R. F. STRICKLAND.

MOUNTING FOR INCANDESCENT LAMPS.

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1,373,920.

Patented Apr. 5, 1921.

Fig. 1

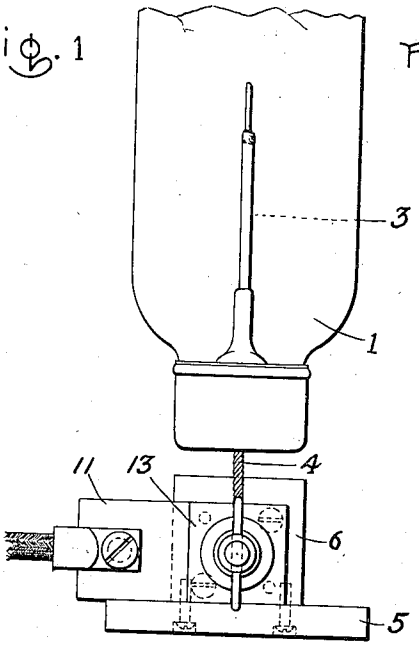



Fig. 2

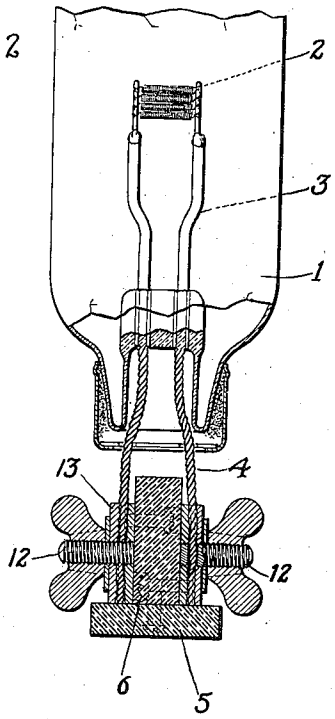



Fig. 3

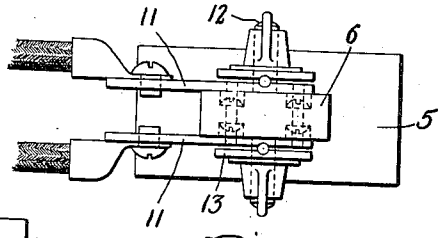
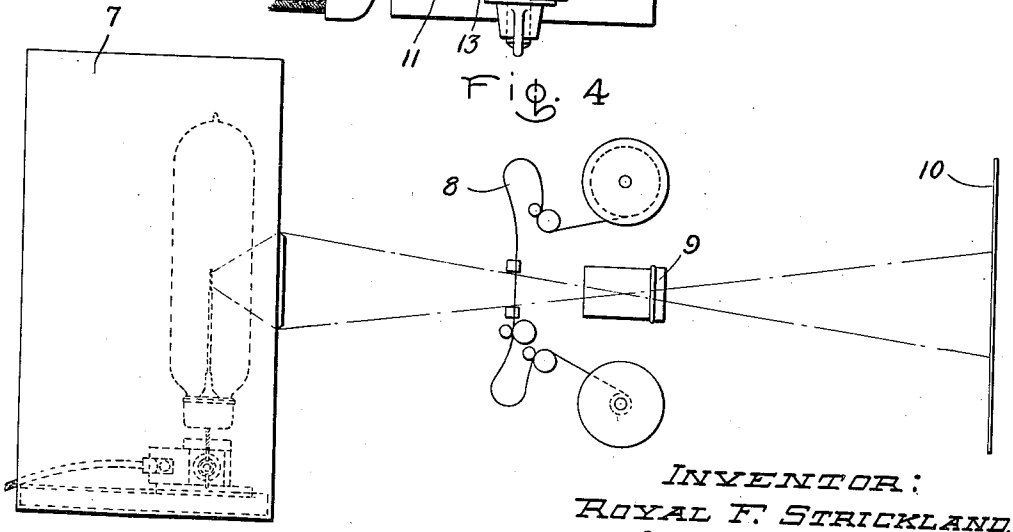



Fig. 4




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# UNITED STATES PATENT OFFICE.

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## MOUNTING FOR INCANDESCENT LAMPS.

1,373,920. Specification of Letters Patent. Patented Apr. 5, 1921.

Application filed March 6, 1917. Serial No. 152,774.

*To all whom it may concern:*

Be it known that I, ROYAL F. STRICKLAND, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga, State of Ohio, have invented certain new and useful Improvements in Mountings for Incandescent Lamps, of which the following is a specification.

My invention relates to projection apparatus and especially to an incandescent lamp and mounting for use in such apparatus.

My invention is particularly useful in moving picture projection apparatus employing an incandescent filament lamp of the monoplane type. In order to secure the highest efficiency in operation it is necessary that the plane of the monoplane filament be disposed at right angles to the optical axis of the apparatus and in prior devices the lamp mountings have the disadvantage that the lamp filament is often improperly alined with reference to the optical axis due to the inaccuracies of the lamp base and receptacle, and especially is this true in the screw base and socket type of lamp mounting. Even when the greatest care is exercised in positioning and alining the socket or receptacle upon inserting the lamp in the receptacle and screwing it home it often occurs that the plane of the filament is inclined to the optical axis of the apparatus. By my invention I avoid this difficulty and insure that the monoplane filament is at all times properly alined with reference to the moving picture projection apparatus. I accomplish this by means of a particular kind of base and mounting for the base whereby it is impossible to insert the lamp in any other than the correct position with reference to the axis. More particularly I provide on the lamp or lamp base a centering or alining means whose position is predetermined in such a manner with reference to the filament plane and to the lamp support that by the mere act of inserting the lamp in the receptacle the monoplane filament is thereby accurately positioned and alined to obtain the maximum efficiency. According to the preferred arrangement the alining means comprises the leading-in conductors themselves which project through and beyond the lamp base and are adapted to be received by clamp sockets, the arrangement being such that the lamp is properly alined upon the insertion of the leading-in wires into the sockets and the clamping thereof securely in position. This arrangement has the further advantage in addition to its alining properties of affording a large contact area between the leading-in conductors and the socket, this being especially desirable in the parallel connected filament type of lamp which consumes large amperage.

For a better understanding of my invention reference may be had to the drawings accompanying this application, Figure 1 of which shows a side view of the lamp and lamp mounting. Fig. 2 is a sectional view thereof. Fig. 3 is a plan view of the lamp mounting and Fig. 4 is a conventional illustration of the lamp and lamp mounting in use with a moving picture projection apparatus.

Referring to the drawings, a lamp 1 is illustrated containing a proposed parallel connected multiple filament of the monoplane type, this filament 2 being mounted therein on suitable supports 3. These supports 3 are electrically connected with the outside supports and conductors 4, both these supports 3 and 4 being of large enough cross-section to carry a large current which amounts in some cases to 80 amperes. These external supports and conductors 4 are adapted to be received by lamp mounting comprising an insulating base 5 and insulating standard 6, this mounting being adapted to be inserted and fixed into the lamp housing 7 of a moving picture projection apparatus, the apparatus comprising a film 8 and an objective 9, and screen 10. The standard 6 of the lamp mounting has fixed to the opposite sides thereof the conducting plates 11, the attachment being made in any convenient manner as for instance by the screw bolts whose heads are countersunk in the insulating standard 6, as illustrated in dotted lines. These plates 11 have attached thereto the screws 12 which receive two thumb clamping nuts, as illustrated, for clamping the conductors 4 between the plates 11 and the plates 13. These plates 11 and 13 conveniently have vertical grooves therein which face each other and receive the conductors 4 and the screws 12 have apertures registering with these grooves for permitting the conductors to pass there-

through. The conducting plates 11 on their free ends carry, as illustrated, suitable terminals for connection with the supply circuit. In the operation of applicant's device the lamp mounting is located in the lamp housing 7 or is adapted to be easily mounted therein with the lamp 1. When a lamp burns out all the operator has to do is to insert a new lamp in a receptacle vacated by the burned out lamp which is easily accomplished by manipulation of the thumb nuts on the screws 12, the leading-in wires or supports 4 insuring that the plane of the monoplane filment 2 is at right angles to the axis of the projection apparatus. Moreover, the difficulties encountered in prior devices due to poor contact between the lamp base and the socket usually due to soldering troubles are entirely eliminated, as a perfect contact of sufficient area is obtained between the conductors 4 and the clamping plates 11 and 13 to avoid undue heating of the lamp base. It will be obvious that the height of the filament tube above the base 5 may be accurately fixed by causing the conductors 4 to contact with said base as shown in Fig. 2.

What I claim as new and desire to secure by Letters Patent of the United States, is:

1. In an illuminating arrangement for projection apparatus the combination of an incandescent lamp having a monoplane filament and a lamp mounting, with leading-in conductors projecting through the lamp base and serving as supports therefor adapted to be received by sockets in the lamp mounting whereby the lamp may be properly alined with reference to the optical axis of the projection apparatus merely by the insertion of the lamp leads in the socket.

2. In an illuminating arrangement for projection apparatus the combination of an incandescent lamp having a monoplane filament and a lamp mounting, with leading-in conductors projecting through the lamp base and serving as supports therefor adapted to be received by sockets in the lamp mounting whereby the lamp may be properly alined with reference to the optical axis of the projection apparatus merely by the insertion of the lamp leads in the socket, said sockets comprising clamping plates and a screw passing through said plates and apertured to receive one of said conductors and a nut engaging said screw and adapted to clamp said plates against said conductors.

3. In an illuminating arrangement for projection apparatus the combination of an incandescent lamp having a filament designed so that the light rays emanating therefrom will be at a maximum in a single direction, said lamp having leading-in conductors definitely disposed with reference to said filament projecting through the base thereof and serving as supports therefor and a lamp mounting comprising holding means for receiving the ends of said conductors whereby a lamp may be properly alined with reference to the aforesaid direction by the insertion of the said conductors in the said holding means.

In witness whereof, I have hereunto set my hand this 3rd day of March, 1917.

ROYAL F. STRICKLAND.