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R. H. MAXSON

1,697,607

THERAPEUTIC LAMP UNIT

Filed Oct. 11, 1926

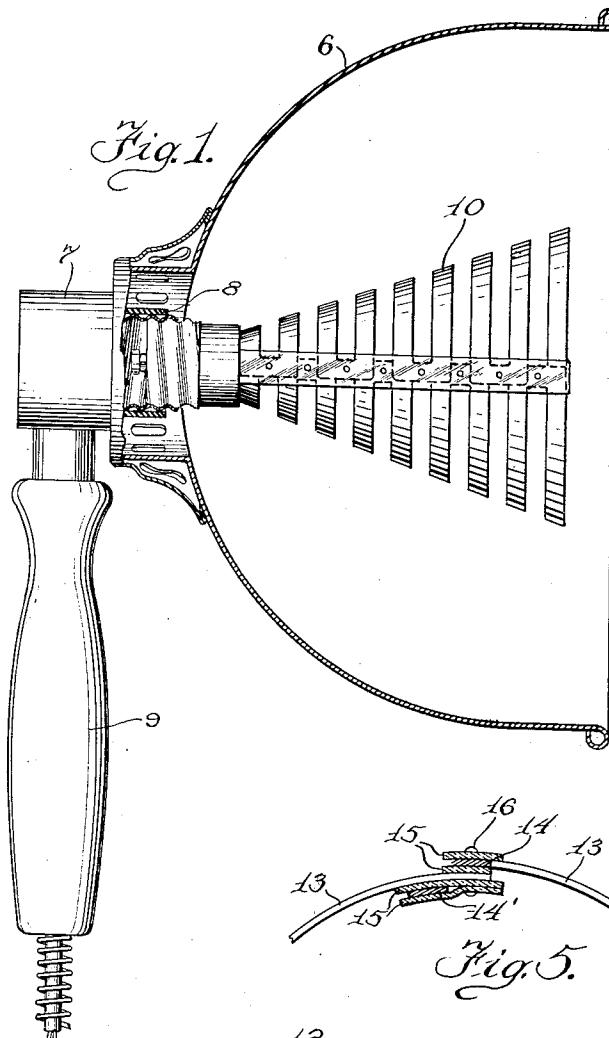


Fig. 2.

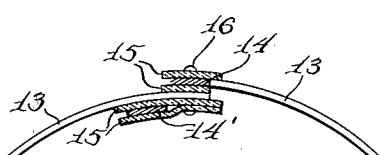
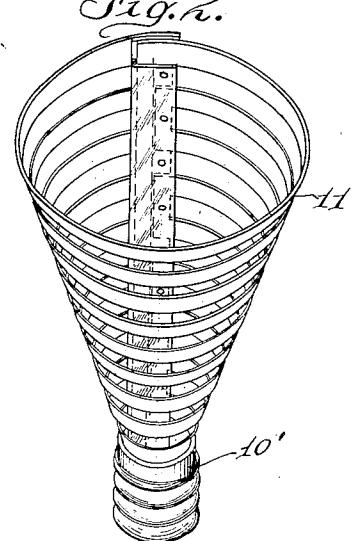


Fig. 3.

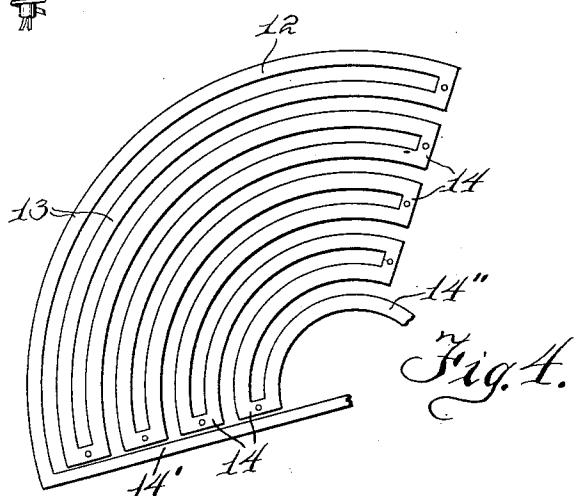
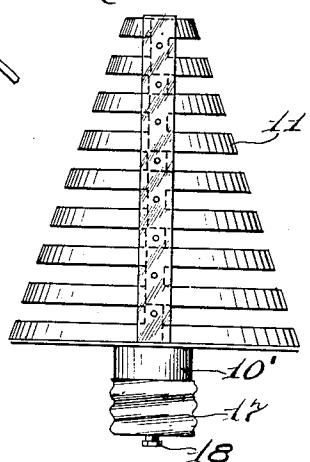


Fig. 4.

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UNITED STATES PATENT OFFICE.

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THERAPEUTIC-LAMP UNIT.

Application filed October 11, 1926. Serial No. 140,842.

My invention relates to therapeutic lamps.

It relates more particularly to an improved light and heat generating unit for use in therapeutic lamps wherein the production of the red and infra-red rays are of primary concern, although, of course, it may be applied to other lamps.

An object of my invention is to provide an improved radiant energy generating unit for use in therapeutic lamps.

Another object is to provide a generating unit which is simple and economical in construction.

Another object is to provide a generating unit wherein the radiant energy is emitted directly from a self-sustaining metallic resistance element.

Other objects and advantages will appear as the description proceeds.

20 In the accompanying drawings,

Fig. 1 is a side elevation of the radiant energy generating unit of my invention mounted in a suitable reflector which is shown partly in section;

25 Fig. 2 is a perspective view of one form of my improved generating unit;

Fig. 3 is a side elevation of another form of my improved generating unit;

30 Fig. 4 shows the blank from which the resistance unit is formed; and

Fig. 5 is a detail view showing the manner in which the overlapping edges of the resistance unit are secured together.

The lamp comprises generally a parabolic reflector 6 carried on a plug receptacle housing 7, an electric screw plug receptacle 8 mounted therein, a handle 9 attached to the housing, and a radiant energy generating unit 10 carried by the screw plug receptacle. The handle, housing, screw plug receptacle, and reflector may be of any suitable construction which will conveniently serve the purpose of connecting the generating unit to a source of electric current, and will effectively reflect the 45 radiant energy emitted thereby.

My improved generating unit comprises a screw plug 10' adapted to fit in the usual commercial form of electric socket or receptacle, and an electrical resistance element or grid 11 mounted on the plug. This resistance element or grid is formed from a blank 12 punched, or otherwise formed, from a sheet of nickel steel, or other suitable resistance material which will not readily deteriorate

under heat. From an inspection of Fig. 4, 55 it will be seen that the blank 12 comprises a series of spaced arcuate strips 13, each end of such a strip being connected to one end of an adjacent strip by means of alternate radial strips 14, thereby providing a circuitous 60 path for the electric current. The longest and shortest arcuate strips are provided with leads 14' and 14'', respectively, which leads are adapted to be connected to the inner and outer contacts 17 and 18 of the base plug. 65 The blank shown in Fig. 4 is adapted to be mounted on the base plug with its small end adjacent the plug as illustrated in Fig. 2. For such mounting the lead 14' is made comparatively long in order to extend from the outermost strip 13 to the center or inner contact 18 of the base plug, whereas the lead 14'' need be only comparatively short to connect its arcuate strip with the outer contact 17 of the plug. 75

In mounting the grid on its supporting plug, the blank 12 is first bent into a conical form with its edges overlapping, as shown in detail in Fig. 5. The long lead 14' may be bent back and arranged on the inside of the 80 grid, as shown. Insulating strips 15 of mica, or similar material, are placed between and on both sides of the overlapping edges, one of these strips being of extra width to further provide for and insulate the lead 14' from the adjacent edge of the grid. A similar broad strip of mica is placed on the inner face of the lead. The lead 14' and the overlapping edges are securely held together by rivets 16, or similar fastening means. In order that 85 these rivets will not short-circuit the grid, each rivet passes through all of the mica strips and one edge of the grid, the spacing of of these rivets being such that the second edge presents a gap through which the rivet may 90 pass without contact therewith.

The conical grid thus formed is then mounted on base plug 10', with the leads of the grid connected to the contacts 17 and 18 carried by the plug. As shown by the drawings, the grid may be mounted with either its large or small end adjacent the plug. 100

It is to be understood that my invention is not limited to the form shown in the drawing, and that various modifications may be made 105 within the scope of the invention.

Having thus illustrated and described an embodiment of my invention, what I claim

and desire to secure by United States Letters Patent is as follows:

1. In a therapeutic lamp, a radiant energy generating unit comprising a base adapted to be brought into electrical connection with the socket of the lamp, and a self-sustaining metallic grid mounted on said base and capable of emitting red and infra-red light.
2. A radiant energy generating unit for therapeutic lamps, comprising a base, and a radiant energy emitting member mounted on said base, said member comprising spaced self-sustaining metallic strips, exposed to the atmosphere.
3. A radiant energy generating unit for therapeutic lamps comprising a base, and a radiant energy-emitting member consisting of a self-sustaining conical grid composed of spaced metallic strips.
4. A radiant energy generating unit for therapeutic lamps comprising a base, and a radiant energy emitting member having an axis and consisting of parallel coils lying in planes normal to the axis.
5. A radiant energy generating unit for therapeutic lamps including a base, and a radiant energy emitting member comprising coils of varying sizes lying in parallel planes.
6. In a therapeutic lamp, a plug receptacle housing, a parabolic reflector mounted thereon, an electrical plug receptacle mounted in said housing, and a radiant energy generat-

ing unit adapted to be secured in said plug receptacle, said unit comprising a conical metallic grid, the inner surface of which is adapted to emit red and infra-red rays for direct application, the outer surface of which is adapted to emit similar rays directed towards the reflector and re-directed thereby.

7. A therapeutic lamp including a plug receptacle housing, a reflector mounted thereon, a plug receptacle mounted in said housing, and a ray generating unit adapted to be secured in said plug receptacle and comprising a plug and a self-sustaining, radiant energy emitting grid carried thereby, said grid being exposed to the atmosphere and consisting of spaced metallic strips presenting an inner surface for emitting energy directly to the patient's body and an outer surface for emitting energy directed toward said reflector and adapted to be redirected toward the patient's body thereby.

8. A radiant energy generating unit for therapeutic lamps comprising a base and a radiant energy emitting member consisting of a self-sustaining metallic grid having spaced coils, each coil including two ends, and metallic strips perpendicular to said coils and connecting the ends thereof to form an electrical conductor.

In witness whereof, I hereunto subscribe my name this 7th day of October, 1926.

ROLLAND H. MAXSON.