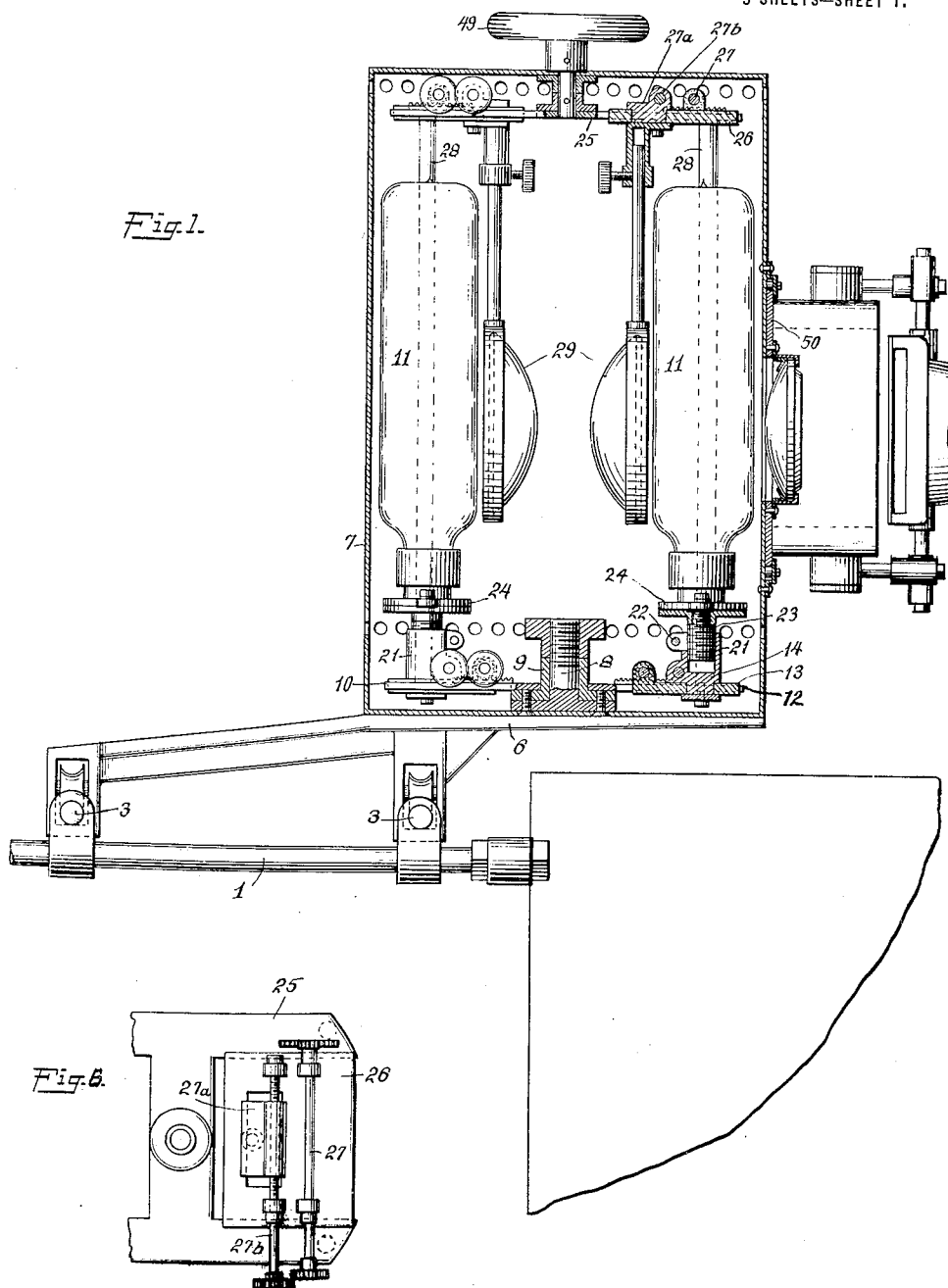


J. F. SKERRETT.
LAMP FOR PROJECTING APPARATUS.
APPLICATION FILED FEB. 23, 1916.

1,354,583.

Patented Oct. 5, 1920.

3 SHEETS—SHEET 1.



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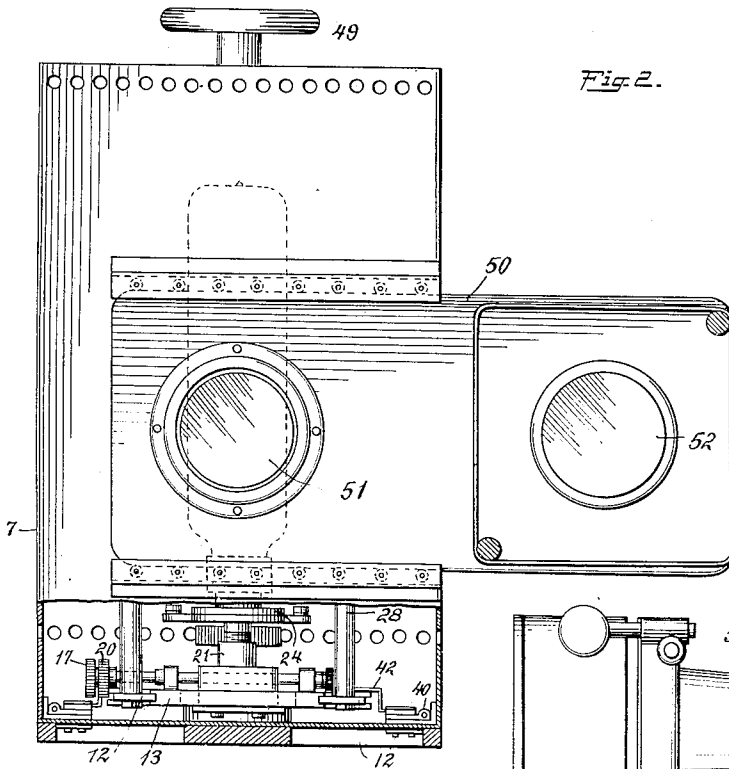
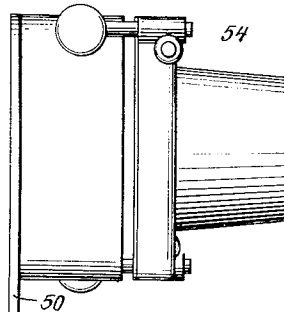
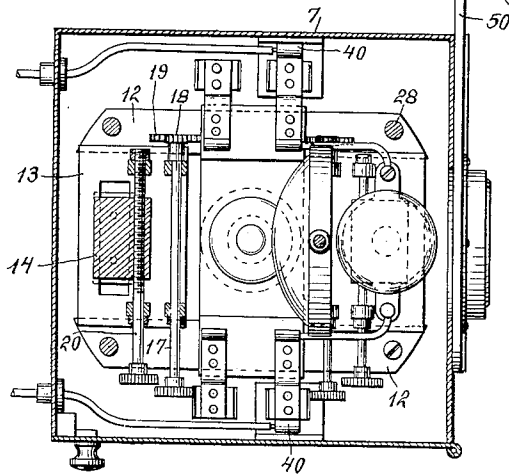


Fig. 2.

Fig. 3.



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Fig. 4.

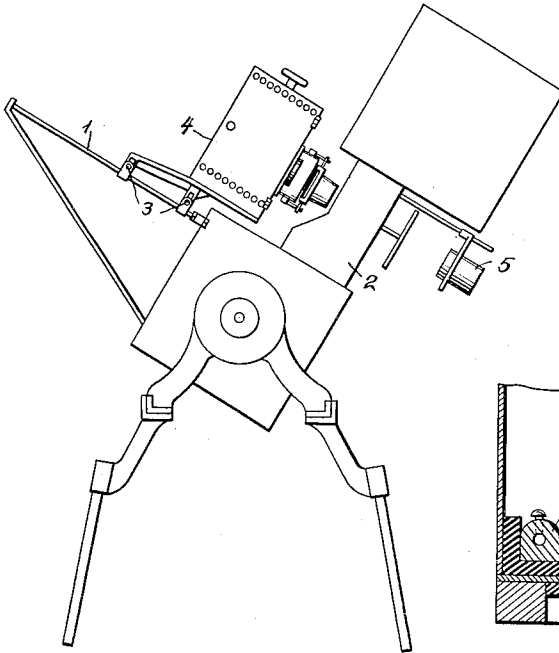


Fig. 7.

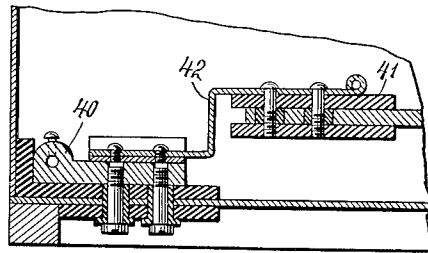


Fig. 5.

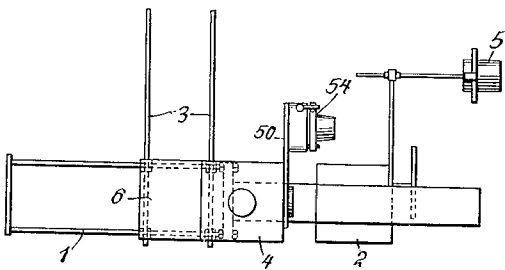
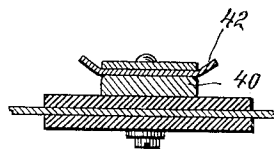


Fig. 8.



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UNITED STATES PATENT OFFICE.

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LAMP FOR PROJECTING APPARATUS.

1,354,583.

Specification of Letters Patent.

Patented Oct. 5, 1920.

Application filed February 23, 1916. Serial No. 79,904.

To all whom it may concern:

Be it known that I, JOHN F. SKERRETT, a citizen of the United States, and a resident of the city, county, and State of New York, have invented new and useful Improvements in Lamps for Projecting Apparatus, of which the following is a specification.

This invention relates to lamp houses and inclosed fixtures for lamps for projecting apparatus, and particularly to lamp houses having fixtures adapted for using incandescent lamps as the source of light.

One of the objects of the invention is to provide an apparatus of the character described embodying connections for two bulbs mounted so that either may be brought into proper position with regard to the lens system of the projecting apparatus by a simple movement of the light-supporting part whereby in case the operative bulb should burn out while the picture is being projected the auxiliary bulb may be brought so quickly into position as to avoid stopping the film.

A further object of the invention is to provide a lamp support of the character indicated having means whereby the operative lamp may be quickly and accurately adjusted with regard to the optical elements of the projecting system to properly focus the light on the film or slide to be projected.

A further object of the invention is to provide a lamp support of the character indicated having a bi-focal condenser system whereby different condensers may be used for the film and the stereopticon slide respectively to attain the greatest possible concentration of light on the smaller area of film.

Further objects of the invention will appear from the following description taken in connection with the accompanying drawings wherein I have illustrated a preferred embodiment of my invention, it being of course understood that the showing made is by way of example only, and that the structure shown may be modified in various ways without departing from the spirit of the invention, as defined in the appended claims.

In said drawings—

Figure 1 is a vertical section through my improved apparatus on approximately a central longitudinal plane;

Fig. 2 is a front elevation with the lower portion of the housing shown in section;

Fig. 3 is a transverse section through the lamp house above the light bulbs, but with one lamp support shown in section on the plane of the adjusting screws;

Fig. 4 is a side elevational view on a small scale showing the arrangement of the lamp house on the moving picture frame;

Fig. 5 is a plan view of the structure shown in Fig. 4;

Fig. 6 is a detail view showing the adjusting mechanism for the reflector; and

Figs. 7 and 8 are detail views of the electrical connections of the lamp.

My improved lamp house is preferably supported in the usual manner on the longitudinal tracks 1 of a moving picture machine frame whereby the lamp house as a whole may be moved toward and from the projecting apparatus indicated at 2. The carriage which slides on the tracks 2 carries transverse tracks 3 on which the lamp house, indicated generally at 4, is mounted for transverse adjustment to bring the lights into registration with either the motion picture apparatus 2 or the stereopticon attachment 5.

The lamp house proper comprises a base 6 having supporting rollers running on the tracks 3. Attached to the base 6 is a sheet metal casing 7 which incloses the lamps. As shown, the case 7 is provided with a door on one side, but doors on each side may be provided if desired. The casing is also provided with suitable ventilating openings, as shown more particularly in Fig. 4, for permitting the ready passage of air through the lamp house to carry off the heat generated by the high power lights.

At the center of the casing 7 there is rigidly mounted a vertical stud 8 which forms the bearing for the sleeve 9 supporting the plate 10, which carries the bulbs 11. The upper end of the stud 8 is threaded to receive a clamping nut whereby the lamp-carrying plate may be rigidly clamped against vibration during operation of the machine.

The lamp-carrying plate or support, or turntable is of the shape shown in Fig. 2 and comprises at each side of its center parallel guideways 12, in each of which is slidably mounted a plate 13 for movement radially toward and from the bearing stud

8. Slidingly mounted for movement in a direction at right angles to the movement of the plate is a block 14 on which is supported the socket for the bulb support as will be later described. The plate 13 may be adjusted in its guideways by means of a hand shaft 17 rotatably supported across the plate back of the block 14 and having at one end a knurled knob and at its opposite end a pinion 18 meshing with a rack 19 attached to the upper face of the adjacent guideway 12 of the plate 10. The block 14 is adjustable in its guideway in the plate 13 by means of a hand screw 20 extending across the plate 13 in suitable bearings and provided with a threaded intermediate portion working in a threaded bore of the block whereby rotation of the screw will shift the block back and forth in its guideways.

20 The block 14 has attached to its upper face a threaded socket 21 which is split at its upper end and provided with a clamping screw 22 whereby the threaded plug 23 may be rigidly clamped in the socket after the lamp is adjusted to the proper elevation.

25 The insulated base 24 is rigidly attached to the upper end of the plug 23 and carries a threaded lamp socket of usual form having the proper electrical connections terminating in a binding post at each side of the insulated base.

The top wall of the casing 7 is provided with a central depending stud on which is rotatably mounted a plate 25 similar in shape to the plate 10 and provided in opposite sides with suitable guideways for receiving a slide 26. The slide 26 carries a reflector 29 arranged to lie opposite the portion of the bulb in front of the condenser 51 carried by the front wall of the casing 7. The slide 26 is radially adjustable in the plate 25 by means of a hand shaft 27 having a rack-gear arrangement similar to plate 13 whereby the position of the reflector may be accurately adjusted. The reflector may be directly connected to the slide 26, but is preferably attached to a block 27^a transversely adjustable in the slide 26 by means of a hand screw 27^b and connections similar to the hand screw 20 of the block 14. The plate 25 is connected to the plate 10 for rotation therewith by means of rods 28 on each side of the lamp bulbs. The outer end of the stud which carries plate 25 is provided with a knob 49 whereby the lamp carrier may be conveniently rotated.

As stated above, the plate 10 carries a bulb at each side, the supports and adjustments for the two bulbs being identical, the arrangement, however, being such that one bulb only is in use at a time. In order to permit the rotation of the bulb-carrying plate and proper supply of current to the lamp in operation, the lamps are connected to the electrical mains by means of contact

switches carried by the base 6 and the plate 10 respectively. Such switches comprise insulated contacts 40 at each side of the base 6 and connected respectively to the negative and positive supply wires. At each side of the plate 10 there is attached a sheet 41 of insulating fiber, each of which carries two contact shoes 42, each shoe being connected to the nearest binding post of the adjacent lamp. The stationary contacts 40 are positioned so as to be engaged by the lamp contacts of the lamp adjacent the condensers whereby the rotation of the plate will disconnect one lamp and connect the other after movement of one hundred and eighty degrees.

The usual moving picture equipment includes a stereopticon projector, as indicated at 5; the projection through it is obtained by the same light as used for the motion pictures. The commercial slides are of a size much larger than the individual pictures of the film strip, consequently for the best projection of each picture a different optical system should be used. To this end I have provided my improved lamp house with a bi-focal condenser arrangement comprising a plate 50 mounted in hangers on the front wall of the lamp house, the said plate carrying two laterally separated condensers 51 and 52, one being of proper focus for the moving picture film and the other for the stereopticon slide. The plate 50 is provided with a handle whereby it may be readily grasped and shifted; also with stops at each end to limit its movement to bring the condenser to proper position in front of the light. In front of the condensers for the stereopticon there is provided the usual ray-chute and slide-holder 54 mounted on brackets projecting from the face of the plate 50.

In use, the operator adjusts both lamps before the exhibition begins, to properly focus the light on the films or slide so that in the event of the lamp in use burning out he has only to loosen the clamping nut on the stud 8 and rotate the lamp-carrier by means of the knob 49 through one hundred and eighty degrees to bring the other lamp into accurately adjusted position for immediate use.

I claim:

1. A lamp for projecting apparatus comprising an adjustably mounted lamp support, a housing for the lamp fixed to said support, a turntable supported within said housing, a plurality of lamps supported by said turntable to be brought by rotation of the turntable to the same operative position, and means for separately adjusting said lamps both circumferentially and radially of said turntable.

2. A lamp for projecting apparatus comprising an adjustably mounted lamp support, a housing for the lamp fixed to said

support, a turntable supported within said housing, a plurality of lamps supported by said turntable to be brought by rotation of the turntable to the same operative position, means for separately adjusting said lamps both circumferentially and radially of said turntable, and separate reflectors for each said lamp, said reflectors being adjustably supported independently of their respective lamps.

3. A lamp for projecting apparatus comprising a support, a housing thereon and fixed thereto, a turntable within the housing, a plurality of lamps supported by the turntable for adjustment by rotation of the table to the same operative position, said turntable and lamps being wholly inclosed by said housing, and means without the housing for effecting the rotation of the turntable.

4. A lamp for projecting apparatus comprising a support, a housing thereon, a turntable within the housing, a plurality of lamps supported by the turntable for adjustment by rotation of the table to the same operative position, said turntable comprising a pivotally mounted lower lamp-supporting part, a pivotally suspended upper part with its pivot in line with the pivot of the lower part, connections between the two parts, said upper pivot projecting through the wall of the housing, and means without the housing for rotating said pivot to thereby effect the rotation of the turntable.

5. A lamp for projecting apparatus comprising a support, a housing thereon and fixed thereto, a turntable within the housing, a plurality of lamps supported by the turntable for adjustment by rotation of the

table to the same operative position, said turntable comprising a lower lamp-supporting part rotatably supported on the base of said housing, an upper part rigidly connected to said lamp-supporting part and extending above said lamps, an independent bearing in the top wall of said housing for said upper part, said bearing projecting through the upper wall of said housing, whereby said turntable may be operated from without the housing, and separate reflectors for each of said lamps suspended from said upper part.

6. A lamp for projecting apparatus comprising a support, a housing thereon, a turntable within the housing, a plurality of lamps supported by the turntable for adjustment by rotation of the table to the same operative position, said turntable comprising a lower lamp-supporting part rotatably supported on the base of said housing, an upper part rigidly connected to said lamp-supporting part and extending above said lamps, an independent bearing in the top wall of said housing for said upper part, said bearing projecting through the upper wall of said housing, whereby said turntable may be operated from without the housing, separate reflectors for each of said lamps suspended from said upper part, adjustable connections between said lamps and said turntable, and separate adjustable connections between said reflectors and said turntable.

Signed at New York city, in the county of New York and State of New York, this 14th day of February, 1916.

J. F. SKERRETT.