

No. 721,648.

PATENTED FEB. 24, 1903.

J. KIRBY, JR.

ADJUSTABLE MEANS FOR MOUNTING REFLECTORS.

APPLICATION FILED MAY 5, 1902.

NO MODEL.

2 SHEETS—SHEET 1.

Fig 1.

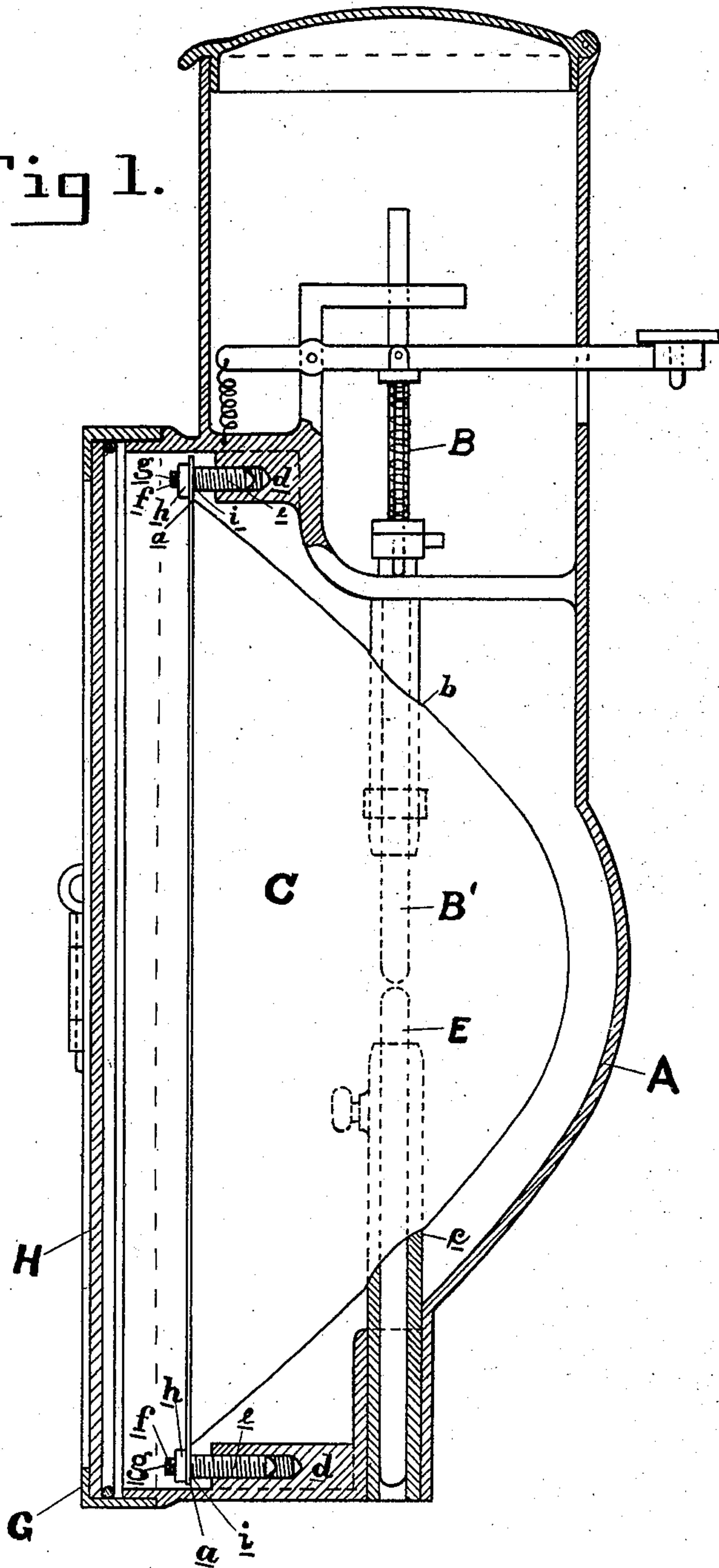
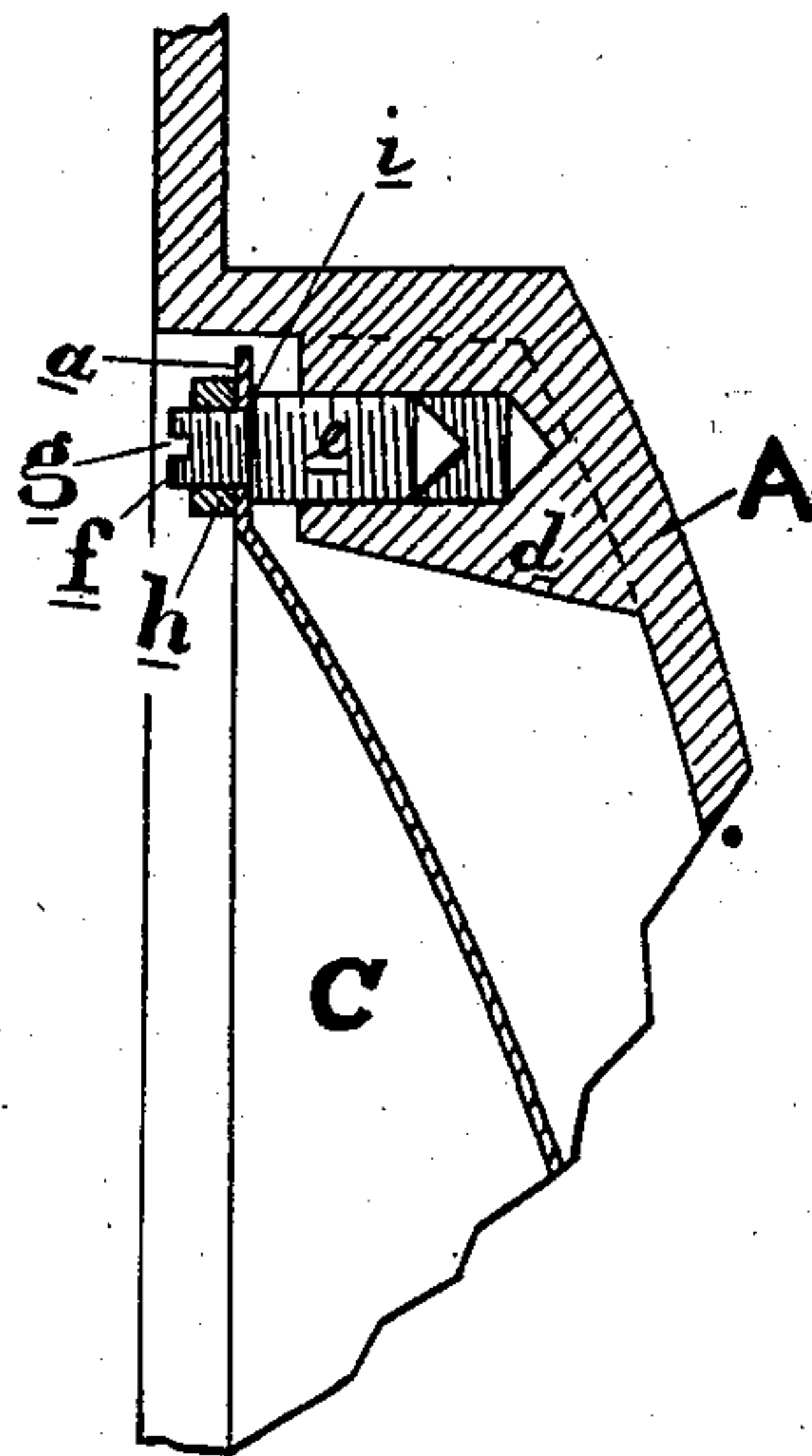


Fig 4.



Attest:

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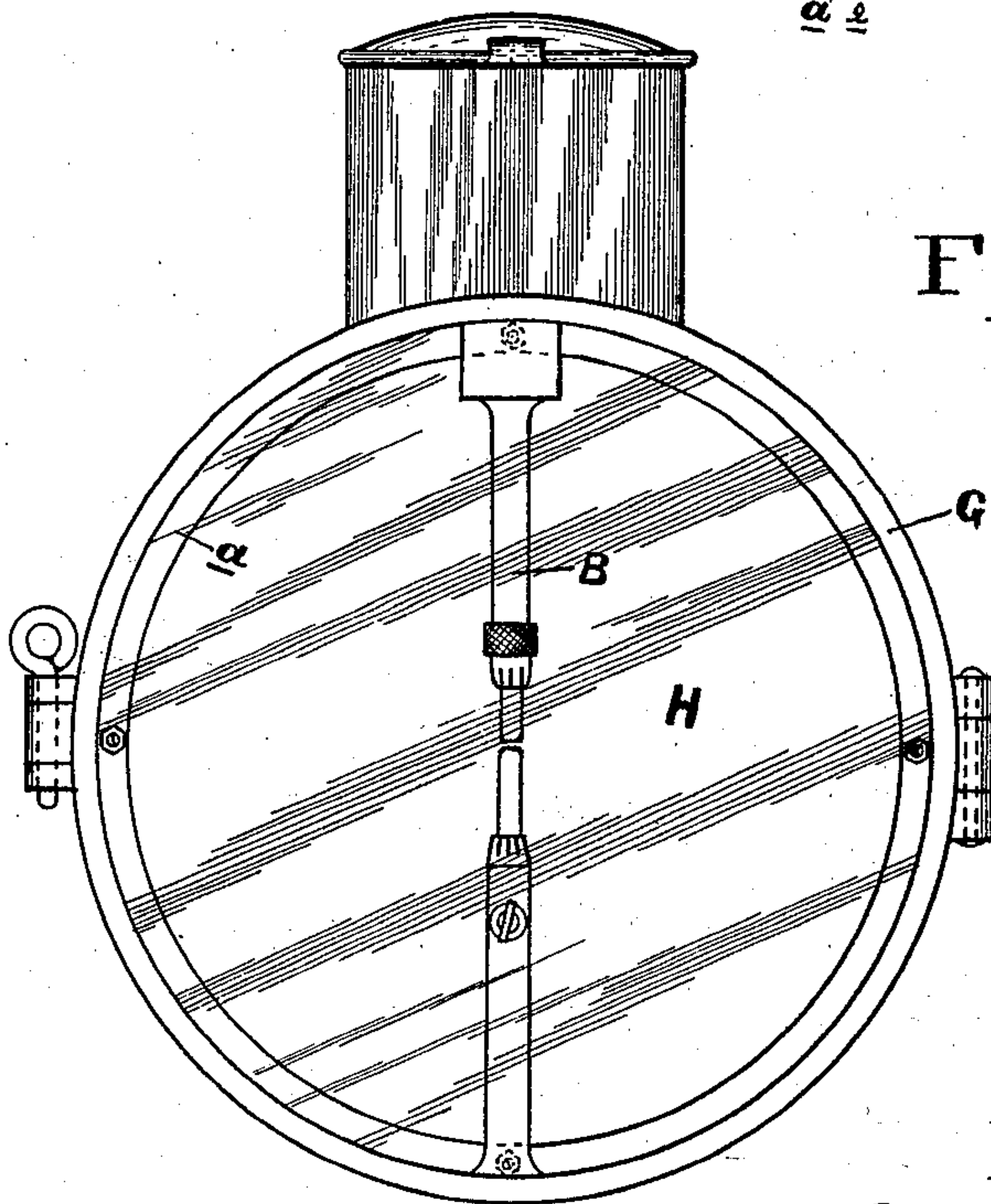
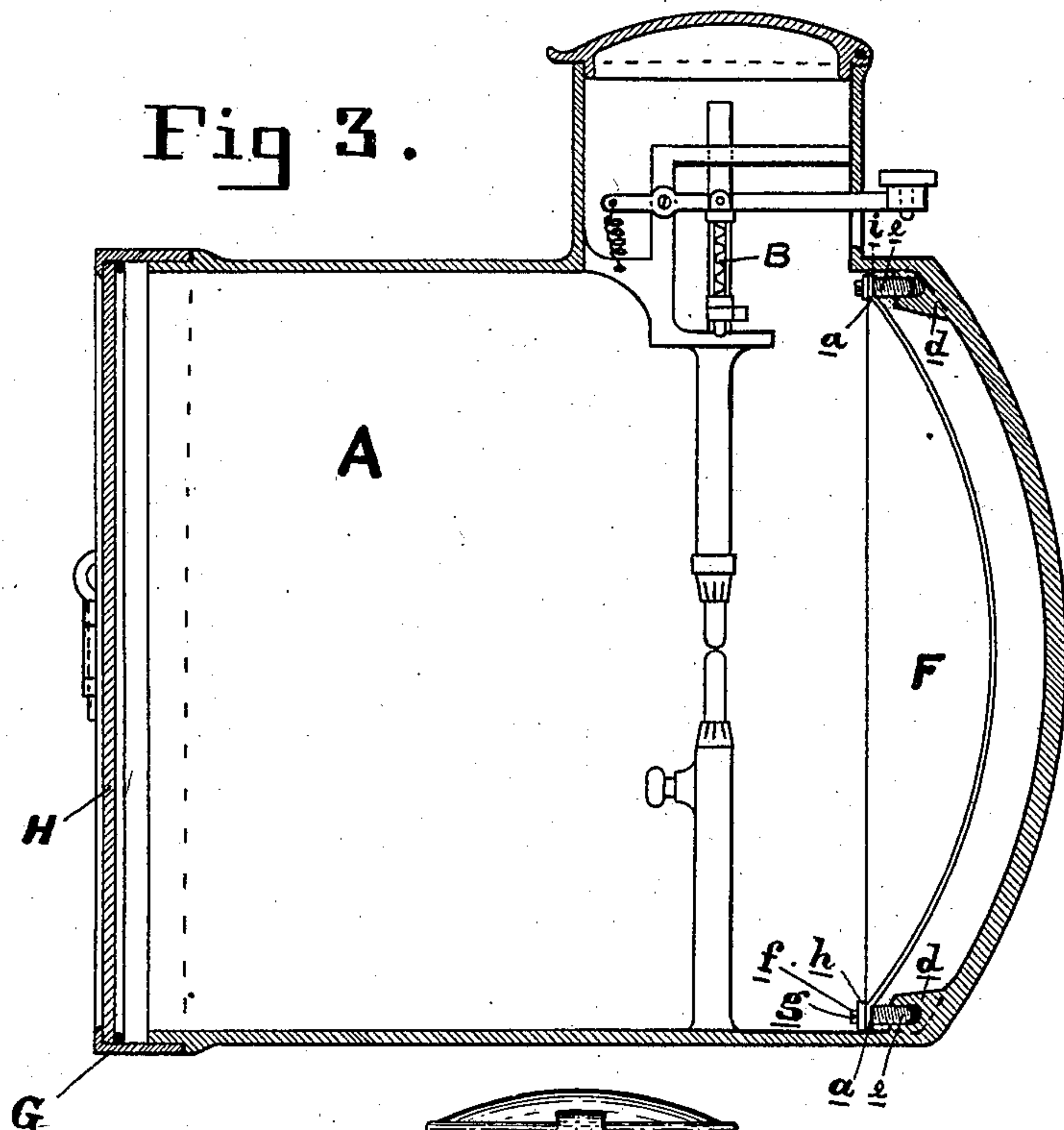
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2 SHEETS—SHEET 2.



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Edward J. Freed.

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# UNITED STATES PATENT OFFICE.

JOHN KIRBY, JR., OF DAYTON, OHIO, ASSIGNOR TO UNITED STATES HEADLIGHT COMPANY, OF BUFFALO, NEW YORK, A CORPORATION OF NEW YORK.

## ADJUSTABLE MEANS FOR MOUNTING REFLECTORS.

SPECIFICATION forming part of Letters Patent No. 721,648, dated February 24, 1903.

Application filed May 5, 1902. Serial No. 106,000. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN KIRBY, Jr., a citizen of the United States, residing in the city of Dayton, county of Montgomery, and State of Ohio, have invented certain new and useful Improvements in Adjustable Means for Mounting Reflectors; 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to the manner of mounting reflectors in the cases of headlights, search-lights, &c., and it is more particularly adapted to constructions where the lamp is necessarily located at a fixed point horizontally of the case, and therefore not adjustable to the vertical focal line of the reflector.

In headlights and other similar types of lights where a reflector is employed for the purpose of reflecting the rays of light ahead of the lamp the efficiency of the reflector depends upon the location of its focal point relative to the burning-point of the lamp; and the object of my present invention is to provide improved means for mounting the reflector whereby it can readily and accurately be adjusted so as to bring its focal point in proper relation with the center vertical line through the burning-point of the lamp. It consists in certain new and novel means for securing the reflector in position, the details of which will hereinafter be fully described, and pointed out in the claims at the end of this specification.

The invention is clearly illustrated in the accompanying drawings, forming a part hereof, and in which—

Figure 1 represents in vertical section a headlight-case containing an electric-arc lamp and an ordinary parabolic reflector of the deep type; Fig. 2, a search-light case containing a similar lamp and an ordinary reflector of the shallow type, the case and reflector be-

ing shown in section; Fig. 3, a front view of Fig. 2, and Fig. 4 an enlarged detail sectional view of a portion of the reflector and its adjusting mechanism.

Similar letters of reference indicate corresponding parts in all the figures of the drawings.

A represents the case.

B represents an electric-arc lamp which for the purpose of illustrating my invention I have selected and which may be of any suitable construction, in which the carbons are vertically adjustable.

C represents the reflector, provided with a flange *a* and having its focal point near its apex, openings *b c* being cut through its wall opposite its focal point for the passage of carbons *B' E*, which are vertically movable in the usual manner.

F is a reflector of the shallow type, the focal point of which is in advance of its front flange *a*, as shown in Fig. 2.

The case is provided with a door C, carrying the usual glass disk H and being preferably hinged to the case, as shown. The case is provided with a suitable number of lugs *d*, which may be formed integral with the body of the case or otherwise secured thereto or supported and into which are tapped screw-threaded studs *e*, each of which is provided with a reduced portion *f*, having a slot *g* to receive a screw-driver and an interior screw-thread, which engages a nut *h*. The flange *a* of the reflector is perforated to engage the reduced portion *f* of the studs *e*, and it has bearing against a shoulder *i*, formed on each of the said studs.

By the arrangement above described any variation in forming the flange *a* on the reflector, whereby the distance between the focal point of the reflector and the said flange differs in different reflectors, can be compensated for by setting the studs *e* forward or backward, as may be necessary to bring the vertical focal line of the reflector to its proper position relative to a vertical line through the center of the carbons or other illuminating agency, thereby producing the best re-

sult obtainable, and when the reflector is thus adjusted it is held in such position by means of the nuts *h*.

In the foregoing I have described and have  
5 shown in the drawings what I now consider the best manner of carrying out my invention. It is obvious, however, that the details of construction may be modified without departing from the spirit thereof, and therefore  
10 I do not wish to limit my invention to such exact details.

Having thus fully described my invention, I claim—

1. The combination with a headlight-case  
15 having lugs secured thereto, of movable supports adapted to engage said lugs and to be moved horizontally therein, a reflector having an outwardly-extending flange perforated to receive said movable supports, and means  
20 for securing said reflector to said movable

supports, whereby the vertical focal line of the reflector can be adjusted relative to the burning-point of the lamp.

2. The combination with a headlight-case, of lugs secured to the case, screw-threaded 25 studs adapted to engage said lugs and each having a reduced screw-threaded portion at one end thereof, a reflector having an outwardly-extending flange perforated to engage said reduced portion of said studs, and nuts 30 which engage the screw-threads of said reduced portion and secure the reflector to said studs.

In testimony whereof I hereunto subscribe my name this 2d day of May, 1902.

JOHN KIRBY, JR.

Witnesses:

N. EMMONS, Jr.,

JNO. I. UNDERWOOD.