Oct. 9, 1923. 1,469,841

L. LAZAR

ADJUSTABLE SPOTLIGHT FOR DENTAL CHAIRS

Original Filed Aug. 5, 1920 2 Sheets-Sheet 1

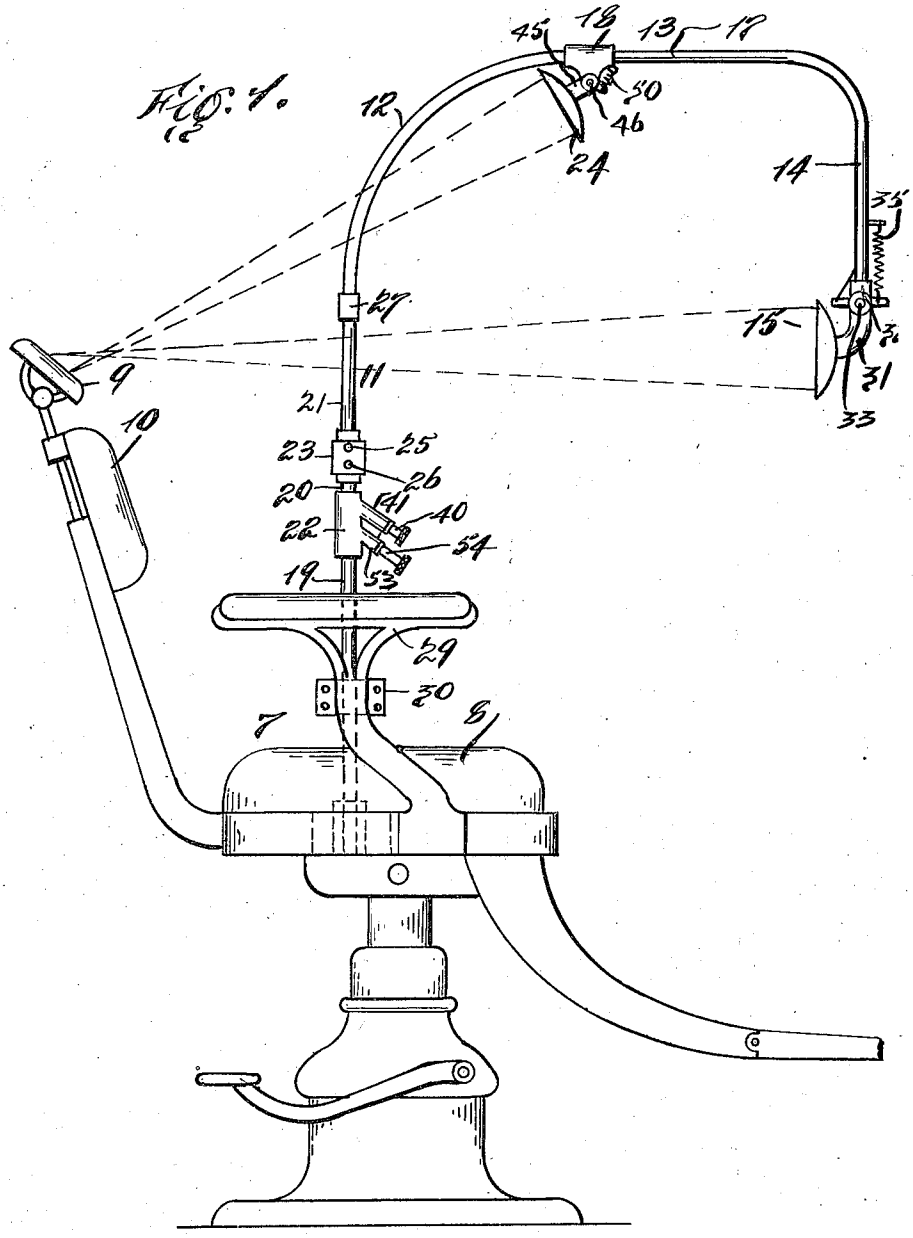


Fig. 1.

Inventor
Leon Lazar

By his Attorney
Maurice Block

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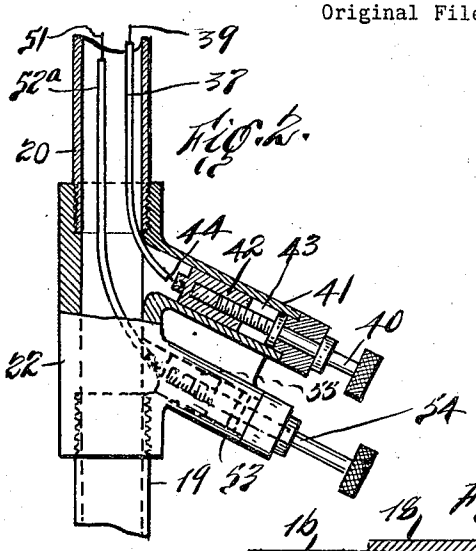


Fig. 2.

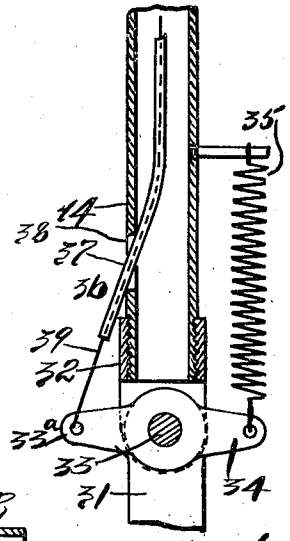


Fig. 3.

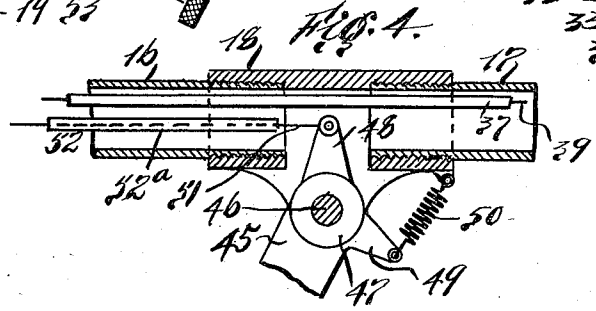


Fig. 4.

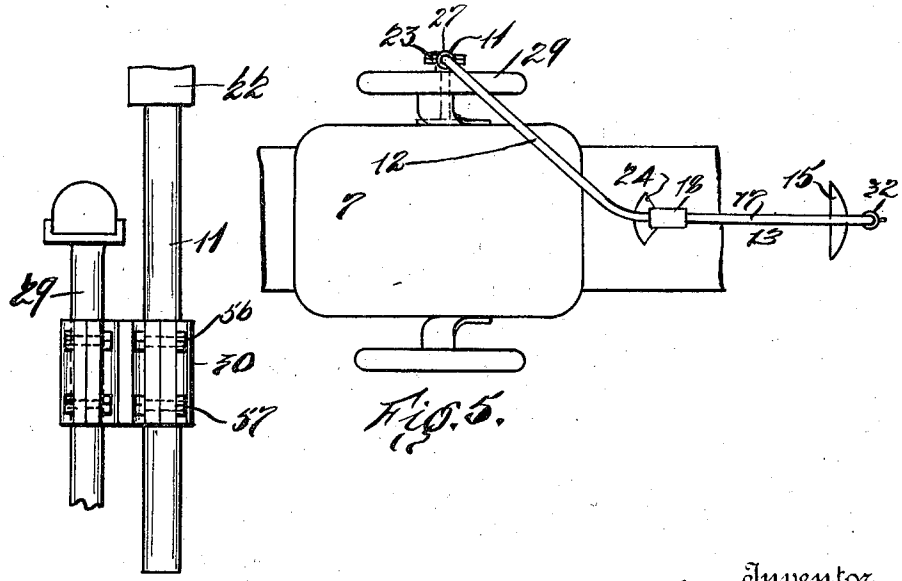


Fig. 5.

Fig. 6.

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UNITED STATES PATENT OFFICE.

LEON LAZAR, OF NEW YORK, N. Y.

ADJUSTABLE SPOTLIGHT FOR DENTAL CHAIRS.

Application filed August 5, 1920, Serial No. 401,333. Renewed March 2, 1923.

To all whom it may concern:

Be it known that I, LEON LAZAR, a citizen of the United States of America, residing at New York city, county and State of New York, have invented certain new and useful Improvements in Adjustable Spotlights for Dental Chairs, of which the following is a full, clear, and exact description.

This invntion relates to improvements in adjustable spotlights for dental chairs, one of the objects being to provide a light or lights arranged to cast rays directly upon the patient in the chair to facilitate dental operations.

I am aware that lights for this purpose are in use, but these lights as at present arranged are faulty, in that they are not accessible and have to be constantly adjusted. In other words, an adjustment for one patient will not be suitable for another, and the adjustment of the light or lights necessitates the dentist leaving the side of the patient, which at times is bothersome.

My present invention is an improvement on the device set forth in a co-pending application, No. 356,376, filed by me on the 5th day of February, 1920.

To carry my present improvement into practice, I mount, preferably at one side of the dental chair, an upstanding support, arranged to carry the various lights. I do not wish to limit myself to the above mentioned position, as I may mount the support at the back of the chair, or at the right side or left side. In any event the upstanding support will be long enough to support the lights, so that they will clear the dental engine or other accessories incidental to dentistry which may be positioned close to the chair.

In order to render the device compact, I prefer to locate the operating mechanism, to adjust the lights and switches for the circuit therefor, directly upon the post within easy reach of the operator.

I will now proceed to describe my invention in detail, the novel features of which I will point out in the appended claims, reference being had to the accompanying drawings, wherein:—

Fig. 1 illustrates diagrammatically a dental chair, having my improvement applied thereto;

Figs. 2, 3 and 4 are sectional views, illustrating the mechanism for operating the various lights;

Fig. 5 is a diagrammatic plan view, illustrating the formation of the vertical support and its position on the chair; and

Fig. 6 is an enlarged fragmentary detail view, illustrating one way to secure the support to a chair.

Fig. 1 of the drawings illustrates a well known form of dental chair, indicated by 7, the seat 8 of which can be raised or lowered or tilted backward or forward. These features have not been illustrated as they are well known; the tilting or raising or lowering the seat also includes the head-rest 9 and shoulder rest 10. In this instance I provide a support consisting of a vertical member 11, a curved horizontal disposed member 12, extending therefrom and positioned diagonally of the chair 7, and an arm 13 extending from the member 12, which is positioned longitudinally of the chair 7. At its outer end the extension 13 is turned down as at 14 and pivotally supports a spotlight 15. The various tubular members, of which the support is formed, are connected by coupling members. The horizontal member 13 of the support is connected to member 12 in this instance by a coupling 18. The vertical member 11 is made up of members 19, 20 and 21, the members 19 and 20 being connected by a coupling 22 and the members 20 and 21 by a coupling 23, constituting a switch block to control the circuit for the lights 15 and 24. The push buttons of the switch are indicated by 25 and 26. The switch 23 is not illustrated in detail for the reason that it is of a well known variety. The horizontally diagonally disposed curved support member 12 is connected to member 11 by a coupling 27 (see Fig. 1). The support may be connected to an arm 29 of a chair by a clamp bracket 30. To adjustably support the light 15, I provide the frame thereof with an arm 31 pivotally connected to a bracket 32, carried by the turned down portion of the support member 14, by a pin 33. The arm 31, in this instance, carries two arms 33[a] and 34 for the attachment thereof of a spring 35 and Bowden wire mechanism 36 for adjusting the light. The tube 37 of the Bowden wire mechanism projects through an opening 38 in the support member 14. To operate the wire 39, I provide a lead screw 40 rotatably supported by a projection or lug 41 carried by the coupling member 22. The lead screw 40 operates a follower 42 slidably in the bore 43 of the lug 41. The wire 39 will be attached to the

follower, as at 44, Fig. 2. When the screw 40 is rotated in one direction, the pull upon wire 39 will draw the light 15 downwardly In this manner, light 15 can be adjusted to any desired angle to cast the rays of light from the lamp 15 where desired. The frame of the light 24 carries an arm 45 pivotally connected at 46 to coupling member 18 for the support members 16 and 17 (see Fig. 4). The hub 47 of said arm carries other arms 48 and 49. The arm 49 is connected to a return spring 50 anchored to the coupling 18. The arm 48 is connected to a wire 51 of a Bowden wire mechanism 52, the tube 52^a of which extends at one end into the bore of the lug 53 carried by the coupling member 22. The lug 53 carries a lead screw 54 similar to screw 40 and a follower similar to follower 42, to which the adjacent end of wire 51 is connected. It will be apparent that the lights 15 and 24 can be adjusted to any desired angle in a vertical plane by manipulating the screws 40 and 54. The support as a whole may be adjusted vertically by loosening the screws 56 and 57, carried by the clamp 30, which secures the support to the chair. When the chair 7 is adjusted vertically, tipped or rotated in a horizontal plane, the support will also move with it; the adjusting screws always being convenient to the operator as well as the switch 23. As has been stated, I do not limit myself to sesuring the support to the arm of a chair but may secure it anywhere else convenient. Levers may be substituted for the lead screws 40 and 54, if desirable.

Having described my invention, what I claim and desire to secure by Letters Patent is:—

1. In a spotlight adapted for use with a dental chair, a vertically disposed support, a spotlight adjustably secured to the free end of the support, a spotlight adjustably secured to the support intermediate its ends, and means carried by the support arranged to adjust said spotlights in order that rays of light can be directed into the mouth of a patient, one light being for the upper jaw, the other for the lower jaw.

2. In a spotlight adapted for use with a dental chair, a vertically disposed support comprising a plurality of tubular members, couplings connecting the tubular members, a spotlight adjustably connected to one end of said support, a spotlight adjustably secured to one of said couplings, adjusting elements carried by another of said couplings, and Bowden wire devices connecting said lights and adjusting elements.

3. In a spotlight adapted for use with a dental chair, a vertically disposed support comprising a plurality of tubular members, couplings connecting the tubular members, a spotlight adjustably connected to one end of said support, a spotlight adjustably secured to one of said couplings, lead screws carried by another of said couplings, followers actuated by the lead screws, and Bowden wire devices connecting said lights and followers.

4. In a spotlight adapted for use with a dental chair, a vertically disposed support comprising a plurality of tubular members, couplings connecting the tubular members, a spotlight adjustably connecting to one end of said support, a spotlight adjustably secured to one of said couplings, lead screws carried by another of said couplings, followers actuated by the lead screws, Bowden wire devices connecting said lights and followers, and a clamp for securement to the chair, arranged to adjustably support said vertical support.

5. In a spotlight, a vertical support, arranged to be attached to a dental chair, at one side thereof, having its upper portion arranged to be positioned above the chair in a vertical plane longitudinally and centrally of the chair when said support is attached to same, a spotlight carried by the support at its outer end, a spotlight also carried by the support intermediate its ends, and means to adjust said lights independently of each other to direct the rays thereof into the mouth of a patient, one light being for the upper jaw and the other for the lower jaw.

Signed at New York city, N. Y., this 4 day of August 1920.

LEON LAZAR.