Sept. 13, 1932. H. A. DOUGLAS 1,876,877

REFLECTING ELECTRIC LAMP

Filed Feb. 3, 1930 2 Sheets-Sheet 1

Fig. 1.

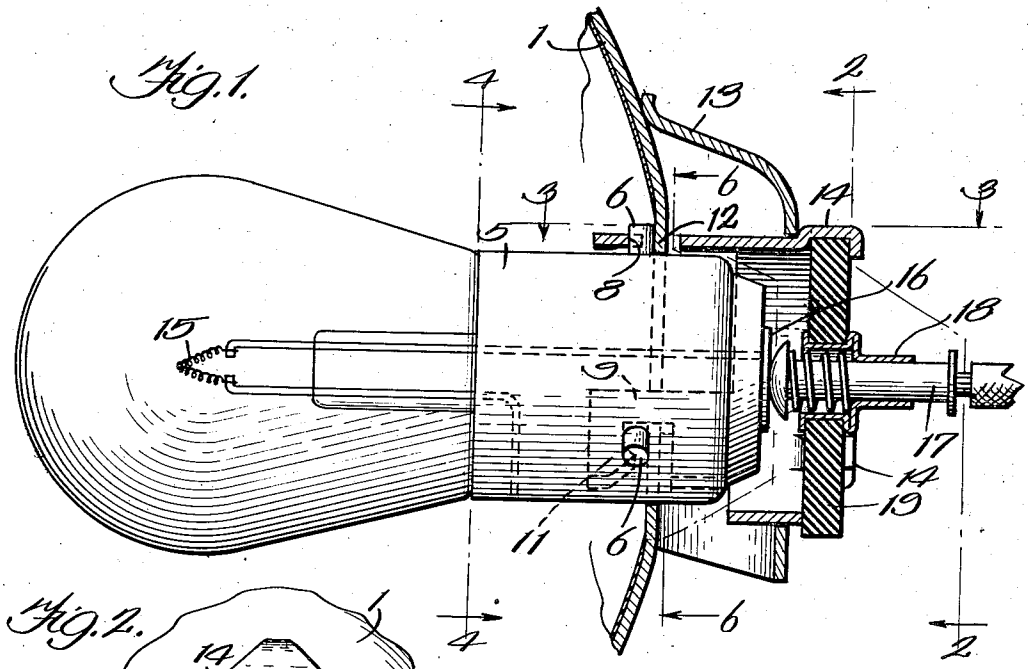


Fig. 2.

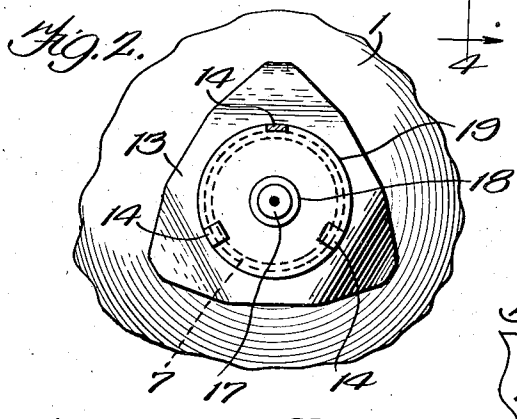


Fig. 3.

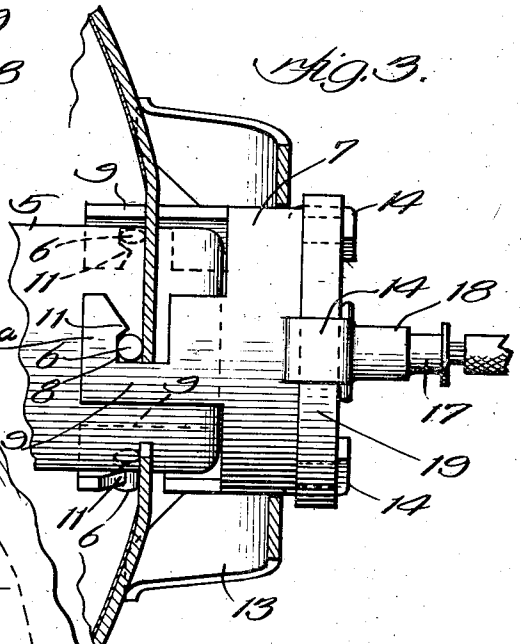
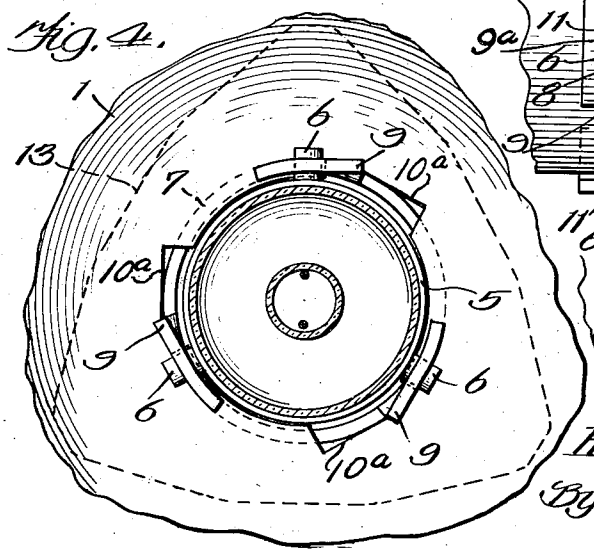


Fig. 4.



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Filed Feb. 3, 1930 2 Sheets-Sheet 2

Fig. 5.

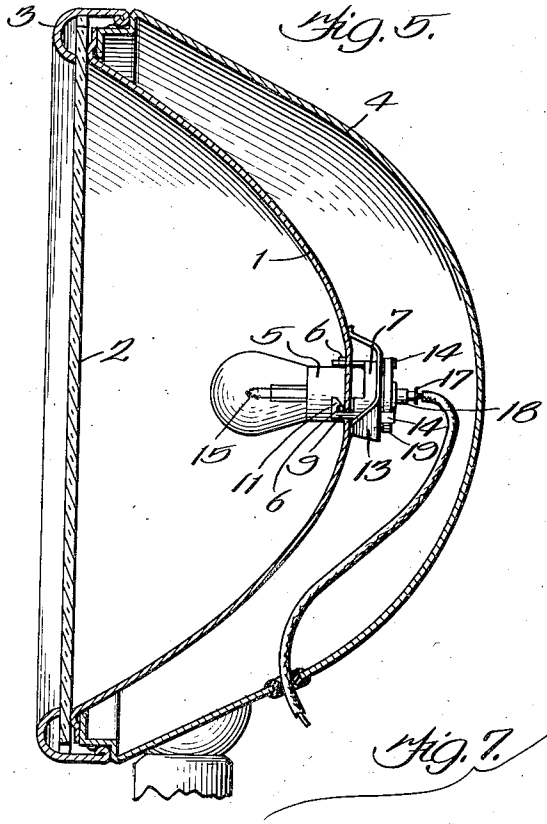


Fig. 6.

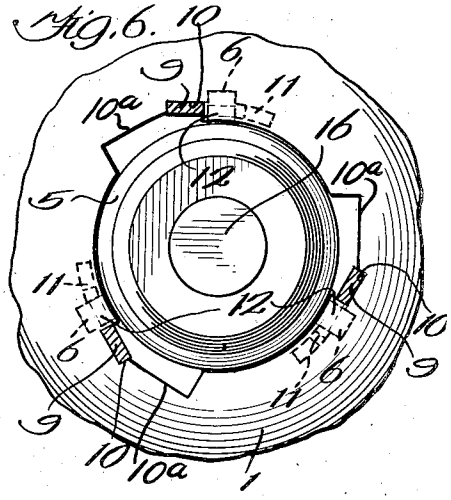
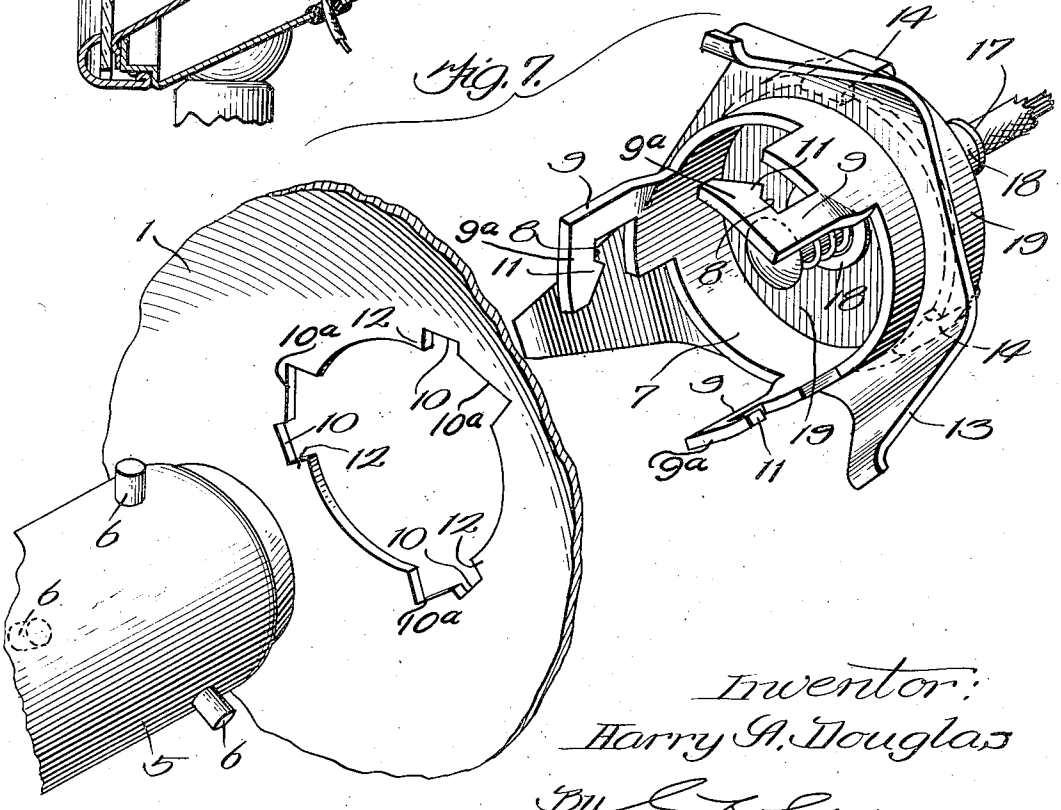


Fig. 7.



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Patented Sept. 13, 1932

1,876,877

UNITED STATES PATENT OFFICE

HARRY A. DOUGLAS, OF BRONSON, MICHIGAN

REFLECTING ELECTRIC LAMP

REISSUED

Application filed February 3, 1930. Serial No. 425,547.

My invention relates to incandescent electric lamps and their mountings and is of particular service where such mountings are in the form of concave reflectors. My invention includes the provision of spring means which presses upon the socket that receives the lamp base and presses this socket upon the lamp base and, through the intermediation of the socket, presses the lamp base against the mounting. This mounting is desirably in the form of a parabolic reflector having an opening therethrough through which the base of the lamp projects. This opening is at the crown of the reflector and is margined by portions of the reflector that are equidistant from the axis of the reflector and engage the lamp socket to position the socket axis upon the axis of the reflector. The lamp base desirably has three lateral projections in the form of bayonet pins which are received within the seats of three bayonet channels that are provided upon the socket. The reflector is positioned to be also engaged by these bayonet pins when they are within their bayonet seats. The spring presses the socket upon the pins and presses the pins against the reflector, and at the front of the reflector as the invention has been embodied. These pins assure the coincidence of the axes of the lamp and reflector. The lighting center of the lamp filament is upon the lamp axis and the spacing between this lighting center and the place where the bayonet pins engage the reflector is equal to the spacing between the portion of the reflector engaged by the pins and the focus of the reflector, whereby such lighting center and the reflector focus are brought into coincidence.

The invention will be more fully explained by reference to the accompanying drawings in which Fig. 1 is a view showing an incandescent lamp and a circuit contact terminal in elevation and associated parts in section, of the preferred embodiment of the invention; Fig. 2 is a sectional view on line 2—2 of Fig. 1; Fig. 3 is a sectional view on line 3—3 of Fig. 1; Fig. 4 is a sectional view on line 4—4 of Fig. 1; Fig. 5 is a sectional view of a complete automobile head lamp containing the preferred construction of my invention; Fig. 6 is a sectional view on line 6—6 of Fig. 1; and Fig. 7 is a perspective view illustrating some parts in separated relation.

The head lamp illustrated is inclusive of a parabolic reflector 1 whose parabolic reflecting face is covered by a light transmitting closure 2 which may be of glass. This closure is held against the front of the reflector by an assembling ring 3 which also serves to assemble the reflector with a concave lamp back 4. The construction of the peripheral rim portion of the reflector enabling the assembly of the reflector with the lamp back and the construction of the parts 3 and 4 may be of any well known or suitable character and form no novel parts in my present invention on which account further description of these parts need not be given. The embodiment of the invention illustrated is inclusive of an incandescent lamp having a generally cylindrical lamp base 5 which is laterally extended or enlarged as by means of three bayonet pins or projections 6 which may be placed 120° apart and in a plane that is perpendicular to the lamp axis. The generally cylindrical socket 7 is provided with bayonet channels having bayonet seats 8 which receive the aforesaid bayonet pins. These bayonet seats are carried by fingers 9 that constitute reduced portions of the lamp socket. These fingers are receivable within notches 10 forming enlargements of the opening that is formed through the crown of the reflector. The outer margins of these notches are equidistant from the reflector axis and engage the arms 9 to place the axis of the socket 7 upon the axis of the reflector. The arms 9 each include an angular portion 9^a which terminate in hooks 11 which lap the portions 12 of the reflector adjacent the notches 10, these reflector portions 12 thus being also receivable within the bayonet channels provided in the lamp socket. The angular portions 9^a pass through the enlargements 10^a in the opening of the reflector, the enlargements 10^a opening into the notches 10. The bayonet pins 6 are received between the bayonet seats 8 and the reflector portions 12. A leaf spring 13 in the form of a tripod has an opening formed through its base through which the socket is passed. The socket has

enlargements 14 which are engaged by the base of said spring. The legs of the spring engage the back of the reflector. The spring 13 pushes rearwardly upon the lamp socket to press the hooks 11 toward the reflector. When the lamp is inserted and turned, the bayonet pins 6 thereon enter the bayonet slots in the socket and come between the bayonet seats 8 and the reflector. Thus the bayonet pins 6 provide a portion of the lamp base substantially tangent to the reflector. The spring 13 presses the lamp socket against said bayonet pins and, through the intermediation of the lamp socket, presses the bayonet pins against the reflector. The bayonet pins being upon a plane that is perpendicular to the lamp axis and the reflector positioning the socket axis upon the reflector axis the lamp axis is, as a consequence, brought into coincidence with the reflector axis. The spacing between the lighting center of the lamp filament 15 and the place where the bayonet pins engage the reflector being equal to the spacing between the reflector focus and the place upon the reflector where the bayonet pins engage the reflector, it follows that such lighting center and focus are brought into coincidence.

The lamp illustrated is a single pole lamp having a central contact 16 upon the rear face of the lamp base and a metallic sheath surrounding and constituting a part of the lamp base, the lamp filament being connected between said sheath and contact. A circuit terminal 17 is forwardly spring pressed against the contact 16 this circuit terminal being carried by a sleeve 18 which is mounted in an insulating contact carrier 19. This contact carrier is in the form of a disc which is held in place by the socket portions 14.

Changes may be made without departing from the invention.

Having thus described my invention, I claim:

1. The combination with an incandescent lamp whose base is laterally enlarged; of a mounting therefore; a socket receiving the base of said lamp, the laterel enlargement of the lamp base being between a portion of the socket and said mounting; and a spring pressing the socket upon the lateral enlargement of the lamp base and, through the intermediation of the socket, pressing the lateral enlargement of the lamp base against said mounting.

2. The combination with an incandescent lamp whose base has a lateral bayonet projection; of a mounting therefor; a socket receiving the base of said lamp and having a bayonet recess that receives said bayonet projection, said mounting being positioned to be also engaged by said projection which is interposed between said mounting and seat; and a spring pressing the socket upon said bayonet projection and, through the intermediation of the socket, pressing the bayonet projection against said mounting.

3. The combination with an incandescent lamp the center of whose lighting filament is upon the lamp axis and the base of which lamp has three bayonet projections in a plane that is perpendicular to the lamp axis; of a parabolic reflector; a socket receiving the base of said lamp and positioned by the reflector to bring the socket into coincidence with the reflector axis, the bayonet projections on the lamp base being received in bayonet seats in the socket and between these seats and reflector; and a spring carried by the socket pressing the socket upon the bayonet projections of the lamp base and through the intermediation of the socket pressing these projections against said reflector, the spring engaging the reflector at at least three places around the axis of the reflector.

4. The combination with an incandescent lamp, the center of whose lighting filament is upon the lamp axis and the base of which lamp is laterally enlarged at at least three places spaced around the axis of the base in a plane perpendicular to the lamp axis, of a parabolic reflector, a socket receiving the base of said lamp, the lateral enlargements of the lamp base being between a portion of the socket and said reflector, and a spring carried by the socket pressing the socket upon the lateral enlargements of the lamp base and, through the intermediation of the socket, pressing the lateral enlargements of the lamp base against the reflector, the spring engaging the reflector at at least three places spaced apart around the axis of the lamp base.

In witness whereof, I hereunto subscribe my name.

HARRY A. DOUGLAS.