



REPUBLIC OF SOUTH AFRICA

REPUBLIEK VAN SUID AFRIKA

PATENTS ACT, 1978

CERTIFICATE

In accordance with section 44 (1) of the Patents Act, No. 57 of 1978, it is hereby certified that:

HENAN LIXINGHE MEDICAL TECHNOLOGY CO., LTD.

Has been granted a patent in respect of an invention described and claimed in complete specification deposited at the Patent Office under the number

2023/09044

A copy of the complete specification is annexed, together with the relevant Form P2.

In testimony whereof, the seal of the Patent Office has been affixed at Pretoria with effect from the 29th day of November 2023

Registrar of Patents



REPUBLIC OF SOUTH AFRICA
PATENTS ACT, 1978
REGISTER OF PATENTS

FORM P2

Official application No.		Lodging date: Provisional		Acceptance date	
21	01 2023/09044	22		47	16 November 2023
International classification		Lodging date: National phase		Granted date	
51	A61N	23	26 September 2023		29 November 2023
International application no		International filling date		Priority date	
51	PCT/CN2023/071836	23	12 January 2023		7 September 2022
71	Full name(s) of applicant(s)/Patentee(s):				
	HENAN LIXINGHE MEDICAL TECHNOLOGY CO., LTD				
71	Applicant(s) substituted:			Date registrered	
71	Assignee(s):			Date registrered	
72	Full name(s) of inventor(s):				
	ZHANG, Yanming				
Priority claimed:		Country	Number	Date	
		CN	202211087235.X	7 September 2022	
54	Title of invention				
	MICROWAVE PHYSIOTHERAPY ACUPOINT MOXIBUSTION DEVICE AND USE METHOD THEREOF				
Address of applicant(s)/patentee(s):					
West Hall, 1st Floor, Administrative Committee Of Economic And Technological Development Zone, Lankao County, Kaifeng, Henan, 475300, China					
74	Address for service				
Sibanda and Zantwijk, Oaktree Corner, 9 Kruger Street, Oaklands (PO Box 1615 Houghton 2041), Johannesburg, 2192, SOUTH AFRICA					
Reference no.: PT_NP_ZA00003270 ([InsID:])					
61	Patent of addition No.			Date of any change	
Fresh application based on.			Date of any change		

(12) 按照专利合作条约所公布的国际申请

(19) 世界知识产权组织
国际局

(43) 国际公布日
2023 年 5 月 19 日 (19.05.2023)



(10) 国际公布号
WO 2023/083390 A1

- (51) 国际专利分类号:
A61N 5/02 (2006.01)
- (21) 国际申请号: PCT/CN2023/071836
- (22) 国际申请日: 2023 年 1 月 12 日 (12.01.2023)
- (25) 申请语言: 中文
- (26) 公布语言: 中文
- (30) 优先权:
202211087235.X 2022年9月7日 (07.09.2022) CN
- (71) 申请人: 河南理行合医疗科技有限公司 (HENAN LIXINGHE MEDICAL TECHNOLOGY CO., LTD.) [CN/CN]; 中国河南省开封市兰考县经济技术开发区管理委员会一楼西大厅, Henan 475300 (CN)。
- (72) 发明人: 张晏铭 (ZHANG, Yanming); 中国河南省开封市兰考县经济技术开发区管理委员会一楼西大厅, Henan 475300 (CN)。
- (74) 代理人: 北京高沃律师事务所 (BEIJING GAOWO LAW FIRM); 中国北京市海淀区彩和坊路 11 号 6 层 602 室, Beijing 100080 (CN)。
- (81) 指定国 (除另有指明, 要求每一种可提供的国家保护): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE,

(54) Title: MICROWAVE PHYSIOTHERAPY ACUPOINT MOXIBUSTION DEVICE AND USE METHOD THEREOF

(54) 发明名称: 一种微波理疗穴灸器及其使用方法

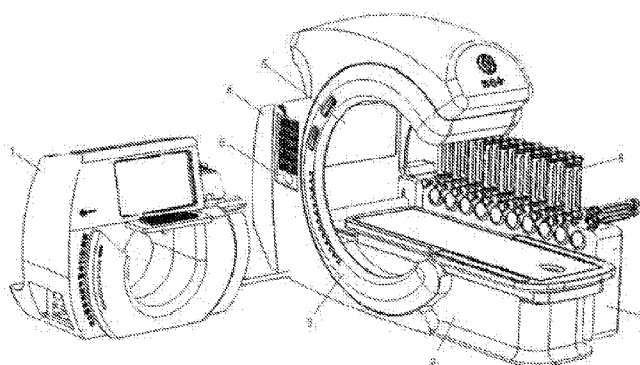


图 1

(57) Abstract: A microwave physiotherapy acupoint moxibustion device comprises: a primary control platform (1) and a physiotherapy bed (2); a mounting frame (3) and a control box (4) are arranged at an end portion of the physiotherapy bed (2), and a patient parameter display screen (5) is provided on the mounting frame (3); a microwave source is disposed in the control box (4), and a control panel (6) is arranged on the outside of the control box (4); a side portion of the physiotherapy bed (2) is provided with a mounting box (7), and a microwave magnetron is arranged in the mounting box (7); a mechanical arm (8) is disposed at the top of the mounting box (7), a microwave probe is arranged at an end of the mechanical arm (8), and the microwave magnetron is connected via wiring to the microwave probe at the end of the mechanical arm (8). During use, a patient lies on the physiotherapy bed (2), the acupoint moxibustion device can simultaneously perform microwave physiotherapy on 10 acupuncture points of the patient, and the electric physiotherapy bed (2) can adjust the lying posture of the patient.

(57) 摘要: 一种微波理疗穴灸器, 包括主控台 (1) 和理疗床 (2), 理疗床 (2) 的端部设有安装架 (3) 和控制箱 (4), 安装架 (3) 上设有患者参数显示屏 (5), 控制箱 (4) 的内部设有微波源, 控制箱 (4) 的外侧设有控制面板 (6), 理疗床 (2) 的侧部设有安装箱 (7), 安装箱 (7) 的内部设有微波磁控管, 安装箱 (7) 的顶部设有机械臂 (8), 机械臂 (8) 的端部设有微波探头, 微波磁控管通过线路连接机械臂 (8) 端部的微波探头。使用时, 患者躺到理疗床 (2) 上, 穴灸器可同时对患者的 10 个穴位进行微波理疗, 电动式的理疗床 (2) 可调节患者的躺姿。

I, [Kaila LIU], confirm that the English translation of [PCT APP. No.: PCT/CN2023/071836] is true and correct.

Kaila LIU September 22, 2023
Signature

MICROWAVE PHYSIOTHERAPY ACUPOINT MOXIBUSTION DEVICE AND USE METHOD THEREOF

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This patent application claims the priority of Chinese Patent Application No. 202211087235.X filed with the China National Intellectual Property Administration on September 07, 2022, and entitled "Microwave physiotherapy acupoint moxibustion device and use method thereof", the disclosure of which is incorporated herein in its entirety by reference.

TECHNICAL FIELD

[0002] The present disclosure belongs to the technical field of microwave acupoint moxibustion devices, and in particular to a microwave physiotherapy acupoint moxibustion device and a use method thereof.

BACKGROUND

[0003] Microwave refers to an electromagnetic wave with a frequency from 300 MHz to 300 GHz, which is the abbreviation of a limited frequency band in radio waves, i.e., the electromagnetic wave with a wavelength from 1 mm to 1 meter. Microwave frequency is higher than that of ordinary radio waves, which is also commonly called "ultra-high frequency electromagnetic wave". As the electromagnetic wave, microwave also has wave-particle duality. The basic properties of the microwave usually show three characteristics: penetration, reflection and absorption.

[0004] Microwave acupuncture is a method of treating diseases by connecting a microwave antenna to a needle handle and injecting microwaves into acupoints or directly irradiating the acupoints based on filiform needle acupuncture. It is a new acupuncture therapy combining modern microwave technologies with traditional acupuncture methods.

[0005] At present, existing microwave physiotherapy acupoint acupuncture instruments in the market are single instruments with a single probe, and the single probe needs to be held by a worker for an acupuncture operation. When multiple acupoints of a patient are required to be acupunctured at the same time, the existing microwave physiotherapy acupoint acupuncture instruments cannot meet the requirements.

SUMMARY

[0006] A microwave physiotherapy acupoint moxibustion device and a use method thereof are

provided. Compared with the existing microwave acupuncture equipment, an integrated microwave physiotherapy acupoint moxibustion device structure is employed, when a patient lies on a physiotherapy couch, ten acupoints of the patient can be subjected to microwave physiotherapy at the same time, and a lying posture of the patient can be adjusted through an electric physiotherapy couch, thus further improving the effect of microwave physiotherapy.

[0007] The technical solution adopted by the present disclosure for solving the technical problems is as follows:

[0008] A microwave physiotherapy acupoint moxibustion device includes a main console, and a physiotherapy couch. An end part of the physiotherapy couch is provided with a mounting frame and a control box. The mounting frame is provided with a patient parameter display screen, a microwave source is arranged inside the control box, and a control panel is arranged outside the control box. A side part of the physiotherapy couch is provided with a mounting box, a microwave magnetron is arranged inside the mounting box, and a mechanical arm is arranged at a top of the mounting box. An end part of the mechanical arm is provided with a microwave probe, and the microwave magnetron is connected to the microwave probe at the end part of the mechanical arm through a line. The main console is respectively connected to the display screen, the microwave source, the control panel, the microwave magnetron, and the microwave probe through lines. The control panel is respectively connected to the display screen, the microwave source, the microwave magnetron, and the microwave probe through lines.

[0009] At least ten microwave magnetrons are arranged inside the mounting box, and at least ten mechanical arms are arranged at the top of the mounting box. Each microwave magnetron is correspondingly connected to the microwave probe on one of mechanical arms through a line.

[0010] The mechanical arm is a three-joint mechanical arm, or a universal bamboo pipe.

[0011] The mounting frame is of a circular arc structure, and a metal detector is arranged on a lower side face of a top of the mounting frame.

[0012] The physiotherapy couch is an electric physiotherapy couch.

[0013] A use method of a microwave physiotherapy acupoint moxibustion device includes the following steps:

[0014] (a) turning on a power supply and electrifying the whole acupoint moxibustion device, thus making the microwave physiotherapy acupoint moxibustion device in a standby state at the moment;

[0015] (b) settling a patient on a physiotherapy couch 2, confirming that no metal is on and in the body of the patient, confirming acupoints to be subjected to physiotherapy, and adjusting positions of mechanical arms to align with the acupoints;

[0016] (c) setting duration of physiotherapy, where the duration of physiotherapy is 0 to 30 minutes for a single session, preferably 15 minutes for a single session and three sessions for a course of treatment;

[0017] (d) turning on microwave sources one by one through a main console or a control panel, adjusting output power to an acceptable range of the body of the patient, paying close attention to reaction of the patient during physiotherapy, communicating with the patient for body feeling in time, and pressing a stop button immediately to cut off the microwave output instantly in case of an emergency;

[0018] (e) if the patient has no adverse reaction, sending, by the control panel, a prompt tone five seconds before the end of physiotherapy, then stopping microwave output, and printing, by the main console, physiotherapy parameters; and

[0019] (f) removing the mechanical arms from the body of the patient, slowly settling the patient in a rest area to rest for 10 minutes, where after the observation period, the patient is free to move if no abnormal reaction exists.

[0020] A microwave connection port is checked and screwed before physiotherapy, and a microwave probe interface is checked again after physiotherapy, so as to ensure the firmness and reliability of the interface.

[0021] The microwave probes cannot be directly opposed to each other.

[0022] The present disclosure has the beneficial effects that:

[0023] By adopting the above technical solution, the present disclosure has the beneficial effects that:

[0024] Compared with the existing microwave acupuncture equipment, an integrated microwave physiotherapy acupoint moxibustion device structure is employed, when a patient lies on a physiotherapy couch, ten acupoints of the patient can be subjected to microwave physiotherapy at the same time, and a lying posture of the patient can be adjusted through an electric physiotherapy couch, thus further improving the effect of microwave physiotherapy. Ten existing microwave moxibustion devices are required to achieve the use effect of the acupoint moxibustion device of the present disclosure. Microwave treatment of diseases is mainly achieved through thermal and biological effects. When acting on body tissues, the microwave may cause high-frequency oscillation of ions, water molecules and dipoles in tissue cells. When the microwave is low in output energy and less in radiant heat energy, local blood circulation can be increased, local metabolism can be accelerated, and local immunity can be enhanced. Therefore, the device can effectively improve local blood circulation, promote edema absorption, diminish inflammation, and relieve pain.

[0025] In conclusion, a microwave physiotherapy acupoint moxibustion device and a use method thereof are provided. Compared with the existing microwave acupuncture equipment, an integrated microwave physiotherapy acupoint moxibustion device structure is employed, when a patient lies on a physiotherapy couch, ten acupoints of the patient can be subjected to microwave physiotherapy at the same time, and a lying posture of the patient can be adjusted through an electric physiotherapy couch, thus further improving the effect of microwave physiotherapy.

BRIEF DESCRIPTION OF THE DRAWINGS

[0026] FIG. 1 is a first schematic diagram of a structure in accordance with the present disclosure;

[0027] FIG. 2 is a second schematic diagram of a structure in accordance with the present disclosure.

[0028] 1-main console, 2-physiotherapy couch, 3-mounting frame, 4-control box, 5-display screen, 6-control panel, 7-mounting box, 8-mechanical arm.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0029] In the present disclosure, unless expressly specified and limited otherwise, it also should be noted that the terms "arrange", "mount", "connected", "connection" and the like should be understood broadly, e.g., may be either a fixed connection or a detachable connection, or a connection in one piece; may be a mechanical connection or an electrical connection; may be a direct connection or an indirect connection through an intermediate medium, or may be an internal communication between two elements. For those of ordinary skill in the art, the specific meanings of the above terms in the present disclosure can be understood on a case-by-case basis.

[0030] The following clearly and completely describes the technical solutions in the embodiments of the present disclosure with reference to the accompanying drawings in the embodiments of the present disclosure. Apparently, the described embodiments are merely a part rather than all of the embodiments of the present disclosure. All other embodiments obtained by those of ordinary skill in the art based on the embodiments of the present disclosure without creative efforts shall fall within the protection scope of the present disclosure.

[0031] As shown in FIG. 1 and FIG. 2, a microwave physiotherapy acupoint moxibustion device includes a main console 1, and a physiotherapy couch 2. An end part of the physiotherapy couch 2 is provided with a mounting frame 3 and a control box 4. The mounting frame 3 is provided with a patient parameter display screen 5, a microwave source is arranged inside the control box 4, and a control panel 6 is provided outside the control box 4. A side part of the

physiotherapy couch 2 is provided with a mounting box 7, a microwave magnetron is arranged inside the mounting box 7, and a mechanical arm 8 is arranged at a top of the mounting box 7. An end part of the mechanical arm 8 is provided with a microwave probe, and the microwave magnetron is connected to the microwave probe at the end part of the mechanical arm 8 through a line. The main console 1 is respectively connected to the display screen 5, the microwave source, the control panel 6, the microwave magnetron and the microwave probe through lines. The control panel 6 is respectively connected to the display screen 5, the microwave source, the microwave magnetron and the microwave probe through lines.

[0032] At least ten microwave magnetrons are arranged inside the mounting box 7, and at least ten mechanical arms are arranged at the top of the mounting box 7, and each microwave magnetron is correspondingly connected to the microwave probe on one of the mechanical arms 8 through a line. As required, the number of the microwave magnetrons and the mechanical arms 8 can be expanded to thirty, and the number of the microwave probes can be adjusted from one to thirty.

[0033] The mechanical arm 8 is a three-joint mechanical arm or a universal bamboo pipe.

[0034] The mounting frame 3 is of a circular arc structure, and a metal detector is arranged on a lower side face of a top of the mounting frame 3. The metal detector is used for detecting whether a patient carries metals before microwave physiotherapy acupuncture, and the metal detector may be used to detect whether the patient carries metal gadgets before physiotherapy.

[0035] The physiotherapy couch 2 is an electric physiotherapy couch.

[0036] A use method of a microwave physiotherapy acupoint moxibustion device includes the following steps:

[0037] (a) A power supply is switched on, and the whole acupoint moxibustion device is electrified, thus making the microwave physiotherapy acupoint moxibustion device in a standby state at the moment.

[0038] (b) A patient is settled on a physiotherapy couch 2, whether there are metals on and in the body of the patient is confirmed, the acupoints to be subjected to physiotherapy are confirmed, and positions of mechanical arms 8 are adjusted to align with the acupoints.

[0039] (c) Duration of physiotherapy is set, where the duration of physiotherapy is 0 to 30 minutes for a single session, preferably 15 minutes for a single session, and three sessions is a course of treatment.

[0040] (d) Microwave sources are turned on one by one through a main console 1 or a control panel 6, output power is adjusted to an acceptable range of the body of the patient, close attention should be paid to the reaction of the patient during physiotherapy, communication with

the patient should be made for body feeling in time, and a stop button should be pressed immediately to cut off the microwave output instantly in case of an emergency.

[0041] (e) If the patient has no adverse reaction, the control panel 6 makes a prompt tone five seconds before the end of physiotherapy, then microwave output is stopped, and the main console 1 can print physiotherapy parameters.

[0042] (f) The mechanical arms 8 are removed from the body of the patient, the patient is slowly settled in a rest area to rest for 10 minutes, and after the observation period, the patient is free to move if no abnormal reaction exists.

[0043] A microwave connection port should be checked and screwed before physiotherapy, and a microwave probe interface should be checked again after physiotherapy, so as to ensure the firmness and reliability of the interface.

[0044] The microwave probes cannot be directly opposed to each other.

[0045] By adopting the above technical solution, the present disclosure has the beneficial effects that:

[0046] Compared with the existing microwave acupuncture equipment, an integrated microwave physiotherapy acupoint moxibustion device structure is employed, when a patient lies on a physiotherapy couch 2, ten acupoints of the patient can be subjected to microwave physiotherapy at the same time, and a lying posture of the patient can be adjusted through the electric physiotherapy couch 2, thus further improving the effect of microwave physiotherapy. Ten existing microwave moxibustion devices are required to achieve the use effect of the acupoint moxibustion device of the present disclosure. Microwave treatment of diseases is mainly achieved through thermal and biological effects. When acting on body tissues, the microwave may cause high-frequency oscillation of ions, water molecules and dipoles in tissue cells. When the microwave is low in output energy and less in radiant heat energy, local blood circulation can be increased, local metabolism can be accelerated, and local immunity can be enhanced. Therefore, the device can effectively improve local blood circulation, promote edema absorption, diminish inflammation, and relieve pain. According to the concept of traditional Chinese medicine, treatment with the microwave acupoint moxibustion device is safe and effective, with no irreversible toxic and side effects, no operation, convenient operation and no pain for patients.

[0047] In conclusion, a microwave physiotherapy acupoint moxibustion device and a use method thereof are provided. Compared with the existing microwave acupuncture equipment, an integrated microwave physiotherapy acupoint moxibustion device structure is employed, when a patient lies on a physiotherapy couch 2, ten acupoints of the patient can be subjected to

microwave physiotherapy at the same time, and a lying posture of the patient can be adjusted through the electric physiotherapy couch 2, thus further improving the effect of microwave physiotherapy.

[0048] Compared with the existing microwave physiotherapy acupoint moxibustion instrument, an operator no longer needs to hold a probe for acupuncture operation, and when multiple acupoints of a patient need to be acupunctured at the same time, the microwave acupuncture physiotherapy can be carried out at multiple acupoints at the same time.

[0049] Finally, it should be noted that the above embodiments are only used to illustrate the technical solutions of the present disclosure rather than limiting the same. Although the present disclosure has been described in detail with reference to the foregoing embodiments, it should be understood by those of ordinary skill in the art that it is still possible to modify the technical solutions recorded in the foregoing embodiments, or to equivalently replace some or all of technical features; and that these modifications or replacements do not make the essence of the corresponding technical solutions deviate from the scope of the technical solutions of the embodiments of the present disclosure.

WHAT IS CLAIMED IS:

1. A microwave physiotherapy acupoint moxibustion device, comprising a main console, and a physiotherapy couch, wherein an end part of the physiotherapy couch is provided with a mounting frame and a control box, the mounting frame is provided with a patient parameter display screen, a microwave source is arranged inside the control box, and a control panel is arranged outside the control box; a side part of the physiotherapy couch is provided with a mounting box, a microwave magnetron is arranged inside the mounting box, and a mechanical arm is arranged at a top of the mounting box; an end part of the mechanical arm is provided with a microwave probe, and the microwave magnetron is connected to the microwave probe at the end part of the mechanical arm through a line; the main console is respectively connected to the display screen, the microwave source, the control panel, the microwave magnetron, and the microwave probe through lines; the control panel is respectively connected to the display screen, the microwave source, the microwave magnetron, and the microwave probe through lines.

2. The microwave physiotherapy acupoint moxibustion device according to claim 1, wherein at least ten microwave magnetrons are arranged inside the mounting box, and at least ten mechanical arms are arranged at the top of the mounting box, and each microwave magnetron is correspondingly connected to the microwave probe on one of mechanical arms through a line.

3. The microwave physiotherapy acupoint moxibustion device according to claim 2, wherein the mechanical arm is a three-joint mechanical arm or a universal bamboo pipe.

4. The microwave physiotherapy acupoint moxibustion device according to claim 3, wherein the mounting frame is of a circular arc structure, and a metal detector is arranged at a lower side face of a top of the mounting frame.

5. The microwave physiotherapy acupoint moxibustion device according to claim 4, wherein the physiotherapy couch is an electric physiotherapy couch.

6. A use method of a microwave physiotherapy acupoint moxibustion device, comprising the following steps:

(a) turning on a power supply and electrifying the whole acupoint moxibustion device, thus making the microwave physiotherapy acupoint moxibustion device in a standby state at the moment;

(b) settling a patient on a physiotherapy couch 2, confirming that no metal is on and in the body of the patient, confirming acupoints to be subjected to physiotherapy, and adjusting positions of mechanical arms to align with the acupoints;

(c) setting duration of physiotherapy, wherein the duration of physiotherapy is 0 to 30 minutes for a single session, preferably 15 minutes for a single session, and three sessions for a course of treatment;

(d) turning on microwave sources one by one through a main console or a control panel, adjusting output power to an acceptable range of the body of the patient, paying close attention to reaction of the patient during physiotherapy, communicating with the patient for body feeling in time, and pressing a stop button immediately to cut off the microwave output instantly in case of an emergency;

(e) if the patient has no adverse reaction, sending, by the control panel, a prompt tone five seconds before the end of physiotherapy, then stopping microwave output, and printing, by the main console, physiotherapy parameters; and

(f) removing the mechanical arms from the body of the patient, slowly settling the patient in a rest area to rest for 10 minutes, wherein after the observation period, the patient is free to move if no abnormal reaction exists.

7. The use method of a microwave physiotherapy acupoint moxibustion device according to claim 6, wherein a microwave connection port is checked and screwed before physiotherapy, and an interface of the microwave probe is checked again after physiotherapy, so as to ensure the firmness and reliability of the interface.

8. The use method of a microwave physiotherapy acupoint moxibustion device according to claim 6, wherein the microwave probes are unable to be opposed to each other.

ABSTRACT OF THE DISCLOSURE

A microwave physiotherapy acupoint moxibustion device comprises a primary control platform (1), and a physiotherapy bed (2); a mounting frame (3) and a control box (4) are arranged at an end portion of the physiotherapy bed (2), and a patient parameter display screen (5) is provided on the mounting frame (3); a microwave source is disposed in the control box (4), and a control panel (6) is arranged on the outside of the control box (4); a side portion of the physiotherapy bed (2) is provided with a mounting box (7), and a microwave magnetron is arranged in the mounting box (7); a mechanical arm (8) is disposed at the top of the mounting box (7), a microwave probe is arranged at an end of the mechanical arm (8), and the microwave magnetron is connected via wiring to the microwave probe at the end of the mechanical arm (8).

ABSTRACT DRAWING

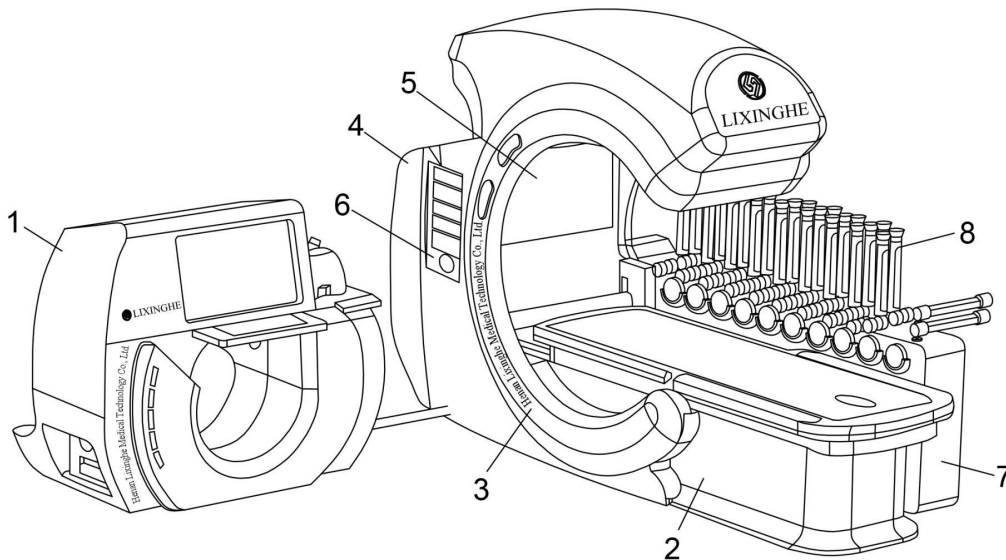


FIG. 1

DRAWINGS

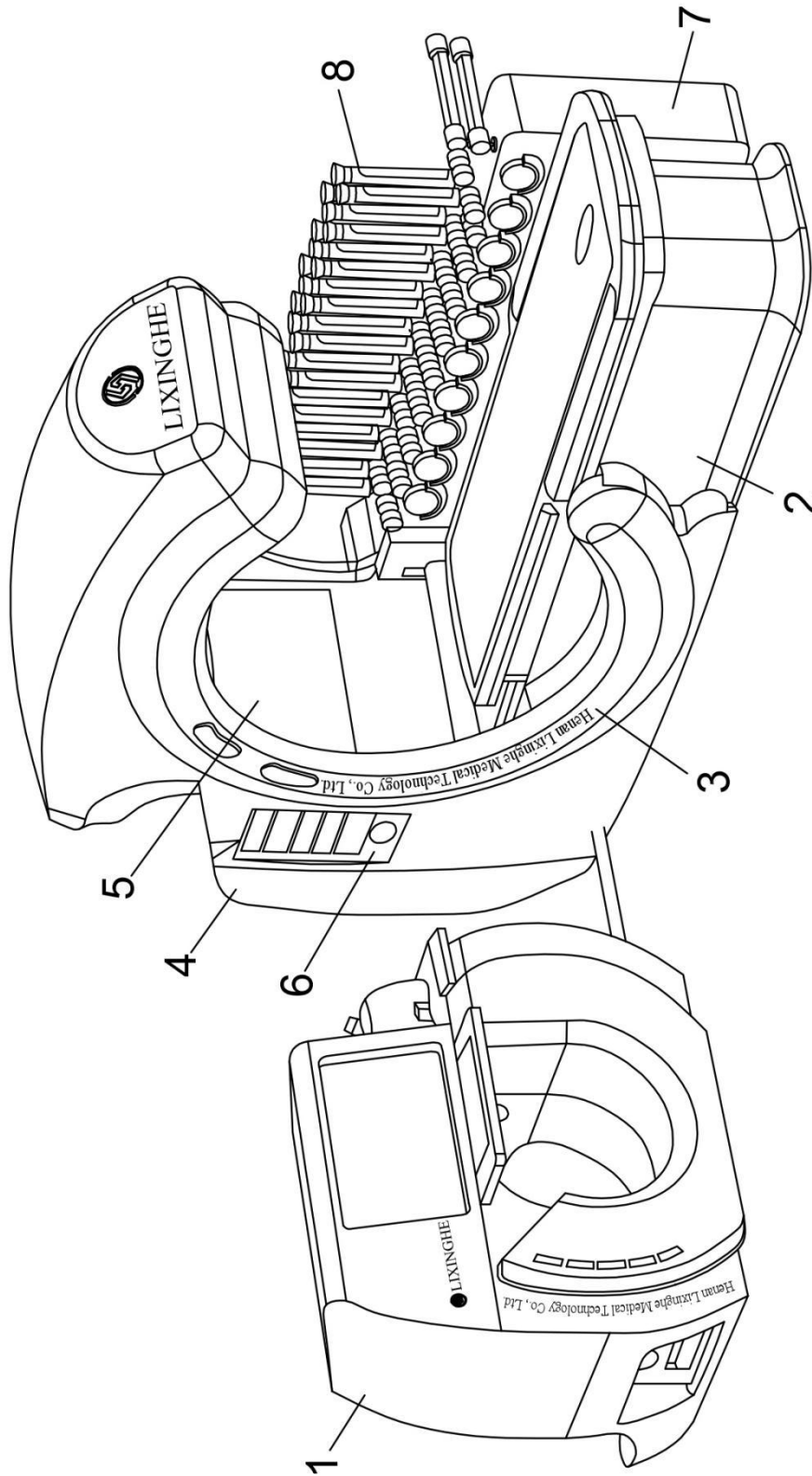


FIG. 1

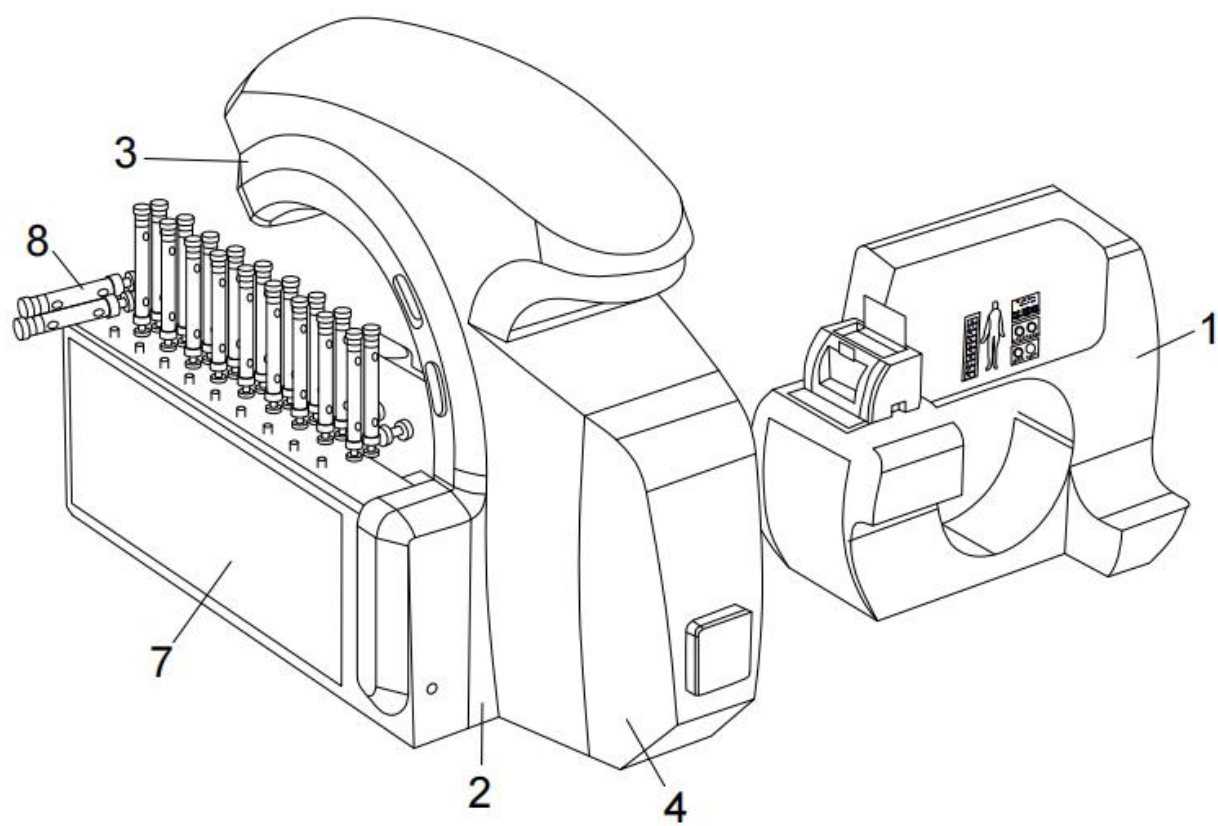


FIG. 2