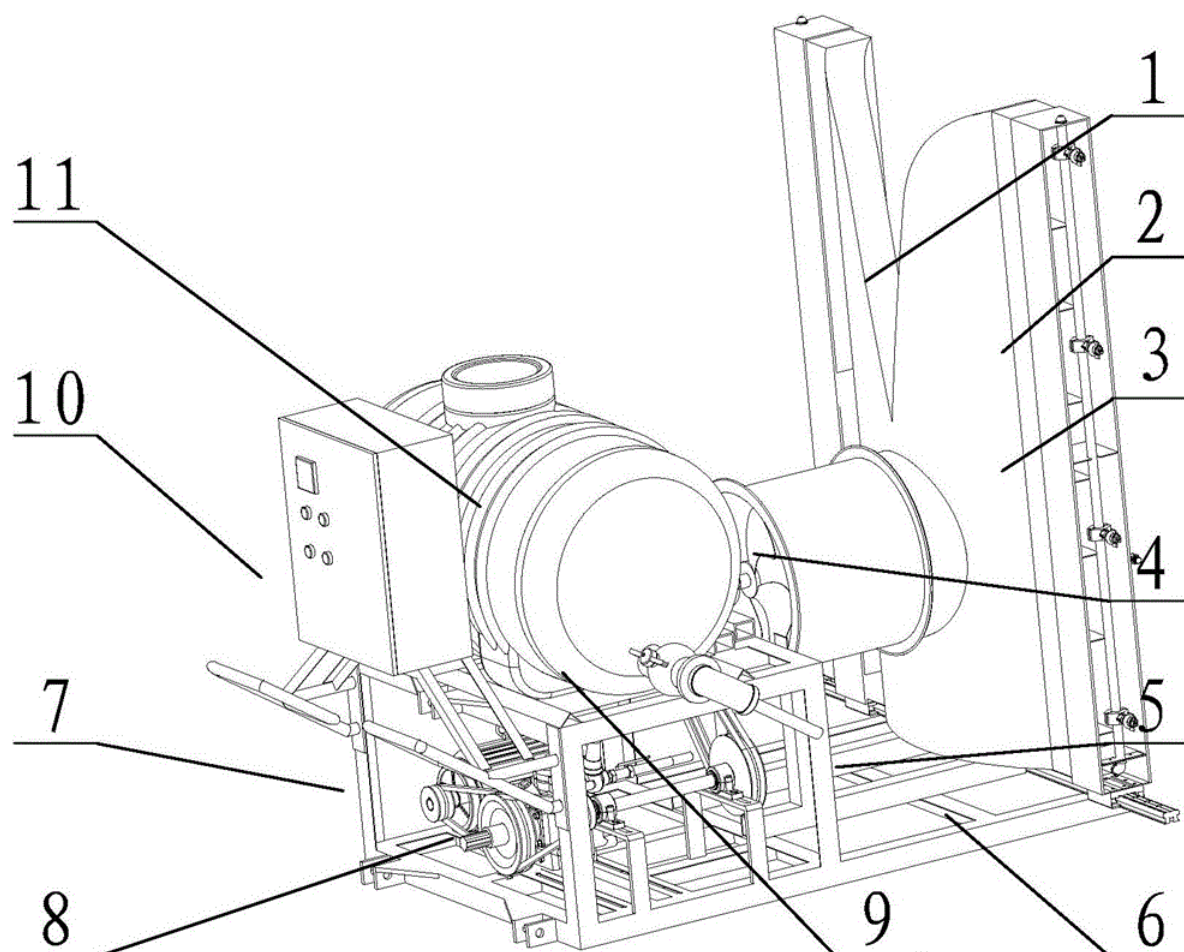
AGRI CON PREC FARMING

Family 29/54 - FAMPAT - ©Questel

Title

(CN104604830)

Three-dimensional air-assisted sprayer for vineyard

Images**Publication data including kind & date**

CN104604830	A	2015-05-13	CN104604830
CN104604830			



B 2016-09-28 CN104604830B

Abstract

(CN104604830B)

The invention relates to a three-dimensional air-assisted sprayer for a vineyard. The three-dimensional air-assisted sprayer comprises an air conveying system, a spraying system, an **electric** control operation system, a drive system, breadth adjusting parts and a rack. Air inlets of a butterfly-type flow guide plate are connected with air outlets of an axial flow fan. The breadth adjusting parts are mounted on the two sides of the butterfly-type flow guide plate. The spraying system comprises a liquid **pesticide** box, a diaphragm pump, **pesticide** tubes, high-pressure spray nozzles and a **pesticide** box total switch. The **pesticide** tubes are fixed on the outer sides of breadth adjusting plates, and are connected with the high-pressure spray nozzles. The high-pressure spray nozzles and the air outlets of the butterfly-type flow guide plate are correspondingly arranged. According to the three-dimensional air-assisted sprayer for the vineyard, the breadth adjusting plates can be adjusted through a control box according to the actual distance between grape trellises in the vineyard, and the operation breadth of the sprayer is changed to be adapted to different distances of the grape trellises. Air flow conveyed by the axial flow fan is distributed to the air outlets through the flow guide plate, and secondary atomization of the sprayed liquid **pesticide** is achieved.

Inventors

ZHANG XIAOHUI

HOU CUNLIANG

WANG LIANGJIE

MENG DEFA

FENG HAIMING

LI YANLEI

Latest standardized assignees - inventors removed

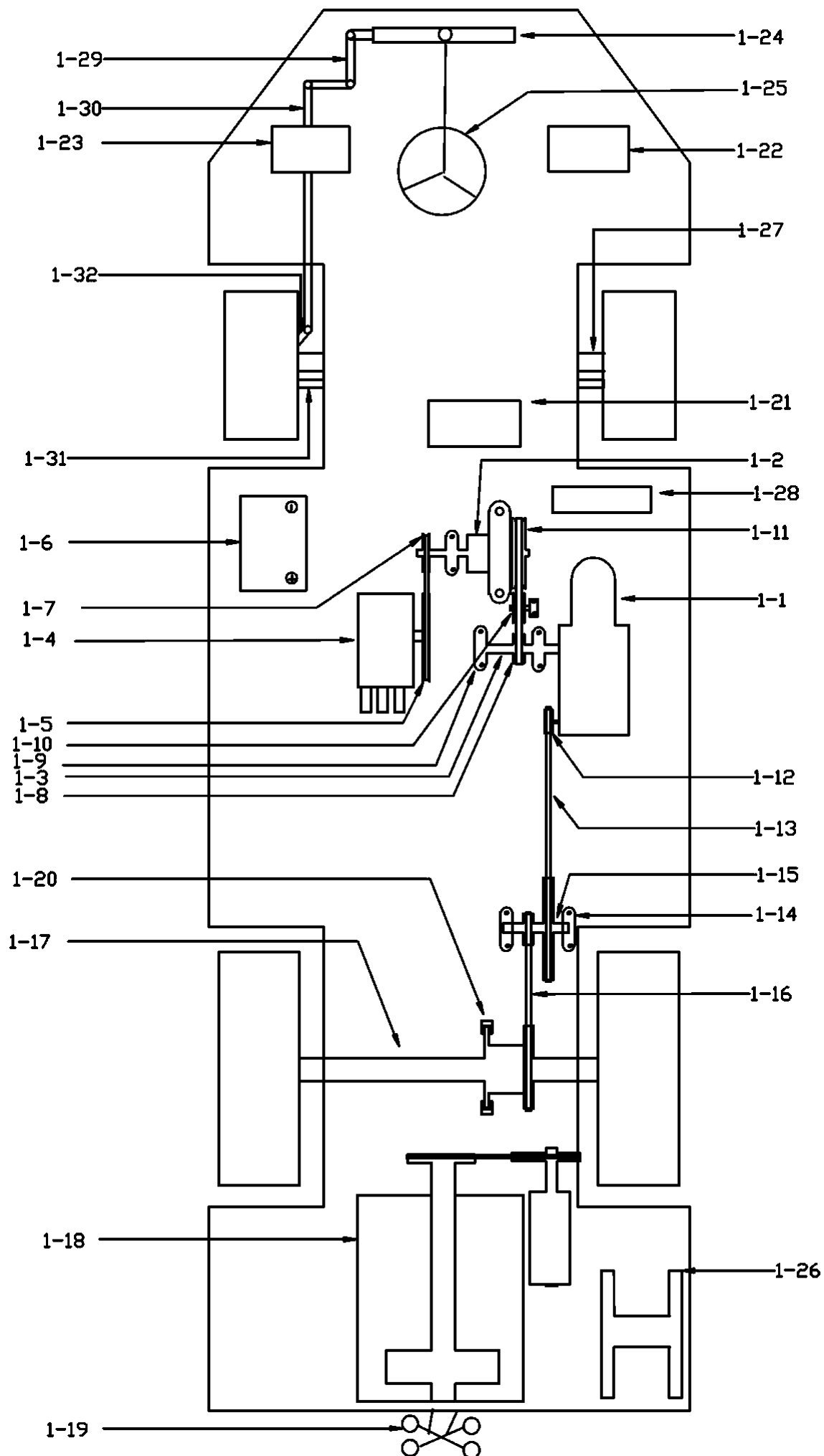
SHANDONG AGRICULTURAL UNIVERSITY

Family 30/54 - FAMPAT - ©Questel

Title

(CN103329873)

Automatic swing **insecticide** spraying vehicle under grape trellis**Images**



Publication data including kind & date

CN103329873	A	2013-10-02	CN103329873
CN103875647	A	2014-06-25	CN103875647
CN203735326	U	2014-07-30	CN203735326U
CN103875647	B	2016-06-15	CN103875647B

**Abstract**

(CN103329873)

The invention discloses an automatic swing **insecticide** spraying vehicle under a grape trellis in the technical field of agricultural machinery. The **insecticide** spraying vehicle has functions of **insecticide** spraying of grapes, landscaping and fruit trees, and transportation, and has the characteristics of attractiveness, small size, high efficiency, low running cost, easiness in operation and the like. According to the **insecticide** spraying vehicle, the power of travelling and a plunger pump is provided by an engine; a power taking device takes the power of the engine out, and separates and combines the power of the plunger pump through an electromagnetic clutch; liquor is sent on four spraying heads of a spraying mechanism and in a coil pipe device by a hose after the plunger pump is pressurized; the spraying heads can spray the liquor on branches and leaves of the grapes under the control of the spraying mechanism; the spraying mechanism is mounted at the back of a vehicle body; in an **insecticide** spraying process, poisoning possibly generated due to incomplete protection of operators can be reduced; under the condition that a terrain is limited, the hose in the coil pipe device can be pulled out for manual spraying; working can be conducted for a long time by replacing the traditional manual **insecticide** spraying mode with a mechanical **insecticide** spraying mode; the labor force and the cost can be reduced; and the working quality and the efficiency are improved.

Inventors

HAN XIONGFENG

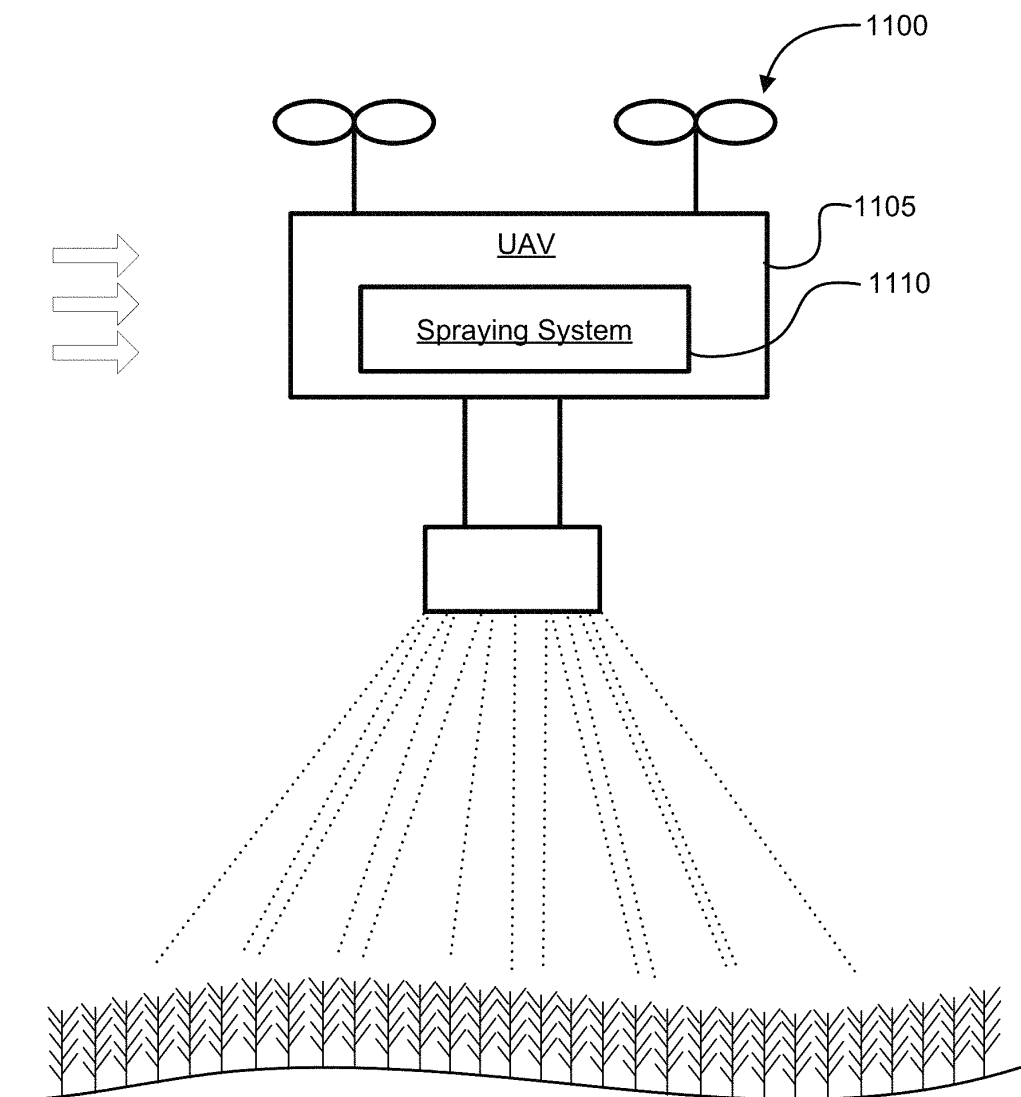
Family 31/54 - FAMPAT - ©Questel

Title

(WO2016192024)

Spraying system having a liquid flow and rotating speed feedback

Images

**Publication data including kind & date**

WO2016192024	A1	2016-12-08	WO2016192024
US20170129605	A1	2017-05-11	US20170129605
CN107614121	A	2018-01-19	CN107614121
US10220946	B2	2019-03-05	US10220946

**Abstract**

(WO2016192024)

Systems and methods can determine a liquid flow in a spraying system. An amount of liquid that is output from the spraying system during a pump cycle is determined. A number of pump cycles that occur within a given amount of time are measured. The number of pump cycles are measured using an **electronic** speed controller (ESC). Additionally, the ESC indicates the number of pump cycles within a given amount of time within a threshold of precision. The amount of liquid flow in the spraying system is calculated based on the measured number of pump cycles and the determined amount of liquid that is output from the spraying system.

Inventors

WU XUMIN
FENG ZHUANG
AO JIYUAN

Latest standardized assignees - inventors removed

SZ DJI TECHNOLOGY

Family 32/54 - FAMPAT - ©Questel

Title

(EP-363168)

Computerized fertilizer injector system

Images

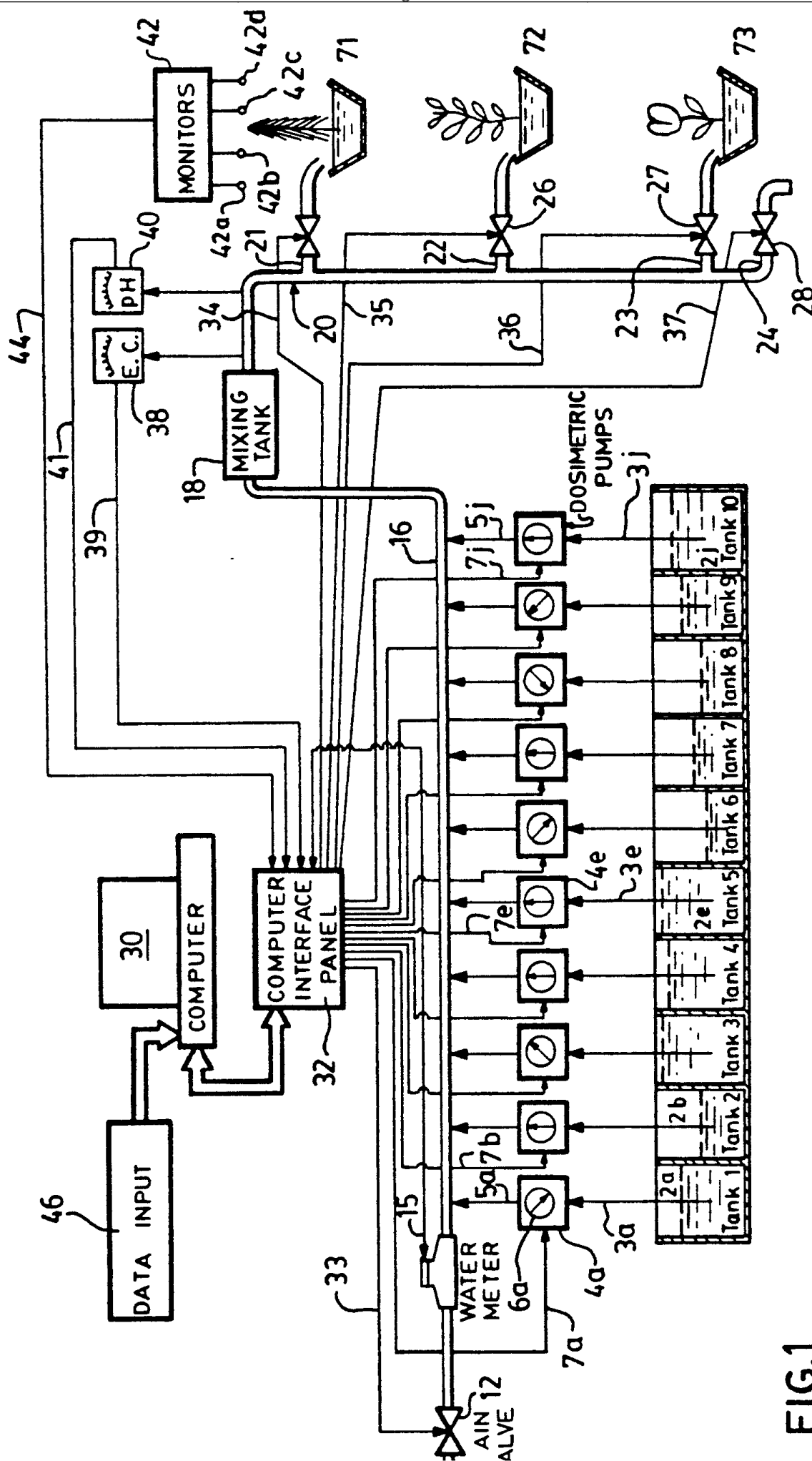


FIG.1.

Publication data including kind & date

EP0363168	A2	1990-04-11	EP-363168
EP0363168	A3	1990-08-08	EP-363168
US5184420	A	1993-02-09	US5184420
CA1332000	C	1994-09-13	CA1332000

**Abstract**

(EP-363168)

A computer controlled system for delivering of a **fertilizing** water stream to crop beds and varying the nutrient content of the water stream to customize it for each crop bed. The nutrient food system utilizes injection pumps (4) with pre-set dose volumes and a computer control (30) which permits the pumps to be stroked at different frequencies based on the flow of a water stream to accurately control the nutrients injected and to permit accurate switching from injecting nutrients of one pre-set menu to those of another pre-set menu.

Inventors

LABBATE, ERIC MIRACOLO

PAPADOPOULOS, ATHANASIOS PETROS

LIBURDI, NICOLA

Latest standardized assignees - inventors removed

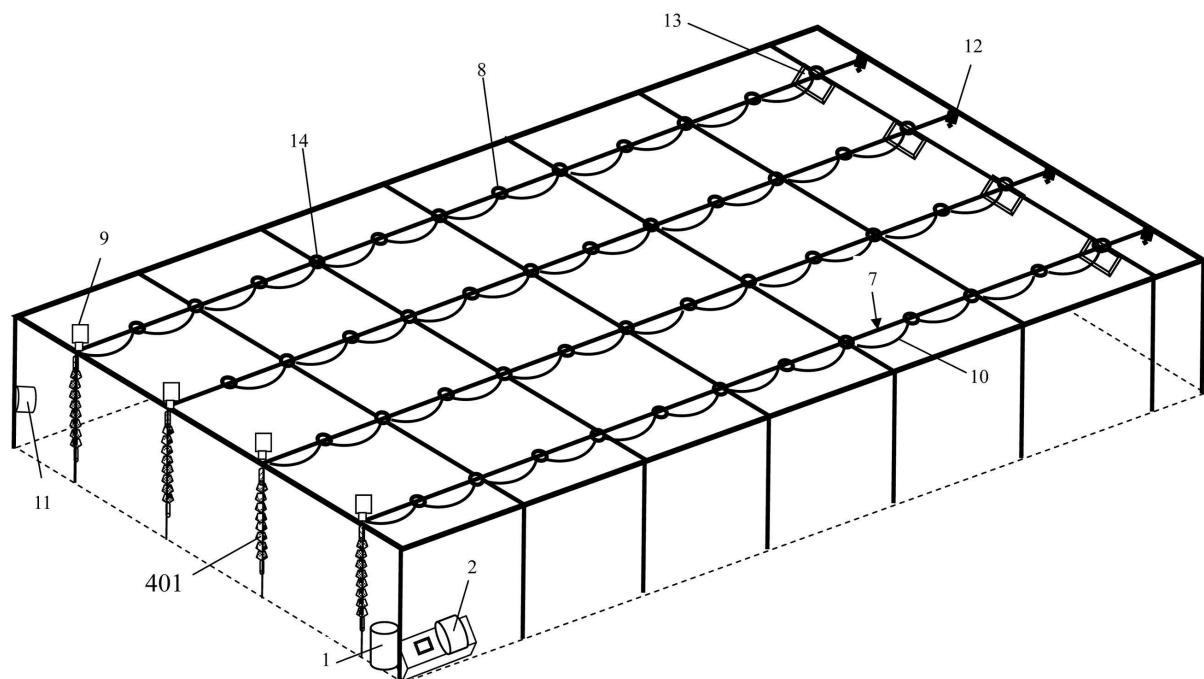
LABBATE CLIMATE CONTROL SYSTEMS

Family 33/54 - FAMPAT - ©Questel

Title

(CN201913018U)

Spraying and plant protecting equipment based on low-level static **electricity** technique and automatic targeting technique

Images**Publication data including kind & date**

CN201913018	U	2011-08-03	CN201913018U
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**Abstract**

(CN201913018U)

The utility model discloses spraying and planting protecting equipment based on the low-level static **electricity** technique and the automatic targeting technique. The spraying and planting protecting equipment comprises a medicine chest and more than one group of spraying units, wherein an electromagnetic valve is arranged in a liquid feed pipeline; each spraying unit is a spraying rod with a static spraying nozzle; the spraying rod can walk **electrically** in virtue of an automatic

transfer device along a track; an automatic targeting spraying infrared plant detector with an infrared ray sensor recognizing lens is mounted on the spraying rod; the automatic targeting spraying infrared plant detector is provided with an infrared ray transmitting circuit and an infrared ray receiving circuit; and the output of the automatic targeting spraying infrared plant detector is used for controlling the on/off of the electromagnetic valve through the controller. The main spraying unit of the equipment adopts an **electric** walking manner and an automatic targeting, low power and static spraying operation way, has the characteristic of suitability for greenhouse planting, can meet the needs of greenhouse pest control and spraying foliar **fertilizer** as well as growth regulator, can effectively improve fogdrop deposition rate, reduce **pesticide** loss and improve the work efficiency.

Inventors

DONG WEI

LÜ KE

ZHU YONGWEN

BU YUNLONG

Business keep the sea

WANG WEI

Latest standardized assignees - inventors removed

BEIJING KINGPENG INTERNATIONAL HI TECHNOLOGY

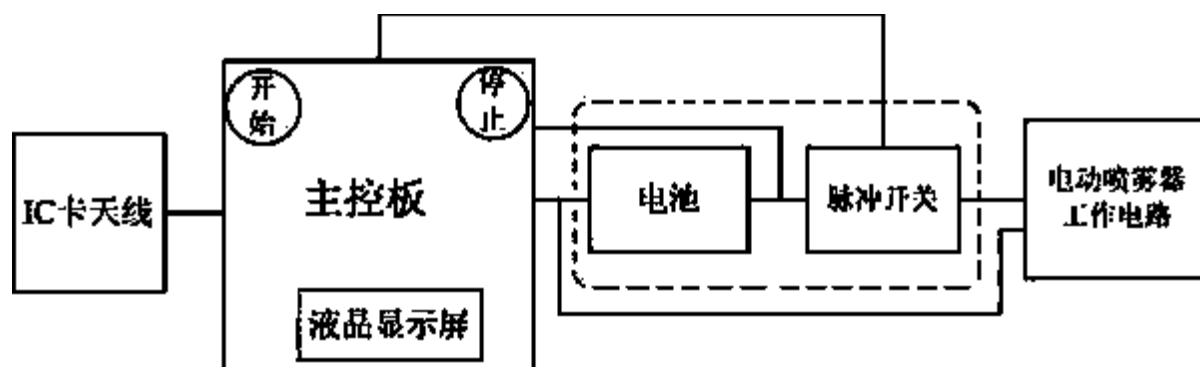
Family 34/54 - FAMPAT - ©Questel

Title

(CN203803690U)

Card swiping timing sprayer control device

Images



Publication data including kind & date

[CN203803690](#)

U

2014-09-03

[CN203803690U](#)



Abstract

(CN203803690U)

The utility model discloses a card swiping timing sprayer control device which comprises a user IC card and a timing reading control system on an **electric** sprayer. The timing reading control system comprises a master control plate, an IC card antenna and a working power source; the working power source is mainly composed of a battery and a **pulse** switch which are connected together in series; the control end of the IC card antenna and the control end of the **pulse** switch are respectively connected with the master control plate; the positive electrode and the negative electrode of the master control plate are connected with the positive electrode and the negative electrode of the battery respectively; the positive electrode and the negative electrode of a working circuit inside the **electric** sprayer are connected with the positive electrode and the negative electrode of the working power source. The card swiping timing sprayer control device is mainly used for controlling the using time and the using permission of the **electric** sprayer, the time balance of the IC card transmits information in a **pulse** mode to control a core of the power supply power source of the sprayer, timing use of the time balance of the IC card is achieved, and **pesticide** overusing in the disease, insect pest and weed prevention and treatment operation process by a **pesticide** applying person can be effectively prevented.

Inventors

YANG JIANBO

HU YAJUN

Latest standardized assignees - inventors removed

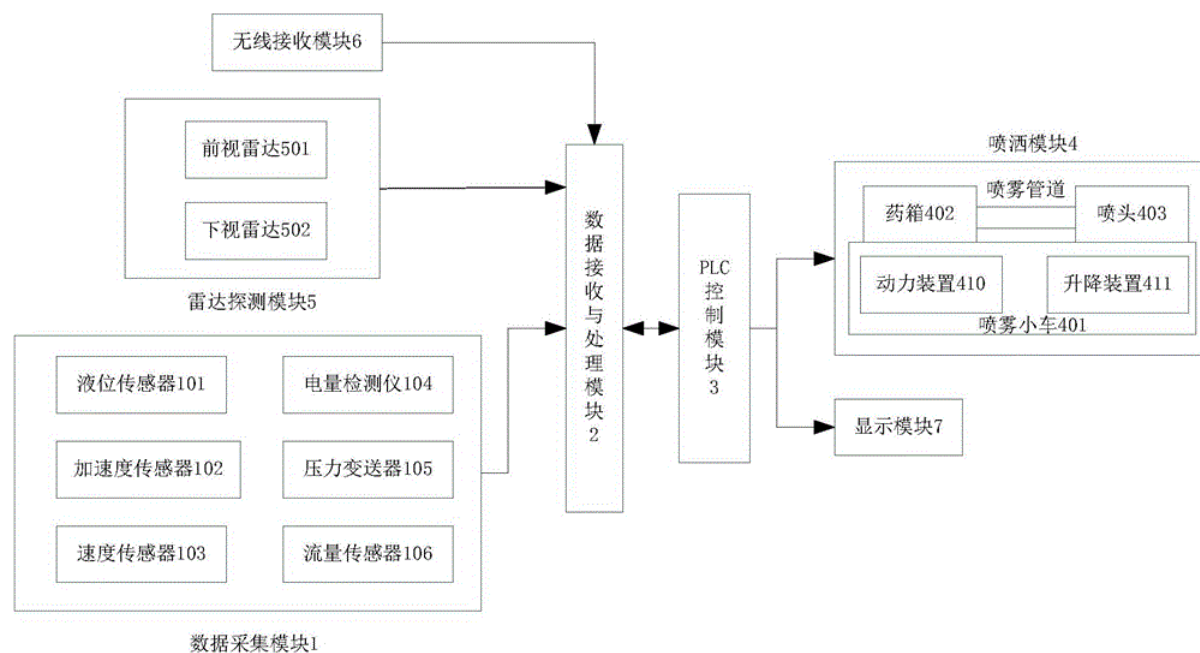
GUANGXI TIANYUAN BIOCHEMISTRY

Family 35/54 - FAMPAT - ©Questel

Title

(CN106070156)

Variable-rate spraying system based on PLC and control method thereof

Images**Publication data including kind & date**

CN106070156

A

2016-11-09

CN106070156

**Abstract**

(CN106070156)

The invention provides a variable-rate spraying system based on a PLC and a control method thereof. The method includes the steps that the spray particle size corresponding to the optimal atomization effect is measured first, and the flow value and pressure value, generated at the moment, of a spraying pipe serve as target values of system control; a PLC control module controls the opening degree of an **electric** flow regulating valve based on the fuzzy PID control principle according to the flow value and pressure value, acquired by a flow sensor and a pressure transmitter, in the spraying pipe, and the spraying work is performed. Besides, the spraying deposition amount is measured, in other words, **pesticide** is sprayed on crops after the spraying effect is selected, and the amount of **pesticide** on crop leaves per unit area is measured. The spraying system can perform uniform spraying, a reasonable **pesticide** deposition amount on the crop surfaces can be reached, the requirement of pollution-free agricultural products for low-amount or ultralow-amount efficient **pesticide** applying can be met on the premise of effective control over diseases and pests, water consumption and **pesticide** consumption are reduced, cost is lowered, and **pesticide** residues are reduced.

Inventors

SONG LEPENG

HU HAO

HE LAN

CHEN TINGYONG

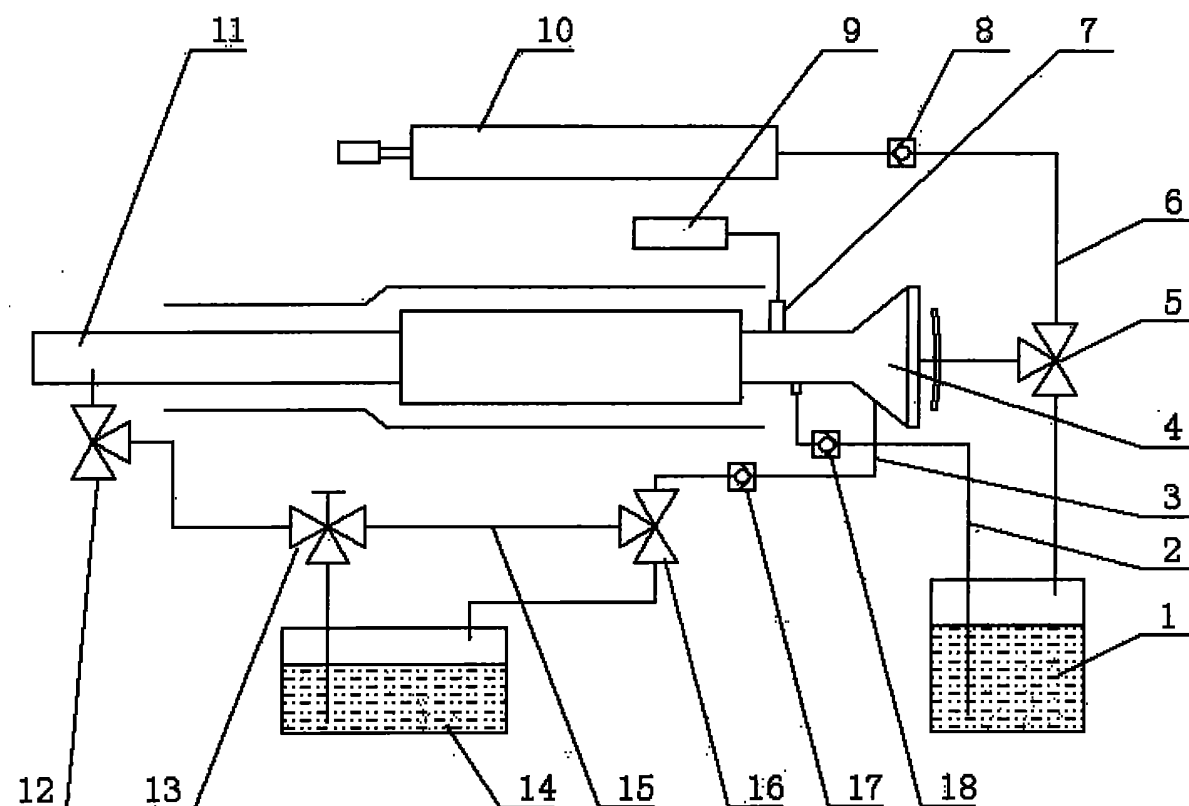
Latest standardized assignees - inventors removed

CHONGQING UNIVERSITY OF SCIENCE & TECHNOLOGY

Family 36/54 - FAMPAT - ©Questel

Title

(CN201632355U)

Pulsed power sprayer**Images****Publication data including kind & date**[CN201632355](#)

U

2010-11-17

CN201632355U

**Abstract**

(CN201632355U)

The utility model discloses a **pulsed** power sprayer which has the innovations that a carburetor is communicated with an inflation tee joint through an inflation check valve and an inflation pipeline; the other two ports of the inflation tee joint are respectively communicated with the top part of a medicine liquid tank and the air inlet end of a medicine liquid tee valve; the liquid inlet end of the medicine liquid tee valve is communicated with the bottom part of the medicine liquid tank; and the liquid/air outlet end of the medicine liquid tee valve is communicated with a spraying pipe. In addition, a medicine liquid pipeline is communicated with the spraying pipe through a tee joint; and the air inlet disk of the carburetor is provided with a pressing plate, a diaphragm, a disk base, a supporting ring and an impurity blocking sheet sequentially from the inside to the outside. The **pulsed** power sprayer has the advantages of simple structure, low failure rate, and no **pesticide** remaining in the medicine liquid pipeline and the spraying pipe.

Inventors

LIU HONGWEI

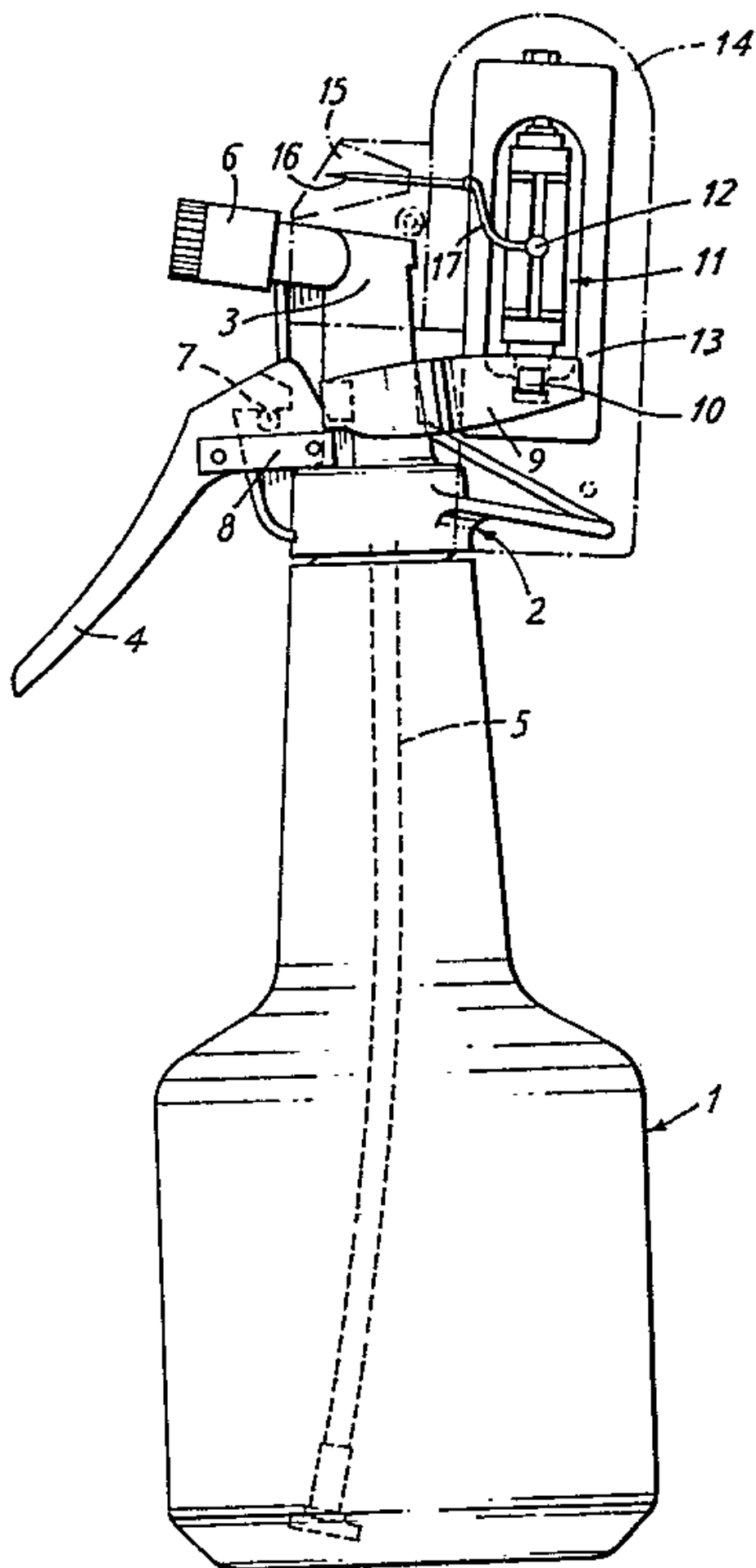
Family 37/54 - FAMPAT - ©Questel

Title

(GB2128900)

Ionising spray

Images



Publication data including kind & date

GB2128900	A	1984-05-10	GB2128900
ZA8307954	B	1984-12-24	ZA8307954
GB2128900	B	1985-11-20	GB2128900

**Abstract**

(GB2128900)

An ionising device comprising a liquid container ion which is mounted a housing 3 containing a pump operated by a lever 4 to dispense a liquid spray through a nozzle 6. Mechanically linked to the lever 4 is a piezo-electric generator 11 which is actuated upon each squeeze of lever 4 to generate a high voltage which is applied to an electrode 16 adjacent nozzle 6. The resultant spray is thus ionised and finds many uses in therapy, plant spraying, increasing/ decreasing static electricity, ironing, disinfecting, or deodorising. Powder may be sprayed. The device may be connected to a clock mechanism.

Inventors

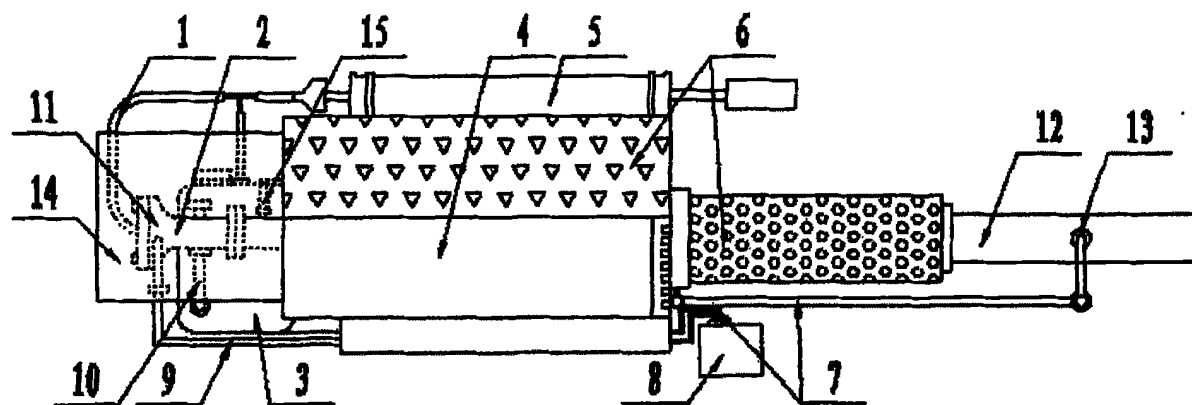
CHRISTOFIDIS THEOKTISTE

Family 38/54 - FAMPAT - ©Questel

Title

(CN201997410U)

Mist sprayer

Images**Publication data including kind & date**

CN201997410	U	2011-10-05	CN201997410U
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**Abstract**

(CN201997410U)

The utility model relates to a mist sprayer which belongs to the field of agricultural machinery. The mist sprayer overcomes the defects that when a traditional mist sprayer is used, the rear end of the mist sprayer is quite easy to be scratched by branches and the like, and mainly comprises a frame; a pulse engine, an oil supply box, a liquid medicine box and a spray pipe are arranged on the frame; the rear end of the pulse engine is provided with a carburetor; the oil supply box is mutually communicated with the carburetor through an oil pipe; a spray head is arranged on the spray pipe; the liquid medicine box is respectively communicated with the spray head and the carburetor through a liquid medicine pipe and an oil and gas pipe; a pulse power supply is electrically connected with a spark plug on the pulse engine; radiating covers are arranged outside the frame and the spray pipe; an inflatable device is arranged on the frame; the inflatable device is communicated with the oil supply box and the carburetor through a three-way pipe and an air pipeline; a one-way valve is arranged between the inflatable device and the three-way pipe; and the rear end of the frame is provided with a protective cover. The mist sprayer mainly serves as equipment for spraying pesticide, and is applied in preventing agricultural plant diseases and insect pests.

Inventors

LIU HONGWEI

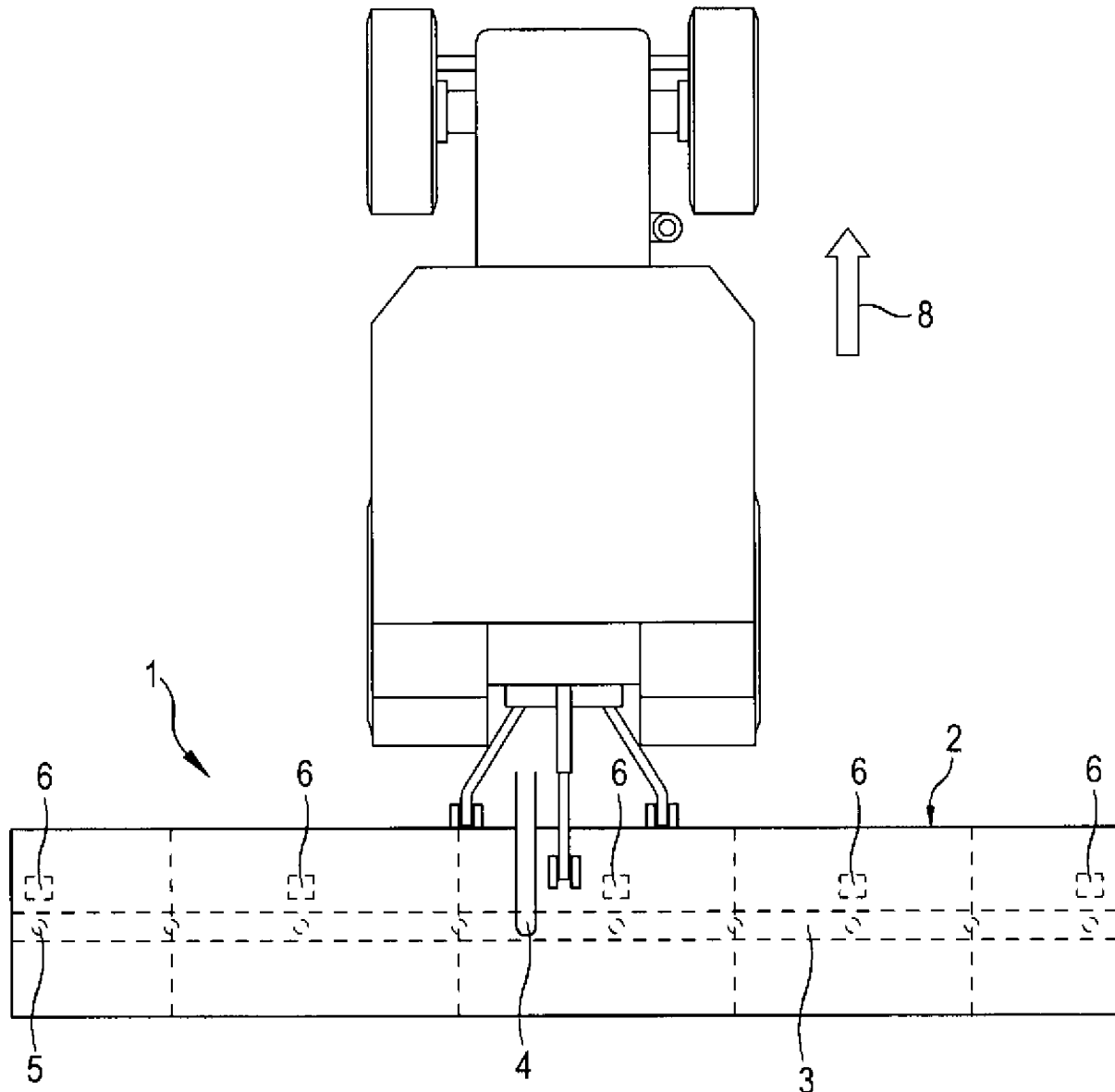
Family 39/54 - FAMPAT - ©Questel

Title

(DE102011108480)

Field sprayer e.g. pulled-type field sprayer, for attachment in trailer for dispensing e.g. **fertilizer** on ground, has controller for controlling engagement of nozzle, and measuring units for detecting position of conduit

Images



Publication data including kind & date

DE102011108480	A1	2013-01-31	DE102011108480
DE102011108480	B4	2013-08-22	DE102011108480



Abstract

(DE102011108480)

The sprayer (1) has a conduit (3) with discharge openings for dispensing a spray-like material, where the discharge openings are provided with nozzles (5). Measuring units detect deflection of a linkage (2) relative to a vibration-free, theoretical reference position. A controller is designed for regulating or controlling engagement of one of the nozzles, to influence the dispensing rate of the material at the nozzle as a function of deflection of the linkage. The measuring units are arranged relative to the ground for detecting an absolute position of the conduit. The linkage is made of composite material e.g. carbon fiber, glass fiber and/or aramid(RTM: man-made organic polymer) fiber.

Inventors

WISSLER ERHARD

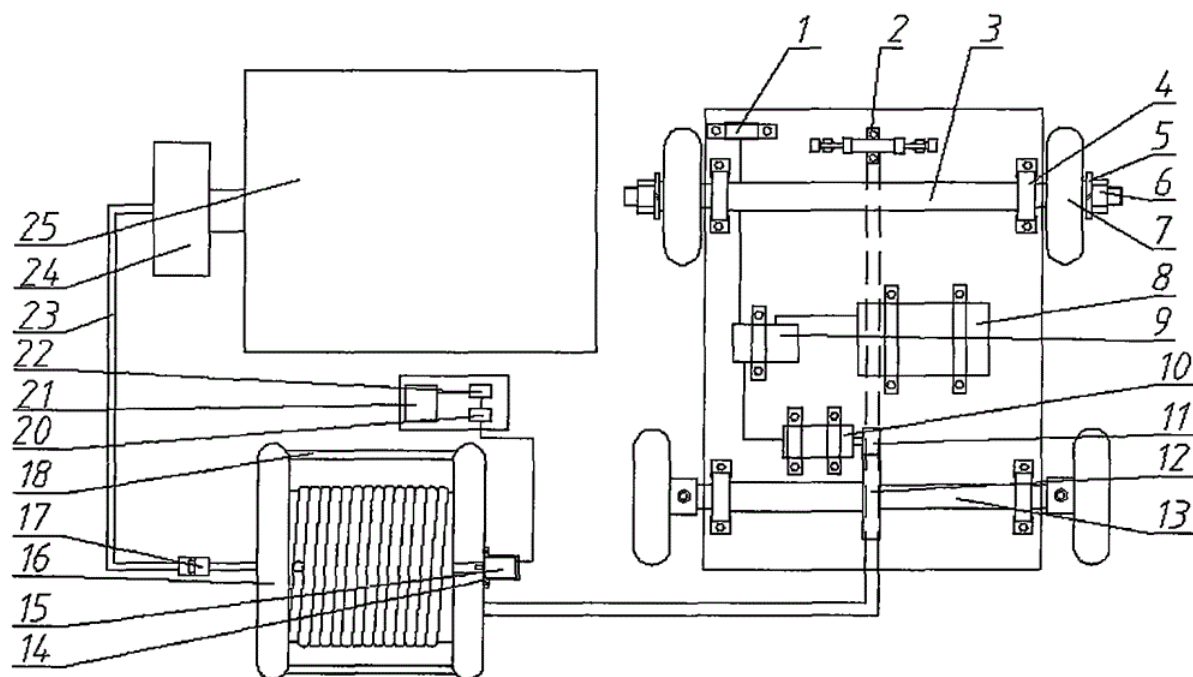
Latest standardized assignees - inventors removed

CARBOFIBRETEC

Family 40/54 - FAMPAT - ©Questel

Title

(CN205648790U)

Automatic **pesticide** sprayer of little row pitch posture crops**Images****Publication data including kind & date**

CN205648790

U

2016-10-19

CN205648790U

**Abstract**

(CN205648790U)

The utility model discloses an automatic **pesticide** sprayer of little row pitch posture crops, the medicine device is spouted for the farmland on narrow ridge to the interval based on singlechip and the controllable stroke of sensor realization, belongs to agricultural machine and automatic control field. The device be one kind in towards, small -size farmland user spout the medicine device, the device passes through the sensor and collects positional information, singlechip receive information handles, control servomotor just reversing and advancing and returning of dolly is realized to the rotational speed. Be equipped with on the dolly and spout the medicine device to two shower nozzles through spouting above the medicine device carry out spraying of medicine, and the medicine that wherein sprays provides by spouting the medical kit. In the aspect of man -machine controlling, by the data of singlechip receive real -time sensor output, handle the analysis to control the dolly through adjusting servomotor. The field operation of middle -size and small -size area can be realized through the medical kit of configuration different grade type. The device has alleviated the harm of **pesticide** to the human body, has higher economic benefits, has wide application prospect.

Inventors

YANG BINGLI

ZHOU YING

ZHANG QIAN

FU XUECHAO

XIAO JICHANG

WANG YING

Latest standardized assignees - inventors removed

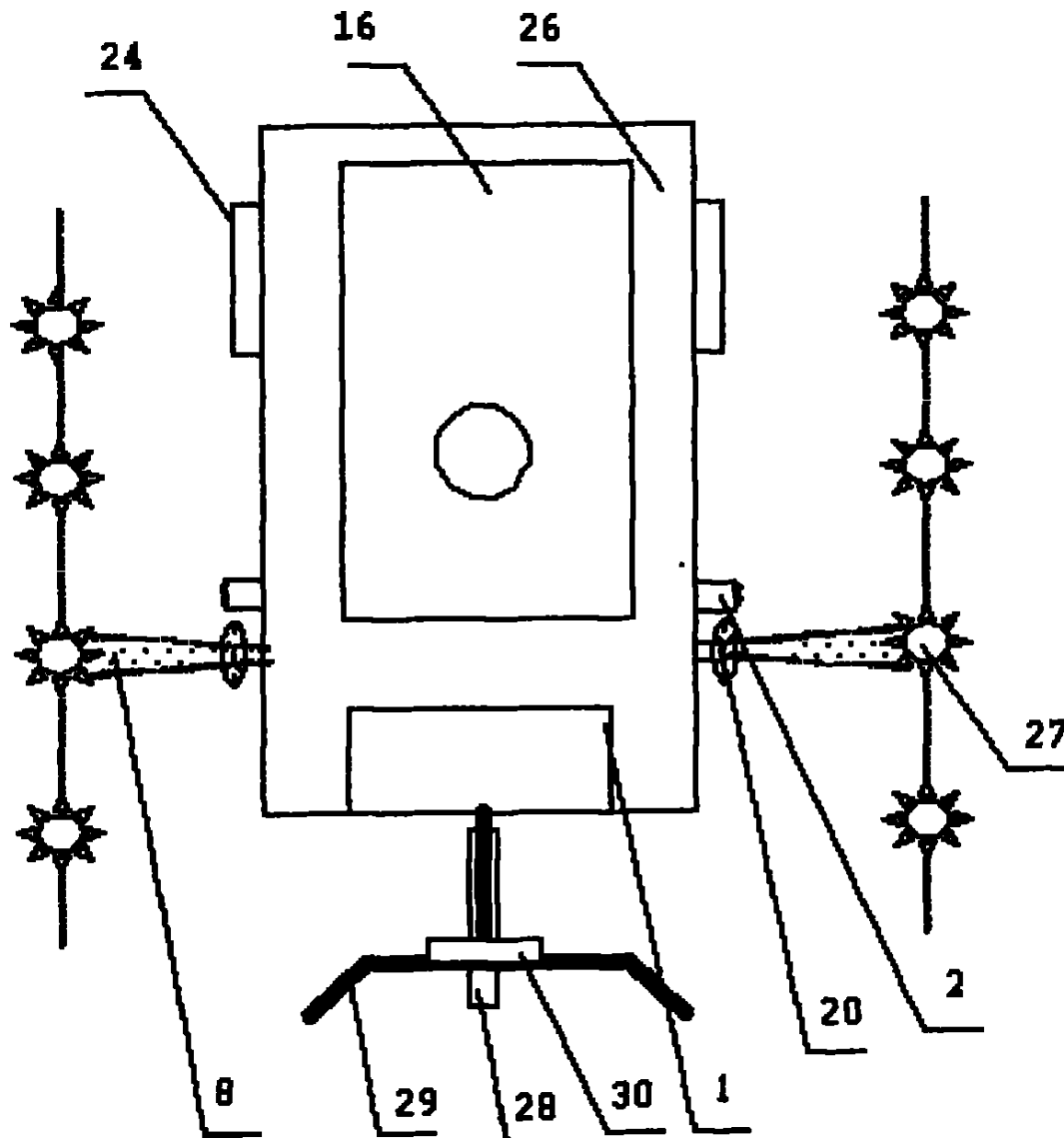
NORTH WEST AGRICULTURE & FORESTRY UNIVERSITY

Family 41/54 - FAMPAT - ©Questel

Title

(CN101574077B)

Spraying medicine application vehicle used for preventing and treating crop diseases and pests

Images**Publication data including kind & date**

CN101574077	A	2009-11-11	CN101574077
CN101574077	B	2012-06-20	CN101574077B

**Abstract**

(CN101574077B)

The invention discloses a spraying medicine application vehicle used for preventing and controlling crop diseases and pests, and belongs to the field of plant protecting medicine application tools. The spraying medicine application vehicle consists of a medicament supply part, an infrared detection part, a spraying control part, a power supply part, a charged spraying part, a travel part and a stander, wherein the medicament supply part is positioned on the middle front part of the stander, and the medicament supply part is connected to the stander through a box support of a medicine box of the medicament supply part; the power supply part is arranged in a metal box on the back part of the stander; the travel part is connected to the below of the stander through a support frame; and the infrared detection part and the charged spraying part are connected to the below of the stander through a fixing bracket respectively, positioned in the middle of front and

back wheels of the travel part and symmetrically arranged relative to two sides of the stander, wherein the infrared detection part is in front of the charged spraying part; and the spraying control part is connected to the middle of the charged spraying part and the medicament supply part through a pipe. The spraying medicine application vehicle can reduce **pesticide** drift and ineffective sedimentation, improves the effective utilization rate of a **pesticide**, and is applicable to preventing and controlling diseases and pests during the growth of high-stem crops.

Inventors

WU CHUNDU

ZHANG BO

CHU JINYU

CHEN ZHIGANG

HUANG YONGQIANG

XU XIAOHONG

Latest standardized assignees - inventors removed

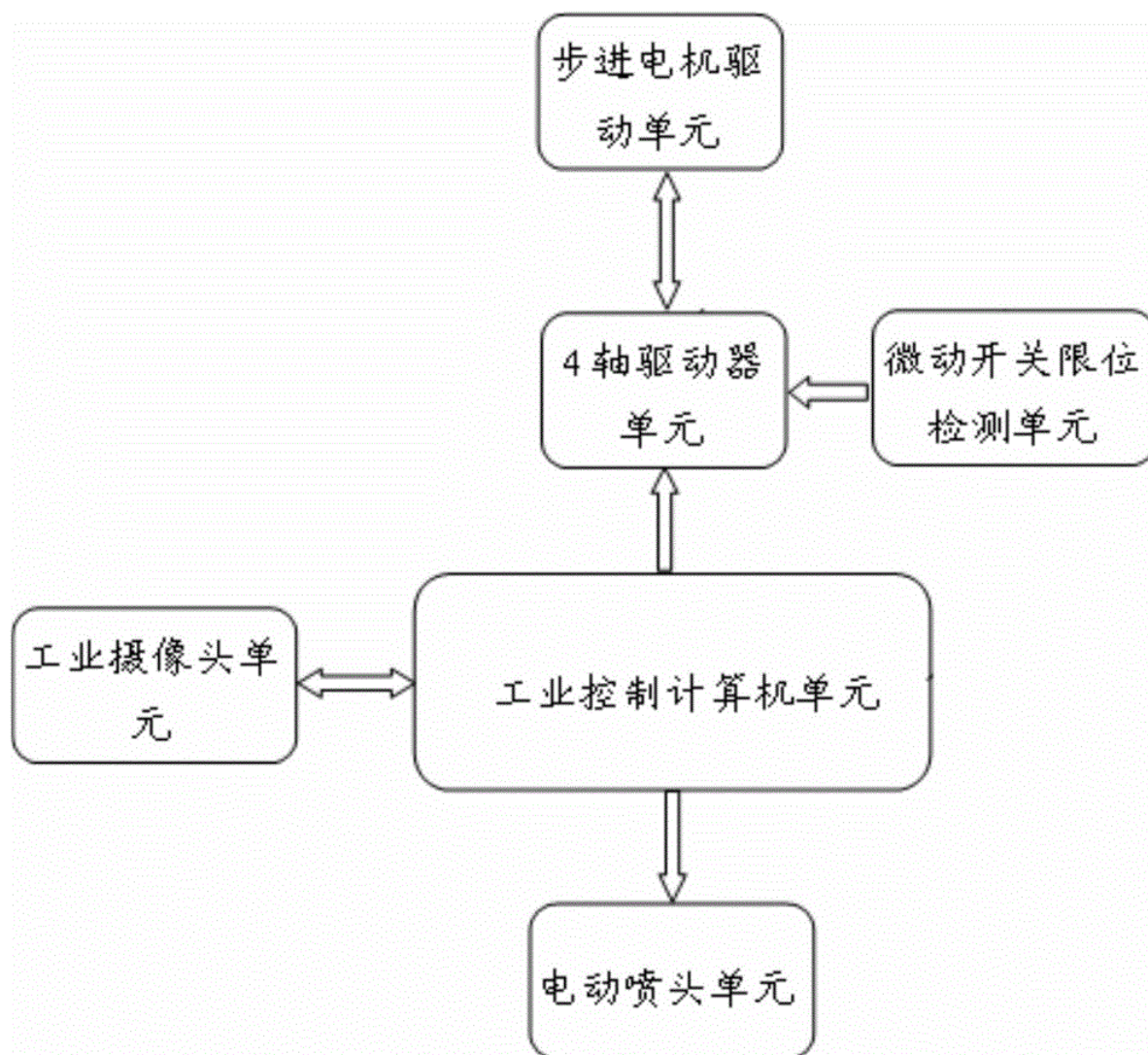
JIANGSU UNIVERSITY

Family 42/54 - FAMPAT - ©Questel

Title

(CN104615059)

Control system of spraying robot for hyphantria cunea larva net curtain

Images**Publication data including kind & date**

CN104615059

A

2015-05-13

CN104615059



CN104615059

B 2017-03-22 CN104615059B

Abstract

(CN104615059B)

The invention discloses a control system of a spraying robot for a hyphantria cunea larva net curtain. The control system comprises an industrial control computer unit and is characterized in that the industrial control computer unit is connected with a four-axis driver unit, an **electric** spray head unit and an industrial camera unit, and the four-axis driver unit is connected with a step motor drive unit and a micro-switch limit detection unit. The industrial control computer unit sends control signals to the four-axis driver unit, industrial camera unit and **electric** spray head unit, the four-axis driver unit controls the step motor drive unit to work according to the received control signals, the micro-switch limit detection unit acquires the position information of a step motor and sends signals to the four-axis driver unit, and the four-axis driver unit controls the work or stop of the step motor drive unit according to the received signals. The control system of the spraying robot for the hyphantria cunea larva net curtain realizes the automatic spraying of the intelligent target spraying robot, improves the spraying efficiency and lowers the **pesticide** pollution.

Inventors

ZHAO YING

ZHANG CUIHUA

SUN QUN

Chu Xiaohua

ZHAO DONGJIE

Latest standardized assignees - inventors removed

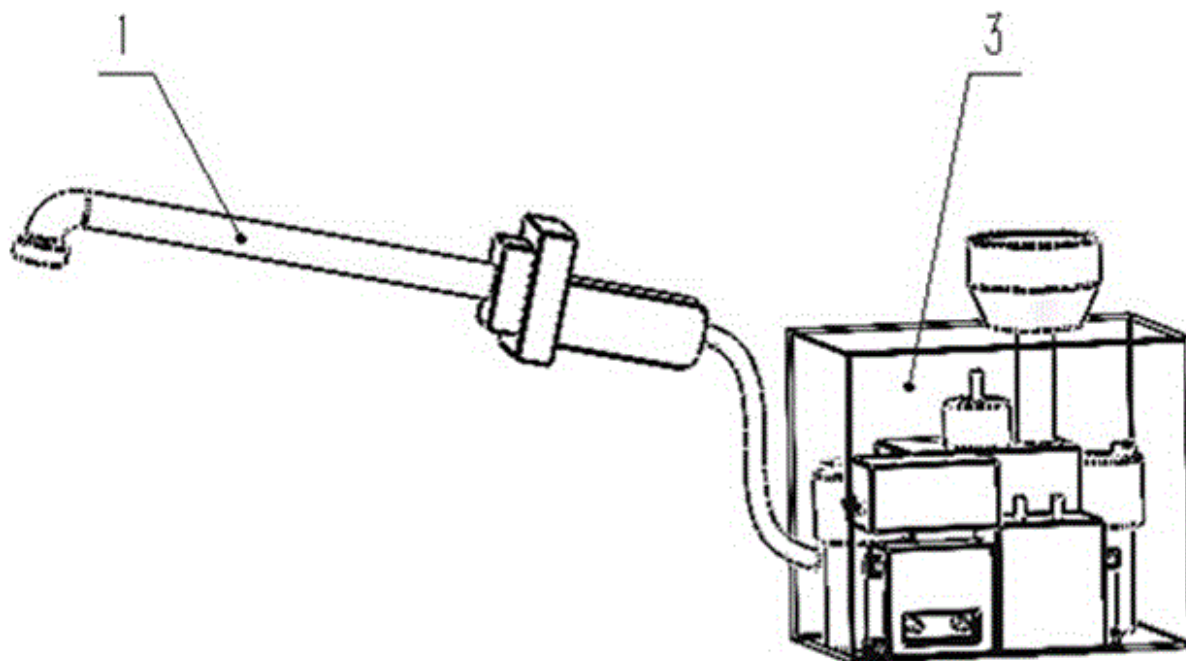
LIAOCHENG UNIVERSITY

Family 43/54 - FAMPAT - ©Questel

Title

(CN104542545)

Low-temperature normal-pressure plasma activated water spraying and disease preventing device for crops

Images**Publication data including kind & date**

CN104542545

A 2015-04-29 CN104542545

CN104542545

B 2016-12-07 CN104542545B

**Abstract**

(CN104542545B)

The invention discloses a low-temperature normal-pressure plasma activated water spraying and disease preventing device for crops. The device is that a mist spray gun is connected with a main machine; a storage battery is respectively connected with a high-voltage power supply, an air pump and a water pump in the main machine, wherein the high-voltage power supply is connected with a plasma generator; the air pump is connected with an air flow meter; the water pump is connected with a liquid flow meter; a milliamperere ampere meter is connected with the plasma generator; the water pump is respectively connected with a water storing tank and the mist spray gun; the air pump is connected with the plasma generator; the plasma generator extends into the water storing tank. With the adoption of the device, the probability that the crops suffer from diseases can be reduced; the device is applied to the farmland, and the dosage of **pesticides** can be decreased; meanwhile, the sterilizing active ingredients in the activated water can be decomposed within a period of time without any residue; a medium for resisting discharging is saved, so that the discharging voltage is reduced; the structure is relatively simple and reliable; in addition, the device is portable.

Inventors

WANG JIANPING

GUO JIAN

YANG CHUNWEI

HUANG KANG

YU YONGHUA

Latest standardized assignees - inventors removed

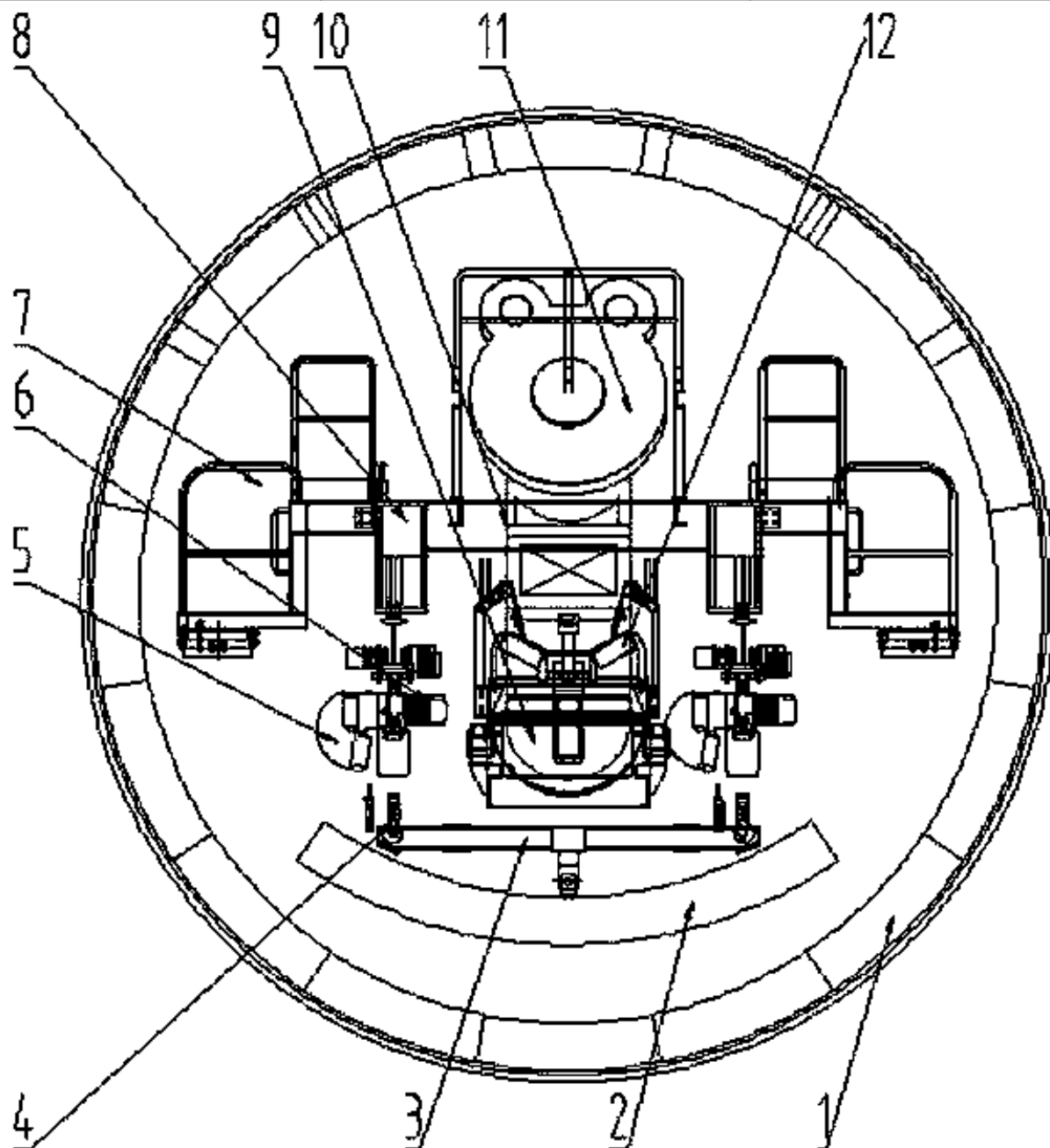
ZHEJIANG UNIVERSITY

Family 44/54 - FAMPAT - ©Questel

Title

(CN204540504U)

Device for multi-functional **pesticide** spraying nozzle that agricultural machine used**Images**

**Publication data including kind & date**[CN204540504](#)

U

2015-08-12

CN204540504U

**Abstract**

(CN204540504U)

The utility model discloses a device for multi-functional **pesticide** spraying nozzle that agricultural machine used, including copper nozzle, elasticity jump ring, balancing rotor, the rotor couple, said copper nozzle top is provided with said elasticity jump ring, said copper nozzle top is provided with said balancing rotor, said copper nozzle top is provided with said rotor couple, copper nozzle top is provided with rotatory atomizing rotor, rotatory atomizing rotor top is provided with fastening bolt, copper nozzle top is provided with water under high pressure pipe connector mouth, copper nozzle top is provided with the high pressure water pipe, high pressure water pipe top is provided with helical blade, the helical blade top is provided with the water pressure regulating switch, the utility model discloses simple structure is through the cooperation that sets up rotatory atomizing rotor and electron resonance piece for make the atomizing as far as possible little under the prerequisite that does not influence the splash jet velocity, has increased jet face sum of products jet length, sprays effectually, and spray efficiently, be fit for the large tracts of land popularization

Inventors

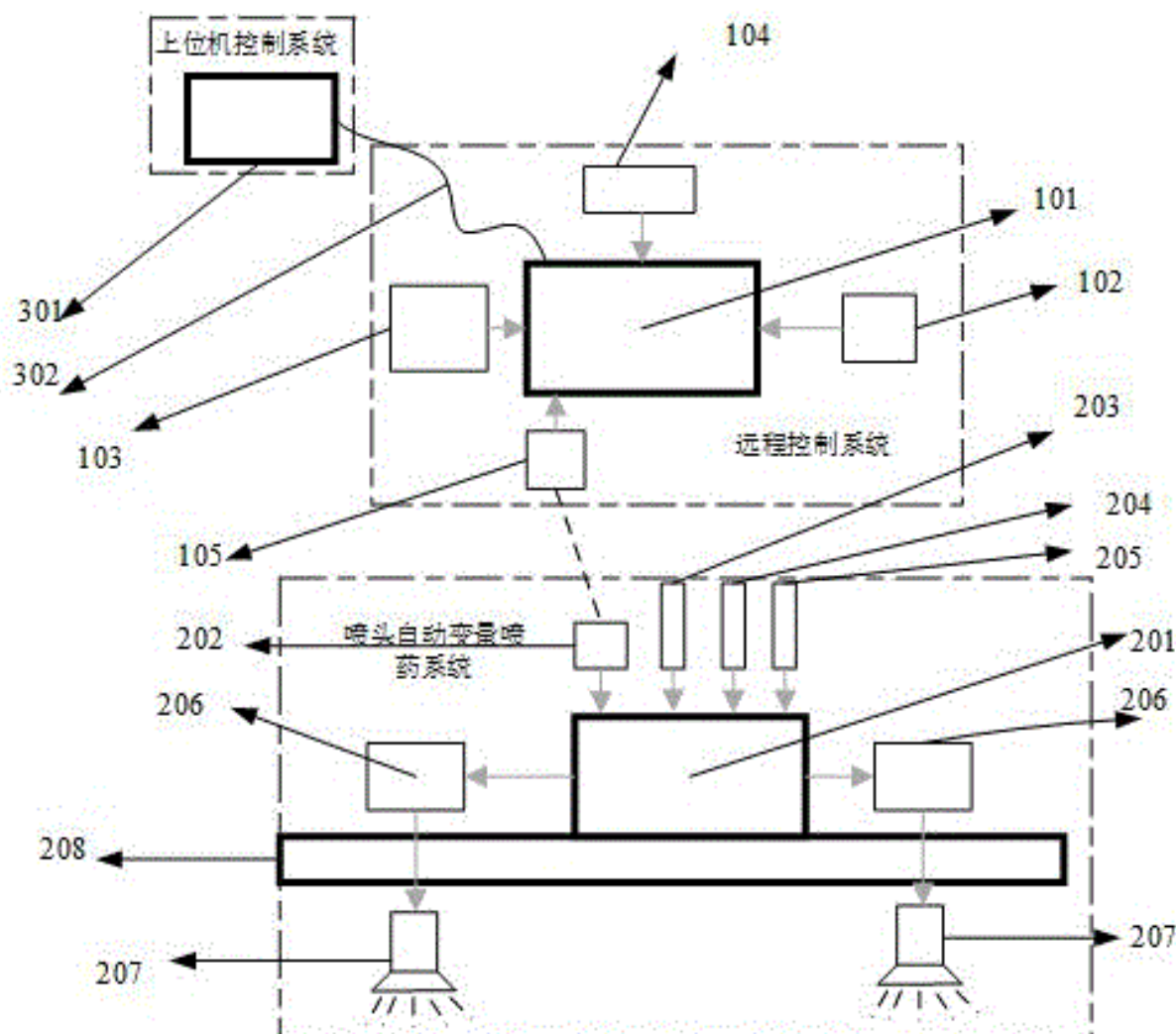
XU ZHENSONG

Family 45/54 - FAMPAT - ©Questel

Title

(CN105984588)

Novel variable mist spraying system based on unmanned rotorcraft

Images**Publication data including kind & date**[CN105984588](#)

A

2016-10-05

CN105984588

**Abstract**

(CN105984588)

The invention relates to a novel variable mist spraying system based on an unmanned rotorcraft. The novel variable mist spraying system consists of three parts, i.e. an **electric** centrifugal spray head speed regulating system, a remote control system and a host computer system. The **electric** centrifugal spray head speed regulating system comprises an ARM main controller, a sensor and a spray head; the remote control system comprises an ARM main controller, an LCD and keys; and the host computer system can display the sensor data and transmit an instruction to change a PWM duty ratio. The whole system has two modes, i.e. a manual mode and an automatic mode. At the manual mode, needed mist drops can be obtained by changing the rotating velocity of an atomizing disc. At the automatic mode, a volume median diameter ($Dv50$) of the mist drop which is equal to 100 micrometers is taken as a target, a relational expression between the rotating velocity of the atomizing disc and the temperature, humidity and height is obtained according to a test, the rotating velocity of the atomizing disc can be changed by considering the volatilization factor in the mist drop falling process, so that the volume median diameter of the mist drops deposited on leaves of crops can be always about 100 micrometers. The variable spraying device has the effects of water conservation and environment protection.

Inventors

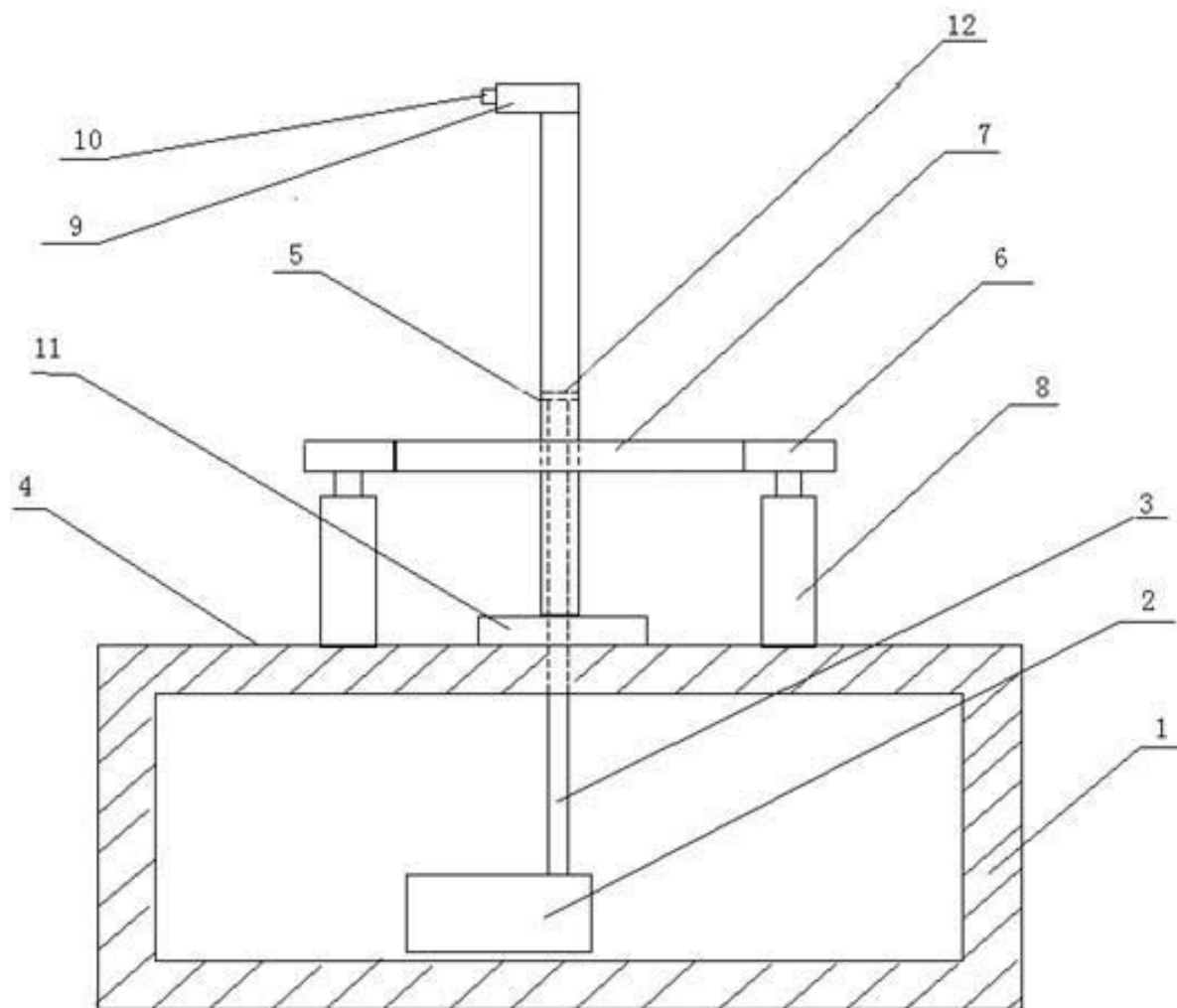
WU TONGKUN

Family 46/54 - FAMPAT - ©Questel

Title

(CN101972721B)

Controllable spraying device

Images**Publication data including kind & date**

CN101972721	A	2011-02-16	CN101972721
CN101972721	B	2012-08-29	CN101972721B

**Abstract**

(CN101972721B)

The invention discloses a controllable spraying device which comprises a water tank, a direct current water pump, a connecting water pipe, a rotating water pipe, a needle cylinder type piston, a spray head, a rotating drive device, a drive circuit and a controller. The voltage of the direct current water pump is controlled by using a preset spraying distance to ensure that water sprayed out of the spray head only covers the preset range. By depending on the control of a single chip, the regularization of a water spraying track is intelligently completed, the function of whole water spraying is automatically completed, thus the effects of fully efficiently utilizing water resources and saving water as well as protecting the environment are achieved. The invention can meet the requirement for spraying water drops on various fields of gardens, greenbelts, vegetables and fruits, agriculture and the like. If the spraying liquids are changed into **pesticides**, paints, anticorrosive paints and the like, the controllable spraying device can carry out the spraying. Irrigation requirements on different use areas can be met through the combination of a plurality of spray heads. Various shapes such as square, triangle, regular hexagon and the like can be obtained through spraying.

Inventors

ZHAN XIN

DE3668240	D1	1990-02-15	DE3668240				
IN166775	B	1990-07-14	IN-166775				
YU107186	A	1990-08-31	YU8601071				
CA1273493	A	1990-09-04	CA1273493				
CA1273493	C	1990-09-04	CA1273493				
FR2583874	B1	1990-12-14	FR2583874				
SU1642961	A3	1991-04-15	SU1642961				
FI83818	B	1991-05-15	FI--83818				
YU45016	B	1991-06-30	YU--45016				
FI83818	C	1991-08-26	FI--83818				
NO170110	B	1992-06-01	NO-170110				
PT82791	B	1992-07-31	PT--82791				
NO170110	C	1992-09-09	NO-170110				
BRPI8602870	A1	1992-11-24	BRPI8602870				

Abstract

(EP-227724)

Apparatus for the weighted dosing in line and continuously of a granular or pulverulent product. It comprises continuous separated bands for the extraction and the dosing, wherein all of the dosing band is weighted and the rate of the extraction apparatus is servo-controlled to the instant measurement value of the charge of the product distributed on the dosing band, and comprises: a) a storage hopper (2) for the product to be dosed (1) under which there is arranged a continuous extraction band (3) of which one of the support drums (5A, 5B) is susceptible of being driven at variable speed by a motor reducing assembly (4), b) a dosing unit (8) arranged under and in line with the extraction band to receive the extracted product, and comprised of a tee-shaped fixed support frame (9) provided at its extremities with posts (10A - 10B - 10C) supporting three strain gauge flexion balances (11A - 11B - 11C) to which is entirely suspended by means of flexible cables (12A - 12B - 12C), an extra light tubular structure (13) and of an endless belt (15) of which the rollers (14A - 14B) are supported by the structure and of which one of the rollers (14A) is acceptable of being driven at variable speed by a motor reducing unit (16). The dosing apparatus also comprises an **electronic** regulation chain F1-F2 between the motor reducing unit driving the belt of the doser and the motor reducing unit of the extraction apparatus which is such that the drive speed of the extraction belt is servo-controlled to the instant load of the doser belt. Application to the industry of **fertilizers**.

Inventors

SICHET, JEAN-LUC

Latest standardized assignees - inventors removed

CHARBONNAGES STE CHIMIQUE

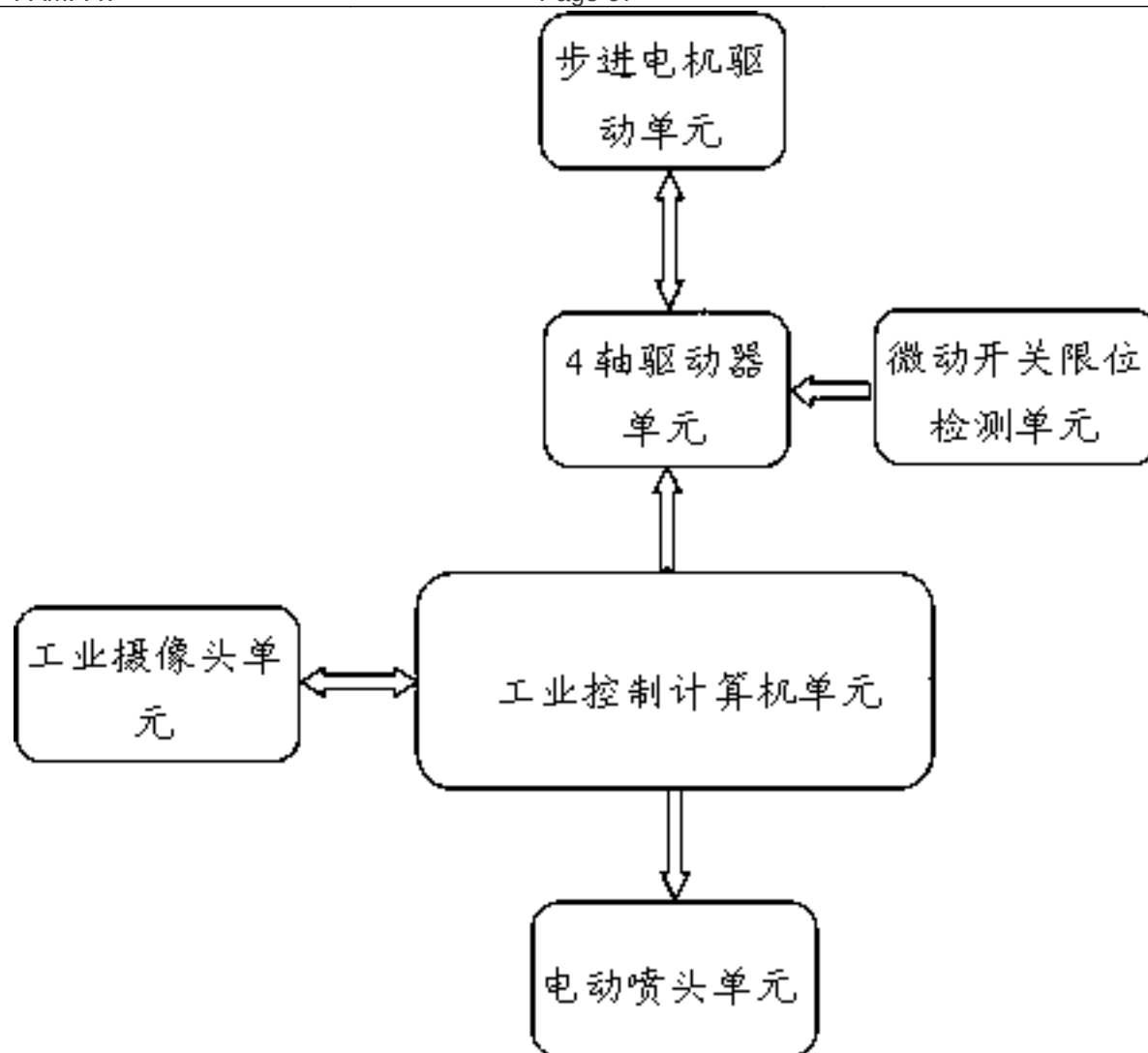
Family 48/54 - FAMPAT - ©Questel

Title

(CN204374710U)

American white moth larva net curtain spraying robot control system

Images

**Publication data including kind & date**

CN204374710

U

2015-06-03

CN204374710U

**Abstract**

(CN204374710U)

The utility model provides an American white moth larva net curtain spraying robot control system which comprises an industrial control computer unit respectively in connection with a four-shaft driver unit, an **electric** shower nozzle unit, and an industrial camera unit; the four-shaft driver unit is in connection with a stepping motor driving unit and a microswitch position-restricted detection unit. The industrial control computer unit sends control signals to the four-shaft driver unit, the industrial camera unit and the **electric** shower nozzle unit; the four-shaft driver unit controls work of the stepping motor driving unit according to received control signals; the microswitch position-restricted detection unit obtains position information of a stepping motor, and sends signals to the four-shaft driver unit; the four-shaft driver unit controls on and off of the stepping motor driving unit according to received signals, thereby realizing automatic spraying work of an intelligent targeting spraying robot, increasing spraying efficiency and reducing **pesticide** pollution.

Inventors

ZHAO YING

ZHANG CUIHUA

SUN QUN

Chu Xiaohua

ZHAO DONGJIE

Latest standardized assignees - inventors removed

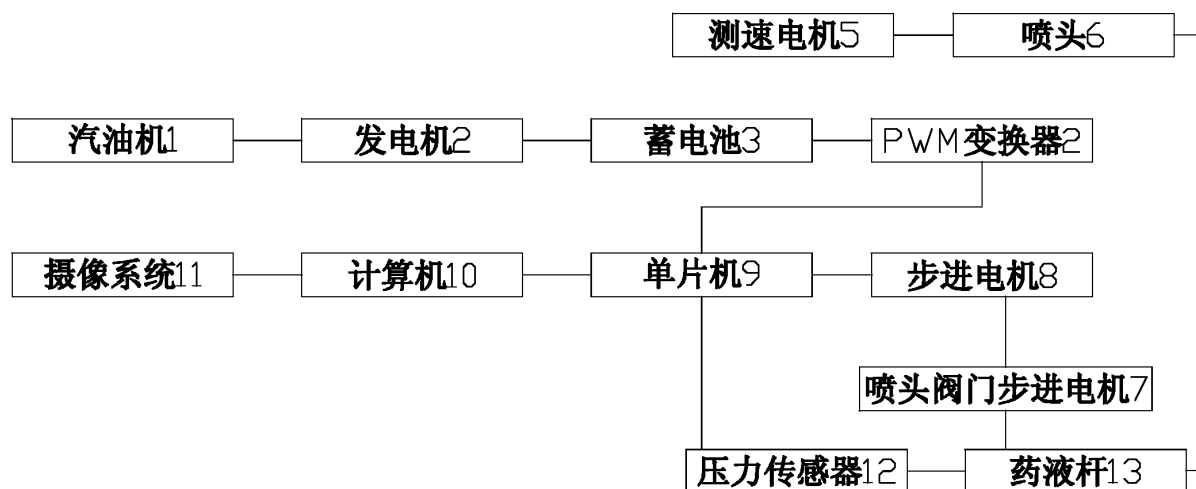
LIAOCHENG UNIVERSITY

Family 49/54 - FAMPAT - ©Questel

Title

(CN104686480)

Spraying control system for agricultural chemical spray rod

Images**Publication data including kind & date**

CN104686480

A

2015-06-10

CN104686480

**Abstract**

(CN104686480)

The invention discloses a spraying control system for an agricultural chemical spray rod, and belongs to the technical field of automatic control. The spraying control system for the agricultural chemical spray rod is characterized by comprising a gasoline engine (1), a generator (2), an accumulator (3), a PWM (Pulse-Width Modulation) convertor (4), a speed measuring motor (5), a spray head (6), a spray head valve stepping motor (7), a stepping motor (8), a single-chip microcomputer (9), a computer (10), a camera system (11), a pressure sensor (12) and a liquid medicine rod (13). Compared with the prior art, the spraying control system disclosed by the invention has the advantages that target spraying is oriented, the spraying is precise, the spraying liquid is recovered, and the spraying causes little pollution.

Inventors

QIN HONGJIA

Latest standardized assignees - inventors removed

DALIAN CITY SHAHEKOU DISTR SMALL MEDIUM & MICRO ENTPR SERVICE CENTER

Family 50/54 - FAMPAT - ©Questel

Title

(JP07327433)

Apparatus for opening and closing shutter of spraying machine

Images

Inventors

SASAKI HARUO

KOUCHI SHIGEHARU

YONAIYAMA SEIGO

Latest standardized assignees - inventors removed

SASAKI

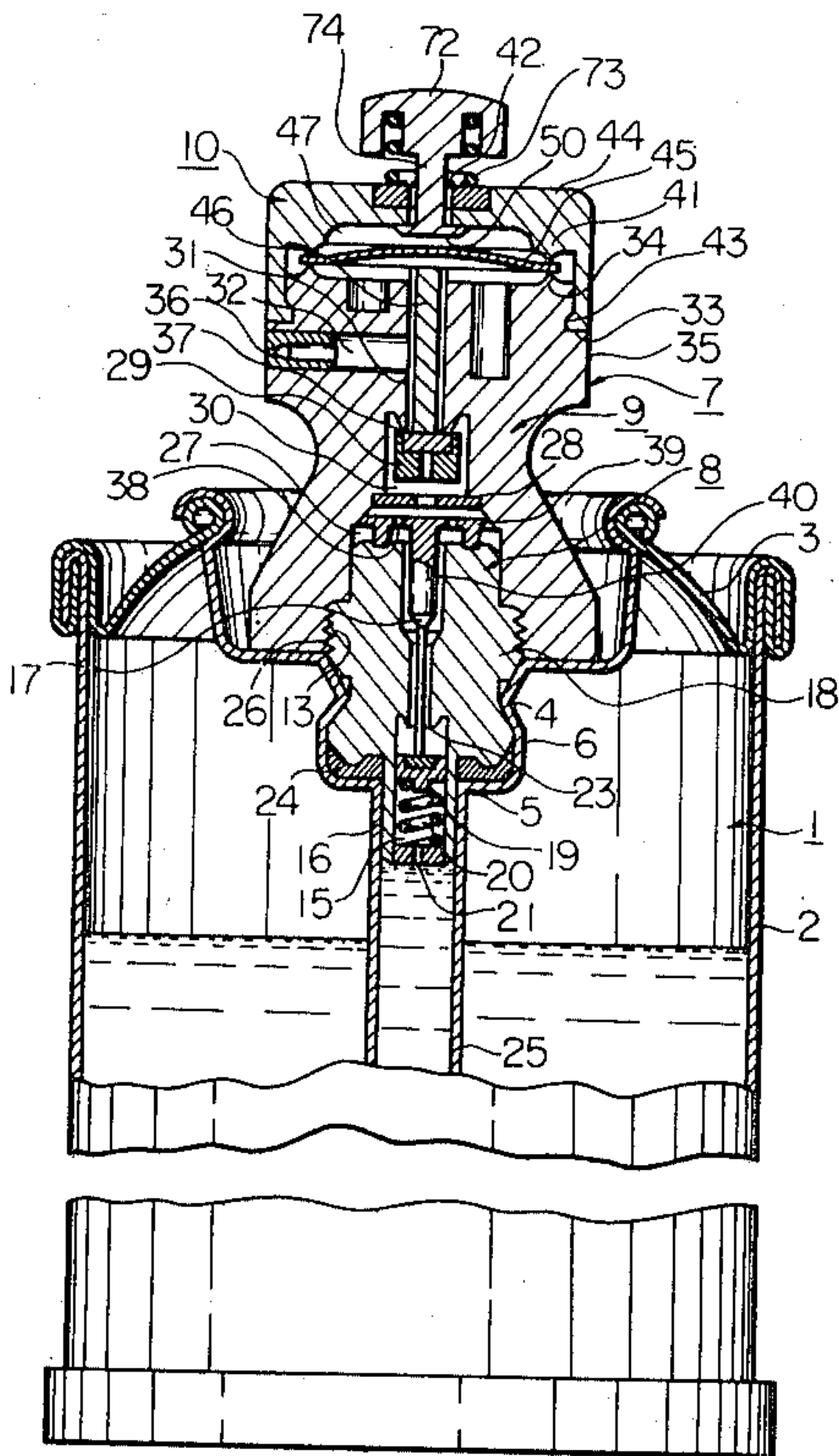
Family 51/54 - FAMPAT - ©Questel

Title

(US3685693)

Device for automatically or manually spraying a pressurized fluid

Images



FR2001836	A	1969-10-03	FR2001836
FR2001836	A1	1969-10-03	FR2001836
GB1225343	A	1971-03-17	GB1225343
US3596800	A	1971-08-03	US3596800
US3685693	A	1972-08-22	US3685693

**Abstract**

(US3685693)

A spraying device comprising a heat-responsive bimetal whose dimension changes with change in temperature and is movable to actuate a valve for opening and closing a passage through which a pressurized fluid is sprayed from a container into the atmosphere and means are provided for manually actuating the valve through the bimetal. The manual actuating means is effective for spraying the pressurized liquid at a desired stage even if the bimetal is in such a condition that it can not actuate the valve due to low temperature thereof.

Inventors

IKETANI TAISHO

Latest standardized assignees - inventors removed

IKETANI TAISHO

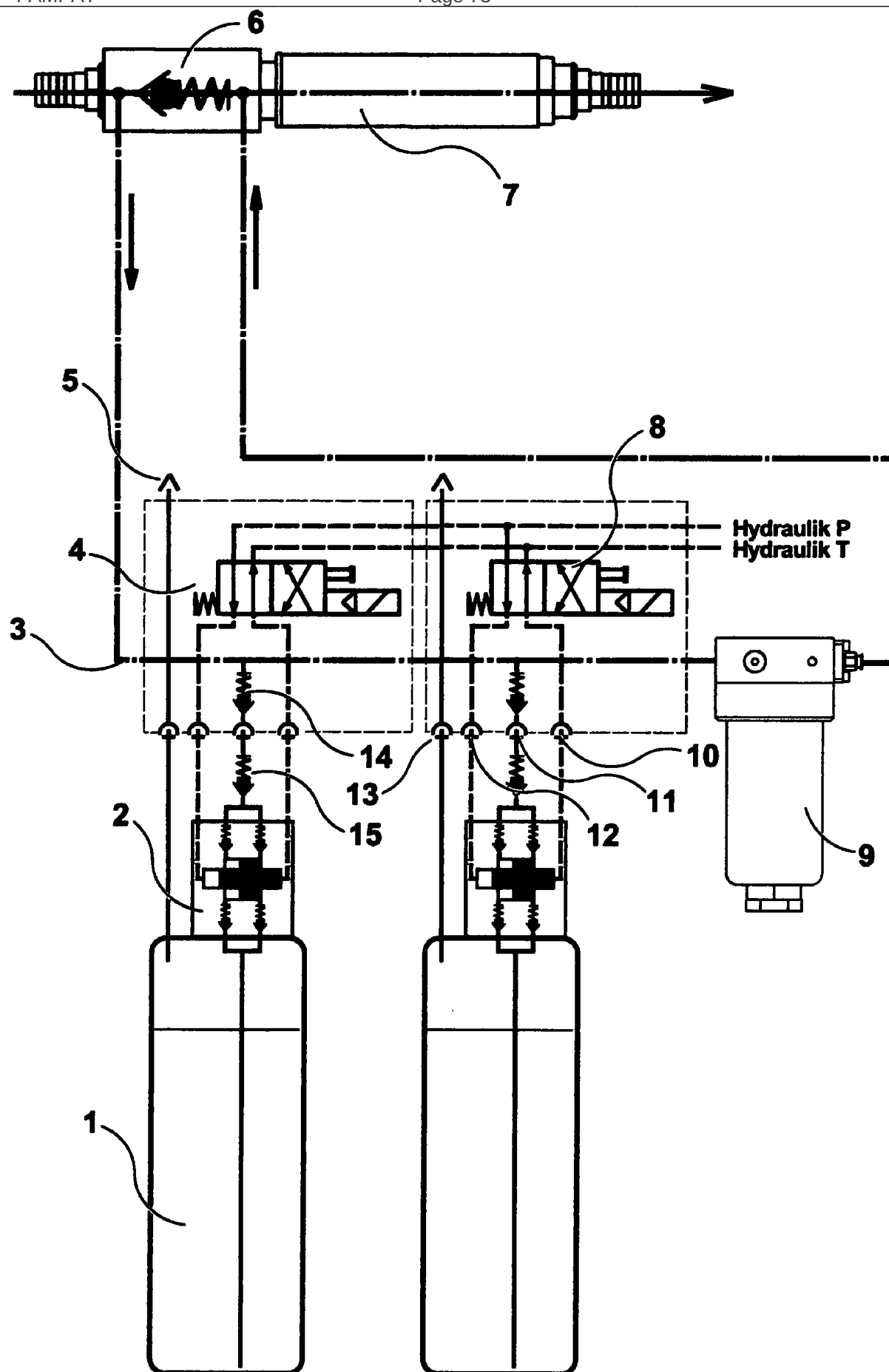
Family 52/54 - FAMPAT - ©Questel

Title

(DE102010023380)

System for direct dosing of plant protection agents, during treatment of injection water stream in field spraying device in e.g. agricultural area, has metering pump fixed in container and driven from outer side in hydraulic manner

Images



Publication data including kind & date

DE102010023380	A1	2011-12-15	DE102010023380
DE102010023380	B4	2015-03-05	DE102010023380



Abstract

(DE102010023380)

The system has a replacement container (1) dosing plant protection agents (11) via a metering pump (2) that is coordinated with contents of the container. The metering pump is designed as a dual piston-metering pump and fixed in the container. The metering pump is driven from outer side hydraulically. A transponder or data transmission system is provided in the container to transmit impulse volume from the metering pump to a control on a field spraying device, where the impulse volume is determined during calibration of the metering pump.

Inventors

BASF SE

Latest standardized assignees - inventors removed

WICHMANN

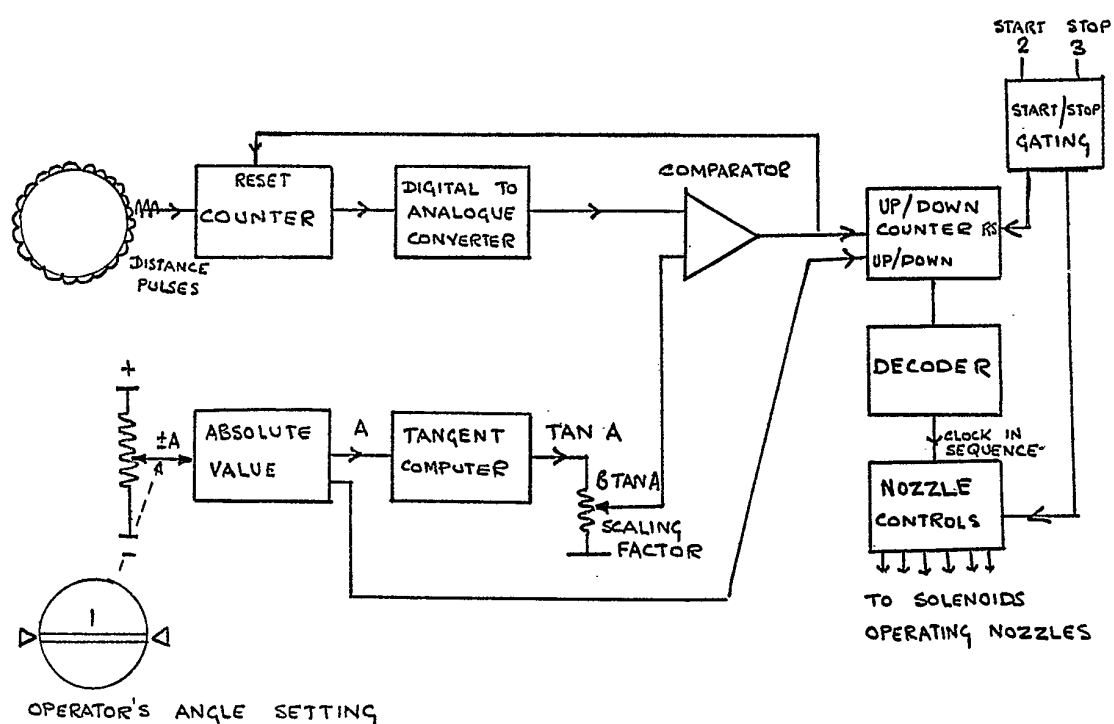
Family 53/54 - FAMPAT - ©Questel

Title

(GB2039202)

A control system for an agricultural spraying machine or the like

Images



Publication data including kind & date

[GB2039202](#)

A 1980-08-06 GB2039202



Abstract

(GB2039202)

Upon initiation by an operator, spray nozzles on a boom of a spraying machine are sequentially actuated or de-actuated as the machine travels away from, or approaches, a headland by means of a control system including a comparator receiving a signal indicative of the angle of travel of the machine relative to the headland and a signal indicative of the speed of the machine.

Latest standardized assignees - inventors removed

CURTIS LONG DEVELOPMENT

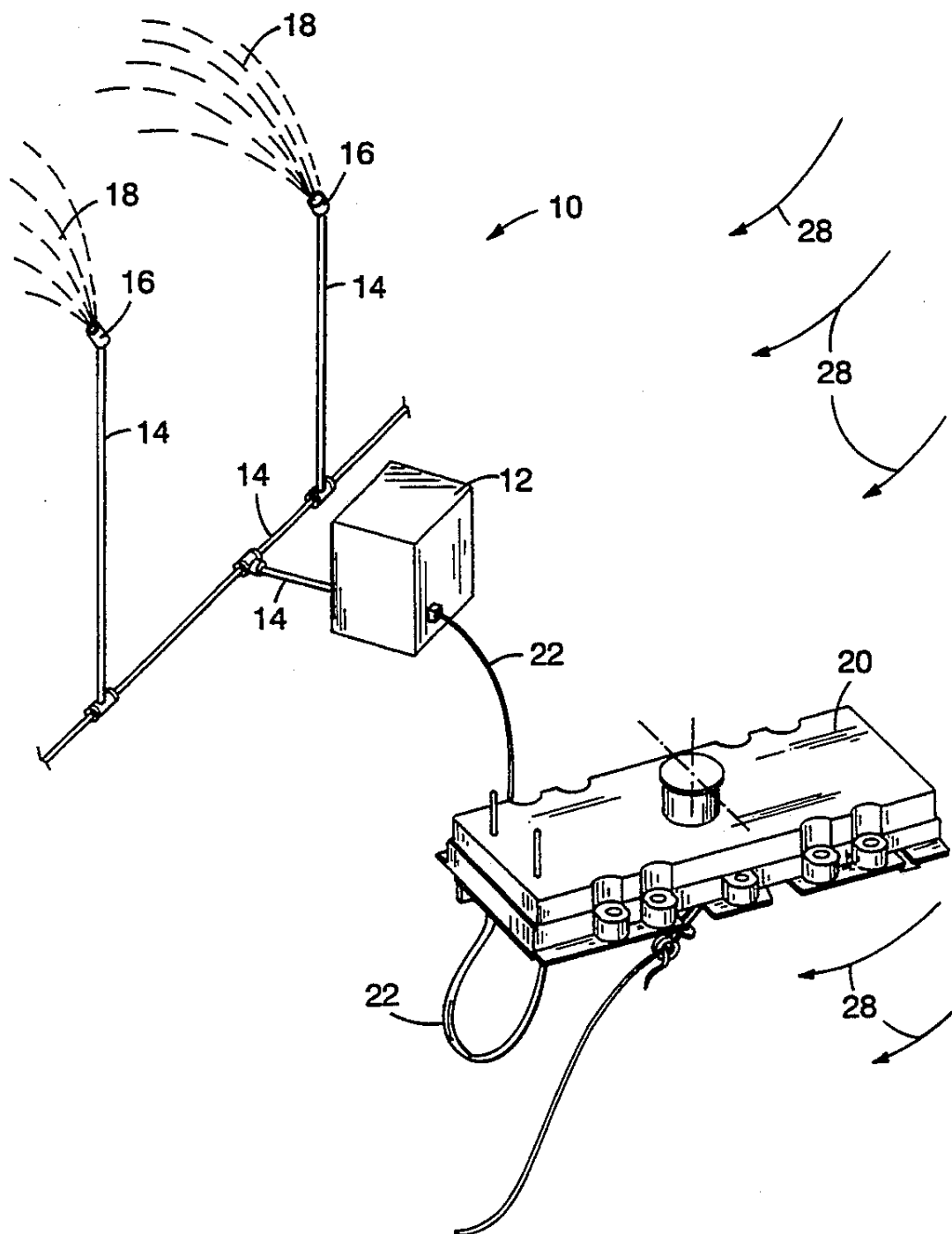
Family 54/54 - FAMPAT - ©Questel

Title

(US5340025)

Wind controlled spraying

Images

**Publication data including kind & date**[US5340025](#)

A 1994-08-23 US5340025

**Abstract**

(US5340025)

Spraying apparatus for spraying a liquid into air includes a wind sensor and a sprayer. The sprayer provides a spray into the air for a predetermined time interval upon sensing only predetermined ones of the occurrences and the predetermined ones of the occurrences occurring for at least a predetermined time interval.

Inventors

PEARCE GEORGE W