Feb. 21, 1939. R. R. ROLD 2,148,174

ARC-RAY TREATING MACHINE

Filed Oct. 5, 1936

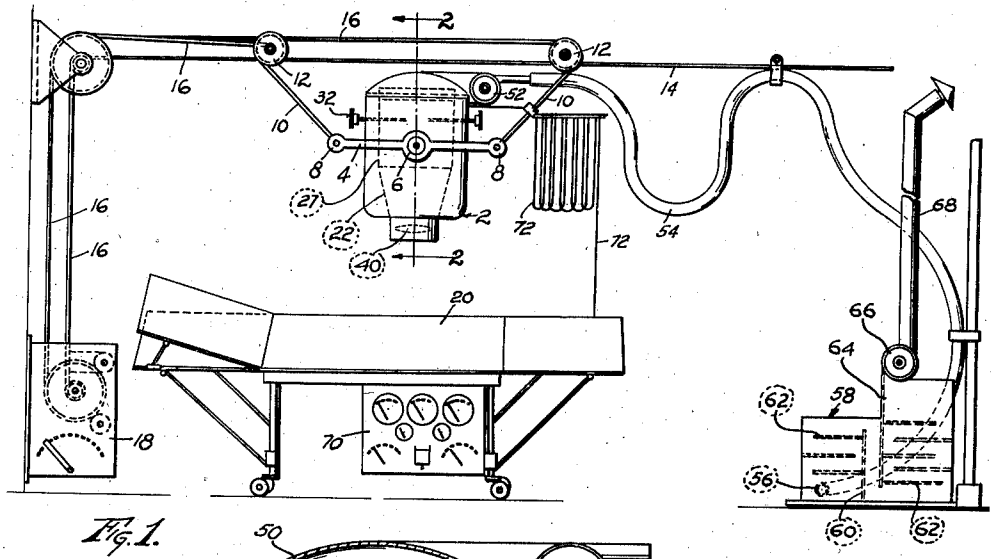


Fig. 1.

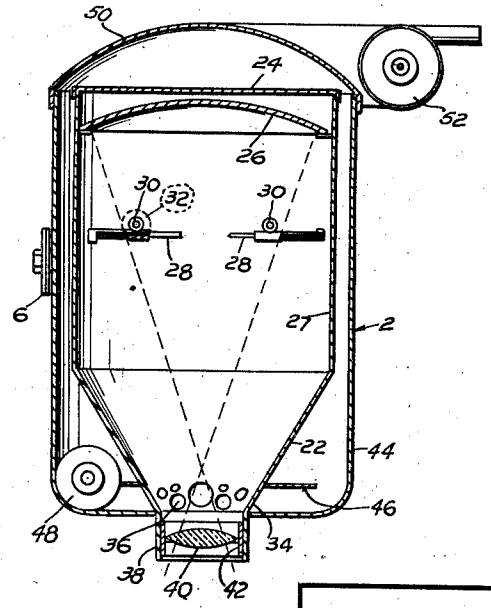


Fig. 2.

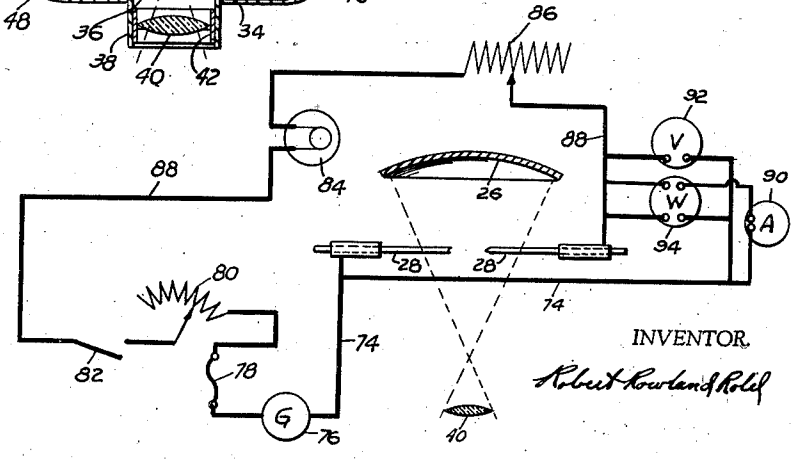


Fig. 3.

INVENTOR.

Robert Rowland Rold

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ARC-RAY TREATING MACHINE

Robert Rowland Rold, Long Beach, Calif., assignor to Arc Rays Treating Laboratories, Ltd., Long Beach, Calif.

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3 Claims. (Cl. 128—396)

My invention relates to arc-rays treating machines and more particularly to such apparatus, which in its operation, function and application is especially adaptable for treating various body ailments of humans and animals, by means of generated arc-rays and the temperatures produced by said rays which are substantially concentrated upon the subject.

In the present method of treating human and animal ailments by means of the arc-ray producing machine, it has been found that in their use they are not only dangerous but also painful to the patient, because, when the electric current passes through the light producing element it is allowed to remain at certain density allowing to produce certain quality of light and heat comensurating to its electrical current pressure, further, because of the fact that different bacteria requires different treatment, and the present usage of such machines presents an absence of the required diversified light and heat which is automatically controlled for its particular use, therefore, such machines and equipment presents little or no value to the patient because of their limited usage in treating body ailments.

Manifestly, an object of my invention is to provide a combined light and heat producing machine or apparatus, said apparatus being provided with arc-rays producing element, which in combination it is so arranged whereby the patient or a subject may receive, during the course of the treatment, a greatly diversified range of light and heat of whatever intensity it may be required.

A further object of my invention is to provide said apparatus with automatically adjustable means which is for the purpose to raise or lower the said apparatus, and to move it longitudinally over the body or a subject during the course of treatment.

Another object of my invention is to provide said apparatus with suitable blower of suction means, having a suitable duct attached thereto and leading into a receptacle which is equipped with suitable electric heating element, so that, in operation, the residue formed by burning carbon elements will be drawn out of the apparatus, and in addition thereto any and all odor emanating from the body will be drawn and destroyed in the said electrically heated receptacle.

Further object of my invention is to provide said apparatus with suitable light intensifying member which is for the purpose to create a certain light spectrum, at a certain and definite apex, so that, when in use, said spectrum of light in combination with the heat so produced will have a decided effect upon the bacteria present in the tissues or the portion of the body requiring such treatment.

Further objects and advantages of my invention as will hereinafter more fully appear, I attain by the construction herein shown in the drawing and described in the specification forming a part of my application.

Reference is had to the accompanying drawing in which the similar reference characters denote the similar parts.

In the drawing:

Fig. 1 is the front elevational and partially perspective view of the apparatus, showing the position of the light and heat producing device, the automatic control for controlling the light and heat generated therefrom, the apparatus for automatically controlling the position of the said light producing device, and means associated therewith for drawing and destroying the germs or bacteria emanating from the subject of the body.

Fig. 2 shows the cross sectional view of the light and heat producing device, taken on the line 2—2 of Fig. 1.

Fig. 3 shows the diagrammatical view of the electrical controlling instruments and the electrical wiring diagram of the apparatus.

Describing my invention more in detail, in its broader aspects, said invention comprises a light and heat producing apparatus, generally designated by numeral 2, which is mounted upon suitably arranged hanger member 4, pivoted at the center point 6 having the hinge member 8 provided at each side, to which an elevating member 10 is hingedly connected and terminating with suitable roller member 12 in multiple or as in practice may be most preferable, and which are suspended upon a rod member 14, as shown, the purpose and the operation of which will be presently described.

Said elevating member 10 is connected by means of a controlling cable 16 to a suitable controlling mechanism 18, which is for the purpose to automatically operate said apparatus 2, upwardly and downwardly over the table 20, and at the same time to operate it lengthwise along the rod member 14, and which is for the specific purpose to give the apparatus, in its entirety, a greater range of operation.

The apparatus 2, comprises an internal housing 22, which may be of any preferred shape or configuration, having the rear section 24 provided with suitable mirror member 26 which is encased by means of the central housing section 27 where-

in the light and heat producing elements **28** are positioned and arranged adjustably in place by means of suitable gear rack member **30** operable into position by means of an operating knob **32**, also, having the lower section housing, which comprises, a conically shaped hood member **34**, provided at its entrance with a plurality of passages **36** to which a suitable cylindrical extension **38** is attached and adapted to receive therein a lens **40** which is held in a detachable housing member **42**, as shown.

The said internal housing **22** is inclosed within a suitable shell or cover member **44**, to which the said central pivot points **6** are attached, having a baffle plate **46** internally positioned and leading into a suitably arranged suction fan **48** which draws the hot air and the carbon residue out of the interior of the said housing **22** and at the same time causing the air to be blown upwardly toward the cap member **50** which is equipped with suitable blower **52** provided there for the purpose to draw the air out of the passage **53** incased by means of the said shell **44** and as agitated by the said suction fan member **48**.

To the exhaust end of the said blower **52** is attached a duct member **54** which may be of any desired size or length as in practice may be most desirable, having its extended end leading into suitable accumulator **58**, which consists of at least two sections separated by means of suitable baffle plates **60** and each of the compartments so arranged is provided with electrical heating elements **62**, so that the passing air may circulate over and between said heated elements **62**, emerging at the top section **64** which is provided with an auxiliary blower **66** the exhaust of which leads into pipe outlet **68**, as shown.

In operation, it may be noted, that when the patient is placed upon the table **20**, the concentrated light may be brought upon the subject to be treated, and the light intensity or strength may be controlled by means of the controlling panel **70** which is connected to the apparatus **2** by means of wires **72**; also, the position of the apparatus **2** over the patient may be controlled automatically by means of the said controlling mechanism **18** and during the treatment, any odor emanating from the subject requiring treatment, is drawn out by means of the suction fan **48** into the accumulator **58** wherein the germs and bacteria are destroyed.

In the wiring diagram as shown in Fig. 3, one of the light producing elements **28** is connected by means of the lead wire **74** to the generator **76** having a suitable safety fuse **78** positioned as shown and placed in line with the rheostat **80** to which a suitable switch **82** is connected and leading into an incandescent lamp **84** to which an impedance **86** is connected leading through the lead wire **88** to the other light producing element **28**.

In order to know at all times and during the operation of the apparatus as to the amount of the current or the electrical energy passes through the circuit, the lead wire connecting the impedance **86** is provided with the said incandescent lamp **84** and in addition thereto it is provided with the ammeter **90**, the volt-meter **92** and the wattmeter **94**, as shown.

While I have thus described my invention with great particularity it will be clear that the same may be modified throughout a wide range. I accordingly do not propose to be limited to the exact details of construction herein shown and described in the specification, but reserve the right in practice to make the necessary changes and modifications which may come within the scope of the appended claims.

I claim as my invention:

1. In the apparatus of the class described adapted for treating bacteria contained and diseased tissues of the subject of the living body, comprising, a housing, light rays and heat vapor producing elements positioned within said housing, an aperture positioned at one end of said housing having its discharge end disposed at close proximity to said subject, controlling means associated with said apparatus for controlling said light rays and heat vapors emanating at the said aperture and at a given distance, a lens member positioned at the said aperture for concentrating the light rays emanating from said apparatus and concentrated at an apex upon said subject for breaking up and disintegrating the germ and bacteria contained within said body tissues and co-relatively reconstructing said body tissues from which said germs and bacteria had been released by the heat action and heated vapor controlling means associated with said apparatus for controlling said vapor emanating from said apparatus and for soothing and drying up the surface of the said subject during said treatment of said tissues, the combination of, a duct member connected to said housing for conveying the germ and bacteria laden vapor passing out through said housing and out of the tissues of the body, collector member connected to said duct member for collecting said germ and bacterial laden vapor conveyed through said duct member, heating means positioned within said collector member for destroying the said germ and bacteria contained vapor passing through the said collector, and vacuum producing means associated with said collector member for drawing the said germ and bacteria contained vapor through the said collector, the said duct, also the said housing and out of the tissues of said subject, during the treatment by the said arc rays, substantially as described.

2. In the apparatus of the class described adapted for treating germ and bacteria contained and diseased tissues of the subject of the living body, comprising in combination, a housing, said housing having light rays and heat vapor producing elements internally disposed therein, an aperture associated with said housing, a lens member associated with said aperture adapted for intensifying and concentrating said light rays and heat vapors at an apex and upon the said subject, controlling means connected to said apparatus adapted for gradually changing the position of the said apex upon said subject and for gradually changing the said light rays and heat vapors concentrated at said apex, a housing controlling means associated with said apparatus for holding said housing in suspension over said subject and for controlling its position over and along the subject of the body during the treatment, vacuum producing means associated with said apparatus for drawing out and vacuuating the germ and bacteria laden vapor emanating from said exposed and diseased tissues of the subject, and means connected to said apparatus for accumulating and destroying said germ and bacteria laden vapor passing out of said tissues of said subject during the treatment, substantially as described.

3. In the apparatus of the class described adapted for treating the germ laden and diseased subject of the body, comprising, a housing, arc

ray light and arc heat producing elements disposed within said housing, a hanger member pivotally connected to said housing for holding it suspended over and for controlling its position in a line parallel with the length of said subject, an aperture positioned at least at one end of the said housing, a lens member positioned within said aperture for concentrating a diversified quantity of arc rays and arc heat waves to said subject, and controlling means associated with said housing for controlling said quantity of arc rays and arc heat waves within said housing which emanate through said lens member during the treatment of said subject of the body, the combination of, a collector member, a duct member connected to said housing and said collector member for conveying the germ and bacteria contained vapor emanating from the diseased tissues of said subject of the body, heating element member disposed within said collector for destroying the germ and bacteria contained vapor emitting from said body and passing through the said housing, a duct and the said collector member, a vacuum producing member connected to and associated with the said collector for drawing said germ and bacteria contained vapor from said housing, through the said duct and into the said collector member, and a pipe outlet member connected to the said collector and associated with the said vacuum producing member for conducting the germ and bacteria free vapor into the atmosphere.

ROBERT ROWLAND ROLD.