F. KRATZ.

REFLECTOR LAMP.

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1,157,701. Patented Oct. 26, 1915.

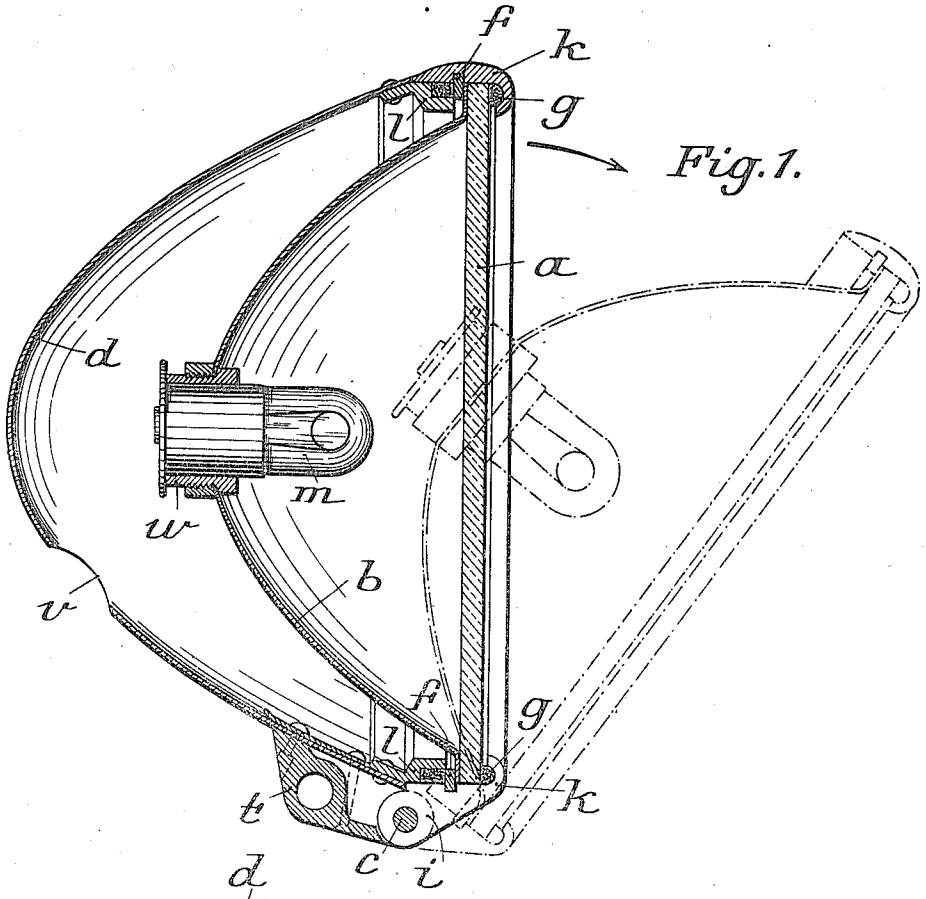


Fig. 1.

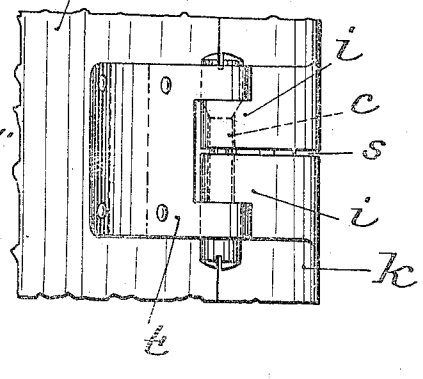


Fig. 2.

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UNITED STATES PATENT OFFICE.

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REFLECTOR-LAMP.

1,157,701. Specification of Letters Patent. Patented Oct. 26, 1915.

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To all whom it may concern:

Be it known that I, FRANZ KRATZ, a subject of the Emperor of Germany, residing at Schlosstrasse 59, Stuttgart, Germany, have invented certain new and useful Improvements in Reflector-Lamps; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to reflector lamps or headlights for use on moving vehicles such as automobiles and motor boats, or for stationary work, the construction being characterized by an arrangement whereby the incandescent lamp may be installed and removed through an opening in the rear of the reflector and may be exposed for renewal in a convenient and rapid manner by swinging the reflector and the incandescent lamp as a unit on a hinge connection with the lamp housing. The front cover may be permanently fastened over the reflector, and the lamp may be installed and removed in such a manner that the highly polished and sensitive surface of the reflector is not exposed to contact with the hands or tools during the renewal periods, whereas the entrance of dust or other foreign matter is substantially eliminated.

In the accompanying drawings illustrating the preferred form of construction, Figure 1 represents a central vertical section of the reflector lamp; and Fig. 2 represents on an enlarged scale a detail of the hinge connection between the reflector and the housing.

The reflector lamp comprises the cover *a* of glass, the parabolic reflector *b* having a highly polished reflecting surface, the housing *d*, and the incandescent lamp *m* preferably mounted at the principal focus of the reflector. The reflector has an outstanding peripheral flange in surface contact with the cover *a*, and the two are held permanently together in a circular frame *k*. The rubber ring *g* inserted between the frame and the glass produces uniform pressure all around and prevents rattling of the parts, while the split ring *f* is inserted behind the peripheral flange of the reflector in an internal groove in the frame to hold the parts permanently together. The housing has riveted to it a peripheral rim *l* and also a hinge member *t*. The frame *k* is slotted at *s* and terminates in two separated hinge arms *i* forming a hinge member coöperating with the hinge member *t* for swinging the cover *a* and the reflector *b* as a unit, as shown in broken lines in Fig. 1, to expose the rear of the reflector. The tubular lamp *m* is normally held rigidly in the space between the reflector and the cover by pressing it into the socket *w* which is screwed into a receiving member attached to the rear of the reflector around the opening therein. Thus when the rear of the reflector is exposed, the lamp *m* may be readily removed and by pulling it out of its socket, and another lamp substituted for it, without the possibility of injuring the reflecting surface of the reflector, and without permitting the entrance of dust or other matter into the space between the reflecting surface and the cover. The hinge bolt *c* is provided with a nut, which may be screwed up to tightly clamp the rim of the frame *k* around the rim *l* of the housing to thereby rigidly hold the parts in normal position, the outside diameter of the cover *a* and of the peripheral flange of the reflector *b* being of a sufficiently smaller diameter than the interior of the frame *k* as to preclude any binding action when the frame is contracted. It will be apparent that by loosening up on the bolt *c*, the frame *k* may be pulled off the rim *l* and the unit swung on the hinge for the aforesaid purpose. The electrical connection to the filament of the lamp *m* is led through the opening *v* in the housing.

Having thus described my invention, what I claim is:

1. In a reflector lamp, a reflector having a rear opening, a cover on the front of the reflector, an incandescent lamp designed to pass through said opening, means holding the lamp in place in the space between the reflector and the cover, a lamp housing, and a hinge connection fastened to the reflector and housing and by which the rear of the reflector may be swung to exposed position for installing and removing the lamp through said opening.

2. In a reflector lamp, a reflector having a rear opening and being provided with a front cover, a lamp socket fixed to the reflector and registering with said opening, an incandescent lamp having a base engaging and supported by the socket, the lamp being designed to pass through the socket whereby it may be removed or placed in position from

the rear end of the socket, a lamp housing normally inclosing the reflector and lamp socket, and a hinge connection between the housing and the reflector whereby the reflector may be swung out of the housing to afford convenient access to the lamp socket when the lamp is to be removed therefrom.

3. In a reflector lamp, a reflector, a split rim carried by the reflector and terminating in normally separated hinge arms, a housing having means coöperative with the hinge arms to form a hinge for swinging the reflector to expose the rear thereof, and means for drawing the hinge arms together to squeeze the rim tightly around the housing to thereby hold the parts fixed in normal position.

4. In a reflector lamp, a reflector having an opening at the rear thereof, a cover for the reflector, an incandescent lamp fastened to the reflector so as to project through said opening into the space between the reflector and the cover, a frame for the reflector and cover having a split rim terminating in normally separated hinge-arms, a housing having a rim and hinge-arms coöperative with the other hinge-arms so that the reflector and cover may be swung to expose the lamp for removing and inserting it through said opening, and means for drawing the hinge-arms of the frame together so as to squeeze the rim of the frame tightly around the rim of the housing and thereby hold the parts fixed in normal position; substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses.

FRANZ KRATZ.

Witnesses:
PAUL WALFART,
HERMANN SCHNEIDER.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."