Nov. 12, 1929. F. H. OWENS 1,735,334

ADJUSTABLE LAMP HOLDER

Filed April 26, 1927 2 Sheets-Sheet 1

Fig. 1

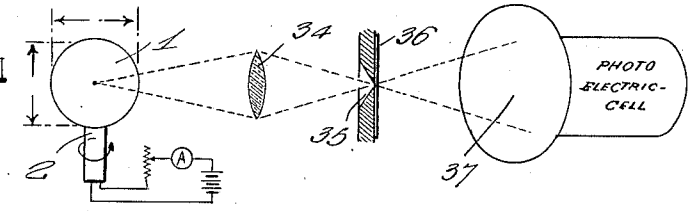


Fig. 2

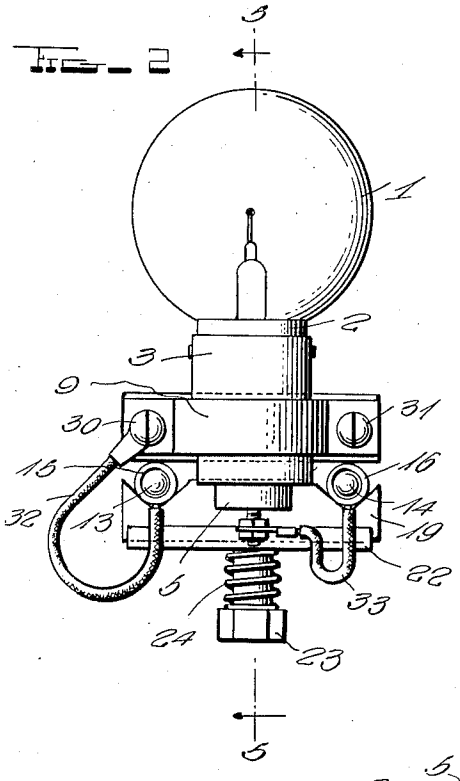


Fig. 3

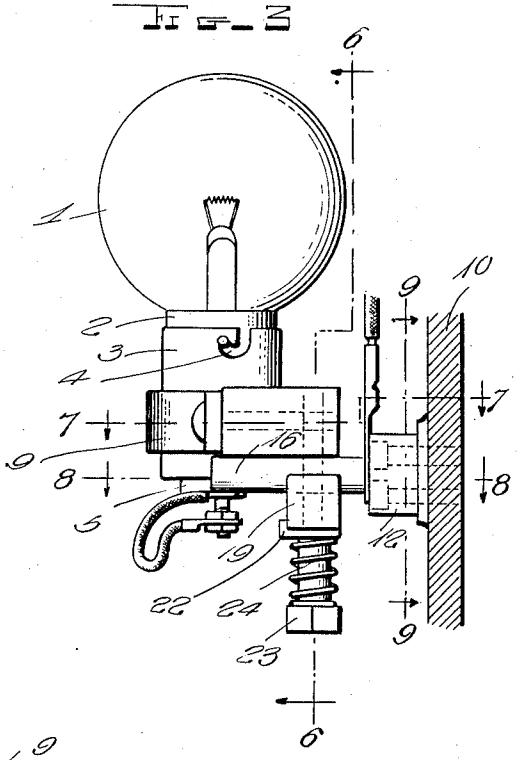
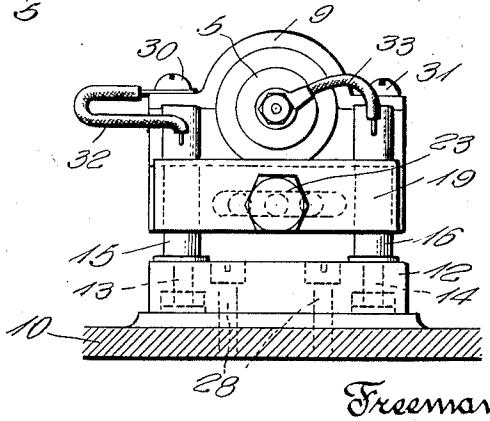


Fig. 4



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Filed April 26, 1927 2 Sheets-Sheet 2

Fig. 5

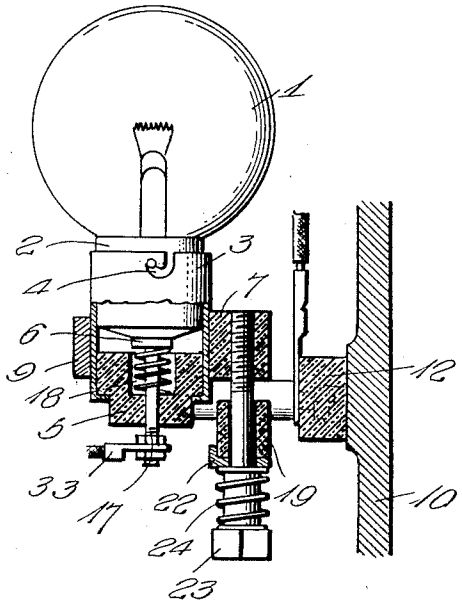


Fig. 6

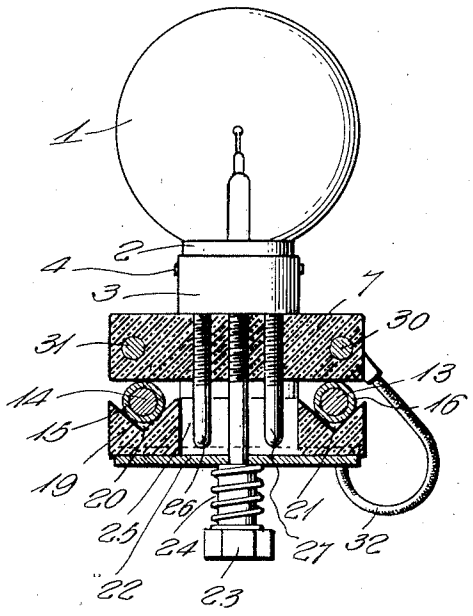


Fig. 7

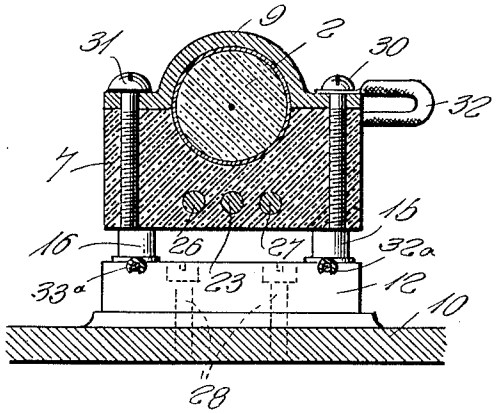
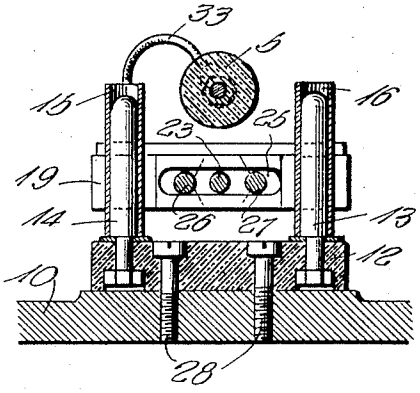


Fig. 8



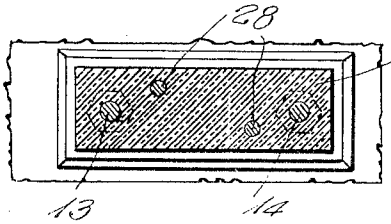


Fig. 9

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Patented Nov. 12, 1929 1,735,334

UNITED STATES PATENT OFFICE

FREEMAN H. OWENS, OF NEW YORK, N. Y.

ADJUSTABLE LAMP HOLDER

Application filed April 26, 1927. Serial No. 186,709.

My invention relates broadly to sound reproduction and more particularly to an adjustable holder for the light source in a sound record reproducing system.

One of the objects of my invention is to provide a construction of an adjustable holder for a lamp in a sound reproducing system for facilitating the focusing of the light on the light aperture for the projection of a film record upon a photoelectric cell.

Another object of my invention is to provide a construction of lamp holder having a plurality of independent adjustments for permitting a light source to be shifted in a plurality of directions for focusing the light accurately upon the slit adjacent a sound film record.

Still another object of my invention is to provide a simplified construction of lamp holder for sound reproduction comprising a minimum number of parts so arranged as to be readily manufactured and assembled for mounting upon a motion picture projecting machine arranged for the simultaneous reproduction of sound with the projection of pictures.

My invention will be more clearly understood from the specification hereinafter following by reference to the accompanying drawings in which:

Figure 1 diagrammatically illustrates the arrangement of the adjustable lamp holder and sound reproducing system in which the holder is employed; Fig. 2 is a front view of the adjustable lamp holder with a lamp mounted therein; Fig. 3 is a side elevation of the lamp holder illustrated in Fig. 2; Fig. 4 is a bottom plan view of the lamp holder illustrated in Figs. 2 and 3; Fig. 5 is a cross-sectional view taken through the lamp holder illustrated in Fig. 2; Fig. 6 is a cross-sectional view taken through the lamp holder on line 6—6 of Fig. 3; Fig. 7 is a lateral cross-sectional view taken on line 7—7 of Fig. 3; Fig. 8 is a cross-sectional view taken on line 8—8 of Fig. 3, and Fig. 9 is a cross-sectional view taken on line 9—9 of Fig. 3.

In the reproduction of sound from film records it is essential that an intense light be centered upon the slit over which the sound film record passes. My construction of adjustable lamp holder has been developed with a view of accurately directing the light rays from a light source upon the slit in a sound reproduction system. The lamp holder is capable of moving the light source laterally or longitudinally, or the light source may be revolved about a lateral plane or other movements imparted to the light source for accurately centering the light on the slit. The lamp is substantially insulated from the motion picture projecting machine and the parts of the holder compactly arranged for mounting within a casing adjacent the motion picture projecting machine.

Referring to the drawings in more detail, reference character 1 designates the light source in the form of a lamp having a base 2 which is insertable into the collar 3 forming the socket. A bayonet retaining joint 4 is provided for locking the lamp in position in the holder. An insulated bushing member 5 projects through the socket member 3 and provides a support for a rod member 17 spring pressed at 18 for urging the contact member 6 in abutment with the lower contact of the base 2. The socket member 3 is mounted upon an insulated supporting member 7 and retained in position thereon by means of a strap 9 fastened by screw devices 30 and 31 to the supporting member 7.

The side of the lamp housing which is supported from the motion picture projecting apparatus is designated at 10, and secured thereto by means of screws 28 I provide an insulated member 12. Pin members 13 and 14 project at right angles from the insulated member 12 and over these pin members the sleeve members 16 and 15 are arranged to slide for adjusting the lamp to selected positions, as will be more fully explained hereinafter. The supporting member 7 is arranged to frictionally engage the tubular members 15 and 16 and to be secured rigidly thereto by means of the block member 19 which is notched at 20 and 21 to fit against the sides of the tubular members 15 and 16. A plate member 22 serves as a support for the block 19 and as a means for centering the adjustable screw devices 23 in the supporting

member 7. A spring 24 is provided for constantly urging the plate member 22 against the block member 19 and enabling the entire structure to be moved along the pins 13 and 14 to a selected position. The block member 19 is slotted at 25 and through this slot the screw device 23 passes. I also provide pin members 26 and 27 extending through the slot 25 for rigidly positioning the lamp in a vertical position capable of lateral adjustment in the slot 25. By releasing the pressure of spring 24 by retracting the screw device 23 the lamp 1 may be shifted in position within limits governed by the abutment of pins 26 and 27 with the end walls of the slot 25. It will be observed that the lamp structure is entirely insulated from the support 10 and that the power for energizing the lamp 1 is brought in through the pins 13 and 14 electrically insulated from the supporting means 10. Flexible connectors 32 and 33 are provided extending between the tubular members 16 and 15 and the lower contact 6 and the socket 3, respectively. The flexible connector 32 extends from the screw device 3 on strap member 9 to the sleeve 16 which connects with pin 13 through which power is supplied by connecting lug 32^a. The flexible connector 33 extends between the sleeve and the lower contact 6, which engages the base of the lamp. Lug 33^a is secured to pin 14 for conveying power to the lamp system.

The entire lamp unit is removable from the pins 13 and 14 enabling a renewable unit to be quickly inserted upon the supporting pins without refocusing the lamp. In the diagrammatic illustration of Fig. 1 I have shown the lamp 1 arranged for directing light rays through the lens system 34, slit 35, sound film 36 upon the photoelectric cell 37. The adjustments of which the lamp is capable in the process of focusing the light upon the slit has been designated by the arrows in Fig. 1. It will be observed that by loosening the strap member 9 the vertical position of the lamp 1 may be selected. The lamp may be rotated in its position. The entire lamp carrier is shiftable laterally by means of screw adjustment 23 and the movement of pins 26 and 27 in the slot 25, and in addition the lamp structure may be shifted longitudinally with respect to pins 13 and 14 for focusing the light. After the proper focus is selected the lamp may be renewed from time to time without a further resetting of the holder.

The lamp structure of my invention has been found to be extremely practical in manufacture and production and successful in its operation.

While I have described my invention in one of its preefrred embodiments, I desire that it be understood that modifications may be made but that no limitations upon my invention are intended other than are imposed by the scope of the appended claims.

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

1. An adjustable lamp holder comprising an insulated bracket member, a pair of pin members laterally projecting from said insulated bracket member, a lamp supporting structure comprising an insulated member, a spring pressed clamp for selectively positioning said insulated member with respect to said laterally projecting pin members, said clamp having a portion thereof laterally shiftable in position with respect to said pin members, said clamp as a whole being longitudinally shiftable with respect to said pin members, and a rotatably mounted lamp socket carried by said lamp supporting structure and shiftable to selected vertical positions for facilitating the focusing of said lamp.

2. An adjustable lamp holder comprising an insulated bracket member, a pair of pins laterally projecting from said insulated bracket member, tubular members enclosing said pins, an insulated clamp having a pair of portions, one of said portions being disposed on one side of said tubular members and the other of said portions being disposed on the opposite side of said tubular members, spring means for pressing said portions into engagement with said tubular members, a rotatable and vertically adjustable mount carried by one of said portions, said mount being arranged to receive a lamp, said lamp being shiftable laterally in position and movable to a selected rotated and vertical position with respect to said pins and with respect to said other portion of said clamp.

3. An adjustable lamp holder comprising an insulated bracket, a pair of pin members laterally projecting from said insulated bracket, independent tubular members longitudinally slidable over said pin members, a clamp consisting of a pair of separable portions engaging opposite sides of said tubular members, one of said portions being longitudinally slotted intermediate said pins, and the other of said portions being provided with studs extending through said first mentioned portion for limiting the lateral displacement of said first mentioned separable portion with respect to the other of said separable portions while permitting longitudinal adjustment with respect to said tubular members, and means for supporting a lamp in said first mentioned separable portion.

4. An adjustable lamp holder comprising an insulated bracket, pin members extending from said bracket, a lamp supporting structure, tubular members slidable over said pin members, said lamp supporting structure including a pair of insulated separable portions arranged to grip opposite sides of said tubular members, one of said separable por-

tions being apertured to receive studs projecting from the other of said separable portions for limiting the movement of one of said separable portions with respect to the other in a direction perpendicular to the axes of said pin members, a rotatable and vertically shiftable mount carried by one of said separable portions, said mount providing a socket support for a lamp and being movable to a selected vertical and rotated position for facilitating the focusing of the lamp.

In testimony whereof I affix my signature.

FREEMAN H. OWENS.