

Feb. 18, 1941.

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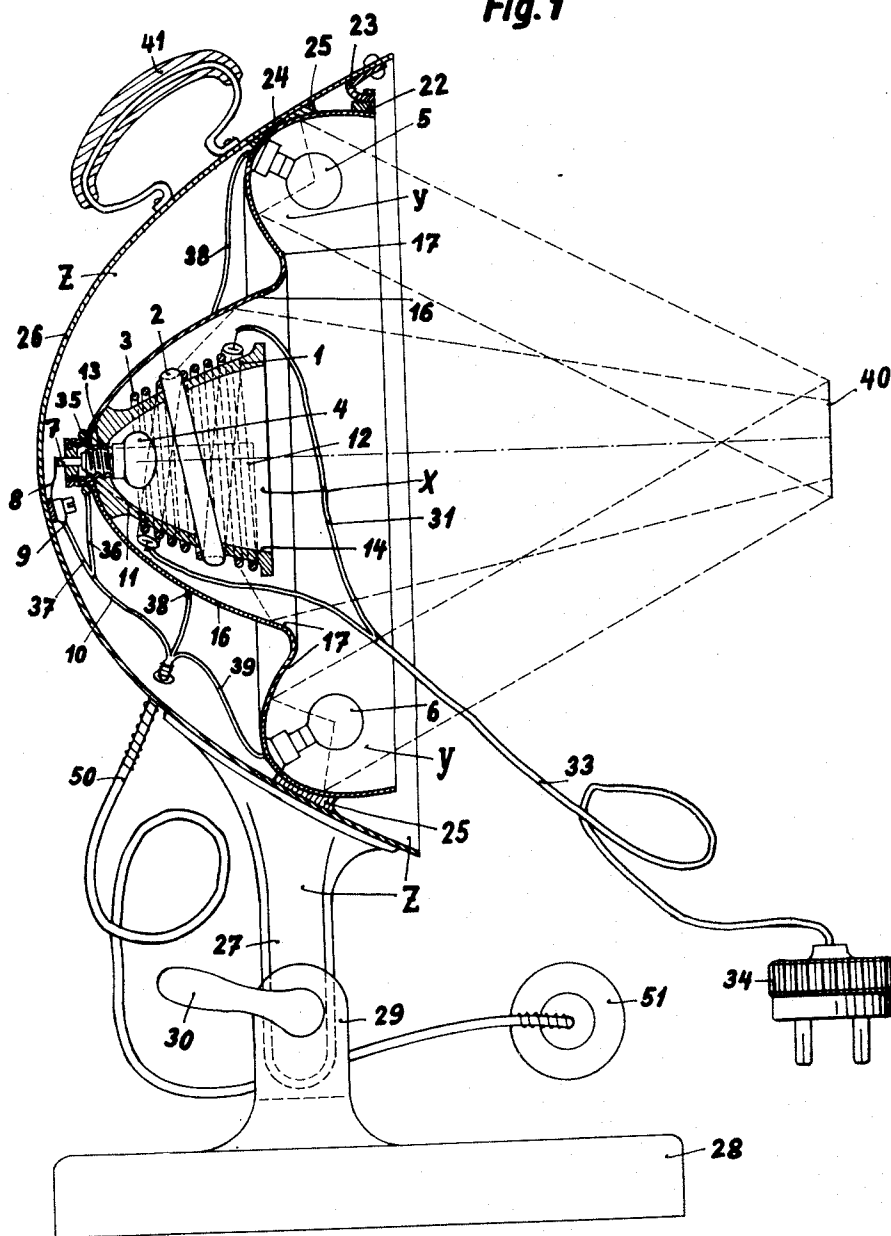
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COMBINED RADIATOR, PARTICULARLY FOR MEDICAL PURPOSES

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2 Sheets-Sheet 1

Fig. 1



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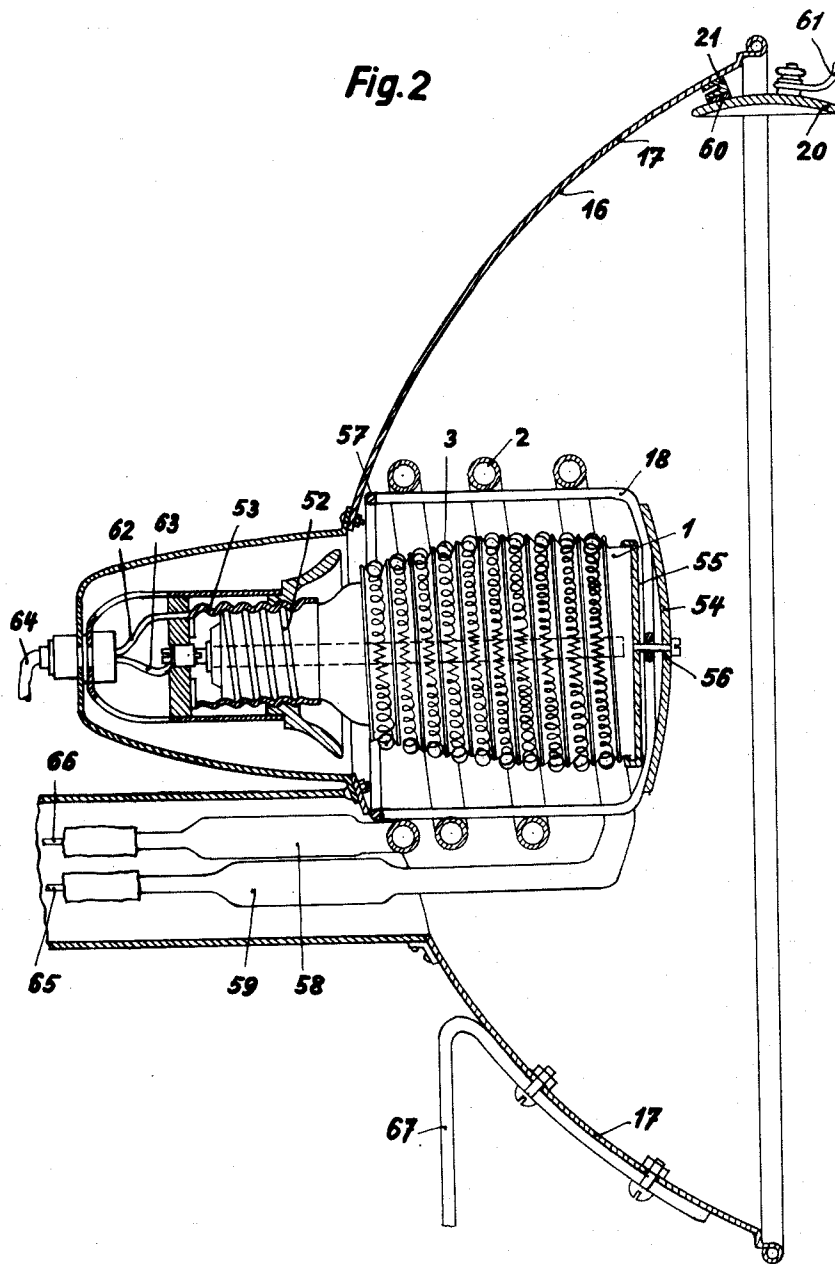
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COMBINED RADIATOR, PARTICULARLY FOR MEDICAL PURPOSES

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COMBINED RADIATOR, PARTICULARLY FOR
MEDICAL PURPOSESErwin Abeles, Vienna, Germany, assignor to Julius
Zellnik and Gustav Zellnik, both of Vienna,
GermanyApplication January 10, 1939, Serial No. 250,123
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2 Claims. (Cl. 128—395)

The object of the present invention is a combined radiator particularly for medical purposes.

In accordance with the experiments of the inventor, it has been found that with the treatment of a diseased part of the body, the simultaneous application of radiations of various physiological effects results in a surprisingly quick and thorough recovery.

In order to carry out the above mentioned progressive method of treatment without complicated and expensive apparatus, the combined radiator in accordance with the present invention has arranged thereon in the reflecting range of reflecting surfaces, a plurality of transmitters for waves of various physiological effects, such as electric short waves, light rays, heat rays.

Two embodiments of the invention are illustrated by way of example in the accompanying drawings:

Figure 1 shows partially in section, one embodiment of the radiator, in which two reflectors are provided, the inner reflector being used as a support for wave emitting means.

Figure 2 shows partially in section another embodiment of the radiator in combination with an electric short wave transmitter.

Figure 1 shows an interchangeable arrangement consisting of a reflector and wave emitting means. The part Y surrounds the arrangement X and consists likewise of a reflector and wave emitting means. At Z is indicated a covering for the arrangements X and Y, which serves at the same time as a carrying support for the entire apparatus.

The interchangeable arrangement X consists of an earthenware body 1 which is shaped parabolically at its interior side and has a reflecting surface 14. A heater wire 3 spirally encloses the earthenware body 1. A body 2 for emitting waves, for example a gas-filled glow- or luminous-tube, is arranged above the earthenware body 1 and the heater wire 3. The earthenware body 1 is provided with a thread 13 so that the entire arrangement X can be screwed into the exterior part Y, and can be unscrewed therefrom at will. A further ray emitting means, for example in the form of a glow lamp 4 is also screwed into the thread 13.

The part Y consists of a reflector 16 having a reflecting inner surface 17. The reflector 16 is subdivided stepwise and ray emitting means, for example in the form of further glow lamps 5 and 6 are provided in the externally positioned step of the latter. In accordance with the invention the external step of the reflector 16 is formed in

such a way that lamps carried by this step radiate upon the same place 40.

The reflector 16 is fixed, with the interposition of insulating elements 22, by means of arms 23 to the covering arrangement Z. The reflector 16, moreover, bears against the exterior arrangement Z at 24. Here also layers 25 of insulating material are interposed, in order completely to insulate electrically the internal arrangements Y and X at the exterior.

The arrangement Z consists of a cap-shaped covering body 26 and of a support 27. The body 26 is preferably of electrically insulating material. The support 27 is rotatably mounted in a slotted column 29 of the base 28 of the radiator. This support 27 can be fixed by means of a handle 30 in any desired position. The cap-shaped body 26 has a handle 41 fixed thereto.

The electrical supply and return leads to the wave emitting means of the arrangements X and Y are as follows: To the wave emitting tube 2 are connected the supply lead 31 and the return lead 32, which supply and return leads are united in a cable 33, which can be connected by means of a plug 34 with a high frequency, high tension current source.

The mounting of the lamp 4 co-operates with the screw 13 which is screwed into the reflector 16. The reflector 16 is connected at 35 by means of the supply lead 36 to a pole of the electric lead. The second pole for the electric bulb is formed by the conducting pin 7, which leads through a contact spring 8, terminal screw 9, to the lead 37. The leads 36 and 37 are united in a cable 10.

The heater wire 3 is connected at one end through the conductor 12 with the conducting pin 7, and at its other end through the conductor 11 with the mounting 13 to complete the heater with circuit.

Conductors 38 and 39 lead to the wave emitting means arranged in the part Y, that is to say primarily to the glow tubes 5 and 6. The leads 10, 38 and 39 are united in a cable 50 which leads to a common plug 51.

As shown in Figure 2, an earthenware body 1 carrying a heater wire 3 has a threaded portion 52 thereof screwed into a mounting 53. A carrier 18 in the form of a cage, which surrounds the earthenware body, is connected with a plate 54. A further plate 55 is fixed to the earthenware body 1. The carrier 18 is connected with the plate 55 and with the earthenware body 1 by a screw 56, and is thus held in position. This carrier 18 also bears against the reflector 16 at

57, and carries a wave emitting tube 2. The electrodes of the tube 2 are indicated at 58 and 59. The reflector 16 has a reflecting surface 17. On this reflector 16 are provided two cap-like contact members 20. These latter are connected by means of arms 21, with the interposition of an insulating layer 60, to the reflector 16. At 61 is indicated the supply lead to the electrodes 20. The supply lead to the heat wire 3 of the earthenware body 1 is indicated at 62 and 63. Both these wires are united in a cable 64. The supply wires to the parts 58, 59 of the tube 2 are indicated at 65 and 66, and a carrier of the entire arrangement is indicated at 67.

15 The conductors 65, 66 of the tube, and also the conductor 61 of the electrodes 20 lead to a transformer (not shown) which preferably is accommodated in the pedestal of the entire arrangement. In accordance with the present invention, the reflecting lining 17 of the reflector 16 and also the reflecting lining 14 (see Figure 1) is selected in accordance with the physiological effects determined by the waves to be emitted. It has been found in the experiments of the inventor, that in accordance with the kind of waves to be emitted, it is favourable to employ at one time silver and at another time gold, for example, as reflecting linings.

20 The mode of operation of the radiator in accordance with Figure 1 is as follows: According to the disease of the part of the body to be treated, bulbs 4, 5 or 6 are chosen. These latter may be quartz light bulbs, mercury vapour bulbs etc. Then the plugs 34 and 51 are connected to the corresponding conductors, the entire arrangement is brought into the desired position by aid of the toggle 30 and of the handle 41 and fixed there. The arrangement is now ready for radiation.

40 With the radiator in accordance with Figure 2, the procedure is similar. Upon connecting the

supply leads 65, 66 of the wave emitting tube and also of the conductors 61 of the short wave electrodes, and upon connection of the conductor 64 of the heat wire, the apparatus is ready for operation.

The apparatus illustrated in Figures 1 and 2 are only given as an example for carrying the invention into effect. The invention is in no way restricted to these embodiments, which can be modified at will without departing from the scope of the invention. Particularly, all possible combinations of wave emitting means can be employed in accordance with the various diseases to be treated. As for example the heat element 1, 2 and the tube in accordance with Figure 2 may be employed in the radiator in accordance with Figure 1 instead of the arrangement X.

Due to the simple manipulation and low manufacturing costs of the radiator, in accordance with the present invention, it is possible to make the progressive method of treatment with this apparatus accessible to the public at large.

I claim:

1. In a radiator for medical purposes, in combination with a reflector, a carrier element mounted in said reflector, a heater wire wound helically on said carrier element, and a wave emitting glow tube formed into a helix surrounding said carrier element and heater wire and being supported on said carrier element.

2. In a radiator for medical purposes, in combination with a reflector, a hollow carrier element having a parabolically shaped inner reflecting surface and being mounted in said reflector, a lamp disposed in said carrier approximately in the focus of said parabolical surface, a heater wire wound helically on said carrier element, and a wave emitting glow tube formed into a helix surrounding said carrier element and heater wire and being supported on said carrier element.

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