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LIGHTING FIXTURE FOR SURGICAL OPERATING ROOM

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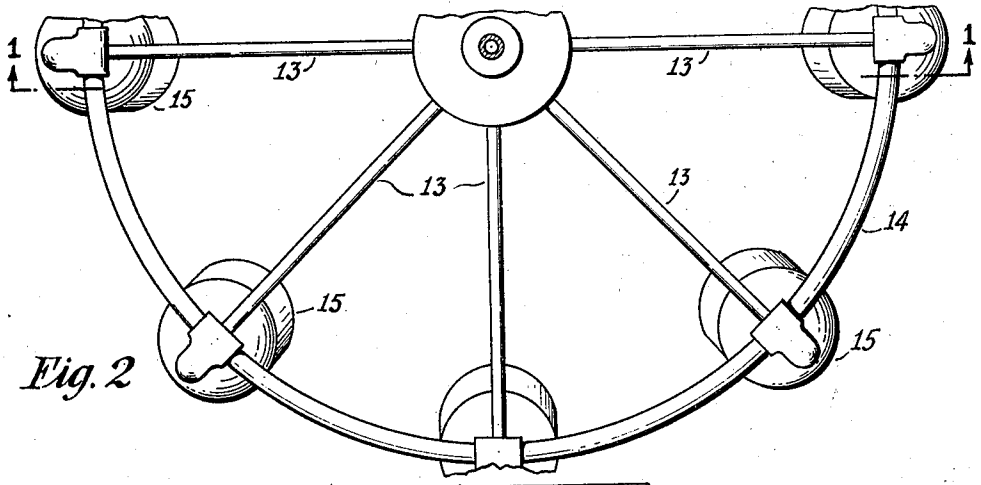


Fig. 2

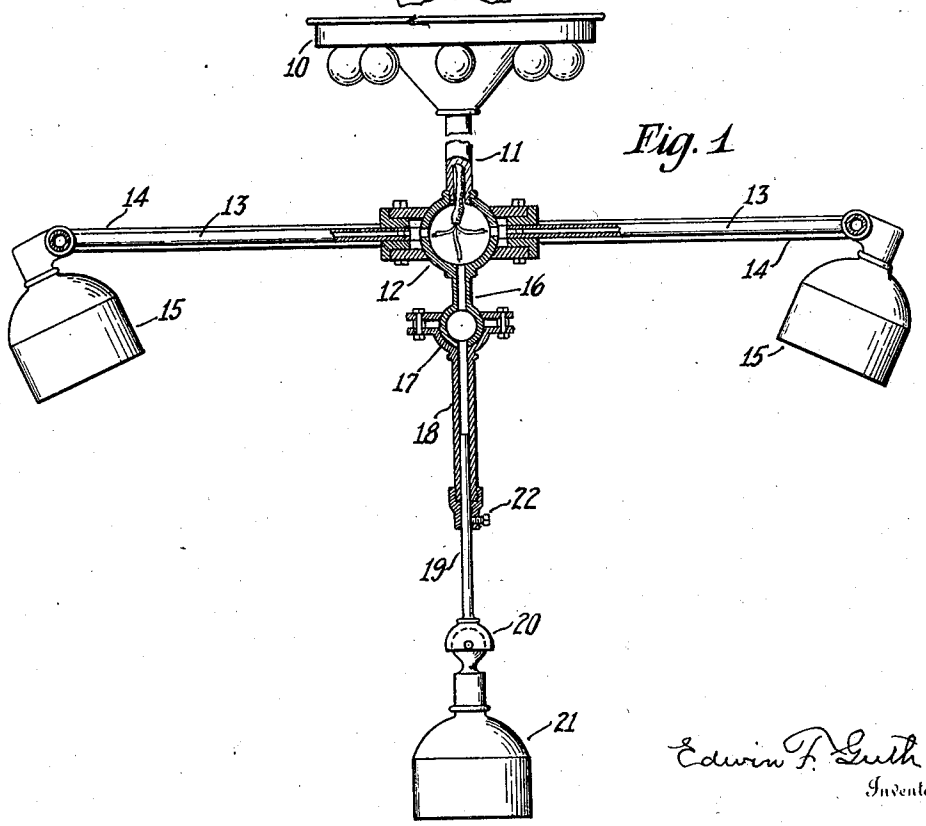


Fig. 1

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LIGHTING FIXTURE FOR SURGICAL OPERATING ROOM.

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My invention relates to the art of illumination and particularly to lighting fixtures adapted for use in surgical operating-rooms. Lighting fixtures for this purpose must be susceptible of adjustment for concentration of the light beams in a small area, and my object is to provide a fixture so formed as to carry a multiplicity of lighting units, each with concentrating reflectors, all arranged with relation to each other that their beams are focused upon a certain desired area.

A further object is to combine with such a fixture as above set forth, a single adjustable light, which may be termed a utility light, for the operator.

My invention consists of certain details of construction hereinafter set forth, pointed out in my claims and illustrated in the accompanying drawings, in which

Fig. 1 shows a side elevation view, partially in section, (a part of the standard being broken away) of my lighting fixture;

Fig. 2 shows a portion of a plan view thereof.

Referring to the accompanying drawings, reference numeral 10 is used to indicate a canopy secured to a junction box (not shown) from which my fixture depends. The numeral 11 indicates the depending standard to which the main part of my fixture is attached. At the base of the standard 11 I have formed a swinging ball joint 12, and radiating from the supports around said joint are a plurality of arms 13 which support a ring 14, and also may provide conduits for current carrying wires. At the ring and at the end of each of said arms is secured a concentrating reflector 15, and each reflector, obviously, surrounds a lighting unit. The aforesaid arms are regularly spaced and arranged so that the lighting unit at the end of each arm is spaced regularly and evenly from its adjacent unit.

As shown in the drawings there are a plurality of reflectors 15 covering the circular area described by the ring. Each of these reflectors is positioned so that the light beams from each are focused upon the particular area and the field so illuminated may be shifted and positioned at the desire of the operator by moving the complete fixture, as a unit, from the one ball joint 12. By this construction an intense brilliant light from a multiplicity of similar sources is concentrated on the area desired for the operation.

In conjunction with the structure, as above outlined, I have secured a support 16 depending from ball joint 12, this support itself ending in a ball joint 17. Depending from ball joint 17 is a supporting shaft 18 which receives, in the telescoping combination, a shaft 19, which terminates in a universal joint 20. Depending from the joint 20 is a reflector 21 to receive a lamp (not shown). The numeral 22 indicates the adjustable locking means employed to position the telescoping of the two shafts Nos. 18 and 19. This lamp in the reflector 21 is designed as a utility, or auxiliary, light, which may be placed in any position desired by the surgeon, without disturbing the concentration of the light at the point particularly needed for operation.

By my construction, the beam from the multiplicity of lights is from a nearly vertical source, whereas the utility light, being supported from an additional universal joint and with telescoping tubes, adds an additional concentrated light beam, the source of which may be positioned so that the light comes from the side, and may even issue from practically a horizontal position.

It is believed the construction and operation of my device is obvious.

Having thus described my invention what I claim and desire to secure by Letters Patent of the United States is:

1. A lighting fixture comprising a plurality of arms extending from a central support; a concentrating reflector at the end of each arm, a light source within each reflector; means to rigidly support the reflectors from their respective arms; an adjustable telescoping support depending from the central support; a ball joint at the base of the telescoping support; a concentrating reflector depending from said ball joint and a light source within the reflector.

2. A lighting fixture comprising a support; a hub mounted for swinging movement on said support; arms, evenly spaced and arranged, radiating from the hub, all of said arms being of equal length; a concentrating reflector rigidly secured to the end of each arm and depending therefrom; a light source enclosed in each reflector, the construction being such that the beams from the light sources are all concentrated in a certain area; a telescoping support secured to and depending from the hub; a ball joint at the end of said telescoping support and a

reflector secured thereto, and a light source within the last named reflector.

3. A lighting fixture comprising a support; a hub mounted for swinging movement on said support; arms, evenly spaced and arranged, radiating from the hub, all of said arms being of equal length; a ring surrounding the arms and secured near the ends thereof; a concentrating reflector rigidly secured to the end of each arm, a light source within each reflector, the construction being such that the beams from the light sources converge and are concentrated upon a common area.

4. A lighting fixture comprising a support; a hub mounted for swinging movement, depending from said support; arms, evenly spaced and arranged, radiating from the hub, all of said arms being of equal length; a ring surrounding the arms and secured near the ends thereof; a concentrating reflector rigidly secured to the ends of each arm; a light source within each reflector; an adjustable telescoping support depending from the hub and mounted for universal movement from its support; a ball joint at the base of the telescoping support; a reflector depending from said ball joint and a light source within the reflector.

5. A lighting fixture comprising a supporting stem; means secured thereto for swingingly mounting a metallic ring to the said stem; concentrating reflectors secured to said ring, said reflectors being evenly spaced and arranged around the ring and also being rigidly positioned so that the beams of light issuing from the light sources enclosed thereby will converge and be directed on a certain area at a certain distance below the fixture; a telescoping stem depending from the support for said ring; a universal joint at the lower end of said telescoping stem and a reflector at the end of said stem; there being sockets and lighting units for all reflectors mentioned substantially shown and described.

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