

(No Model.)

2 Sheets—Sheet 1.

T. HOUGHTON.  
REFLECTOR.

No. 427,996.

Patented May 13, 1890.

Fig. 1.

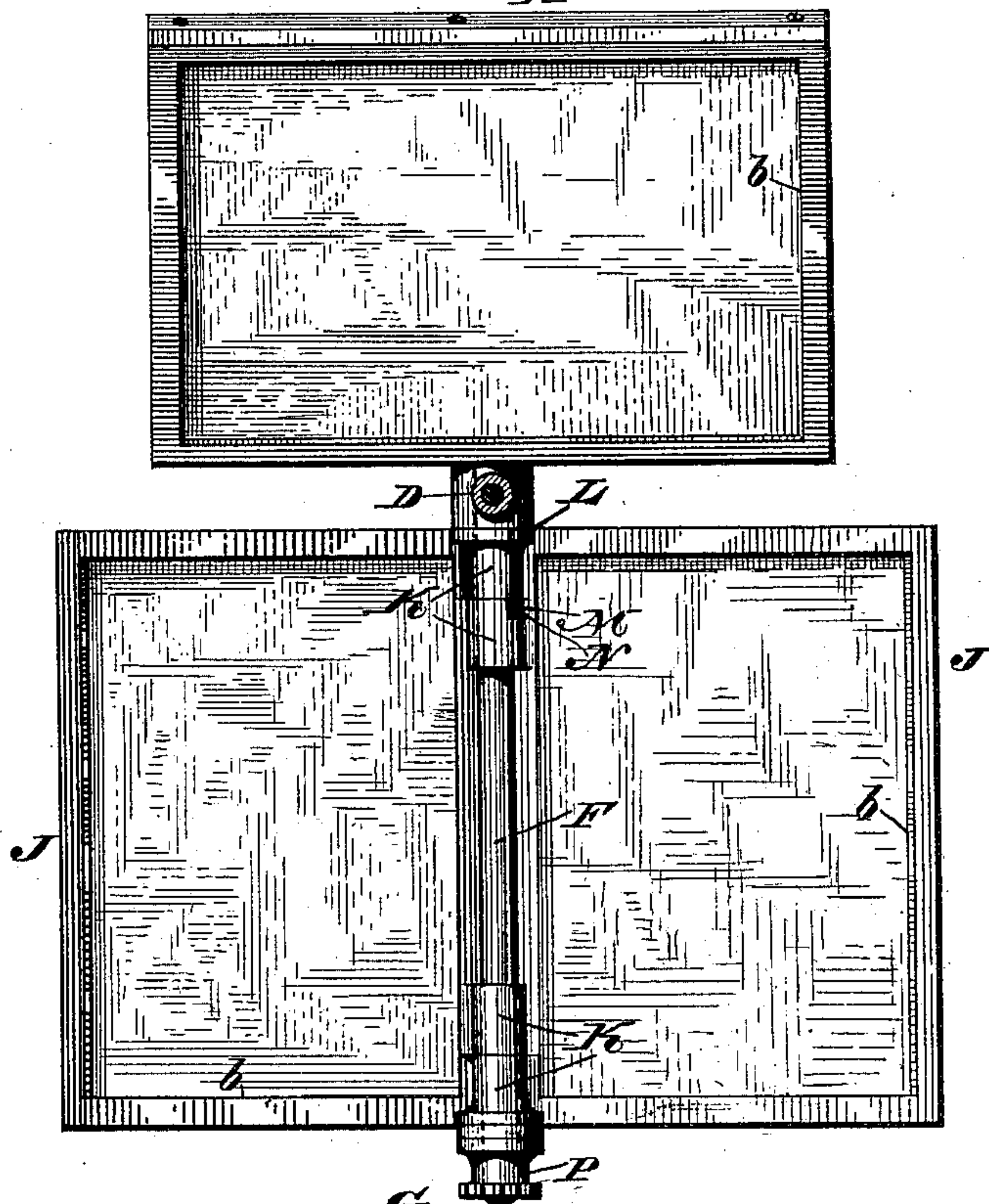
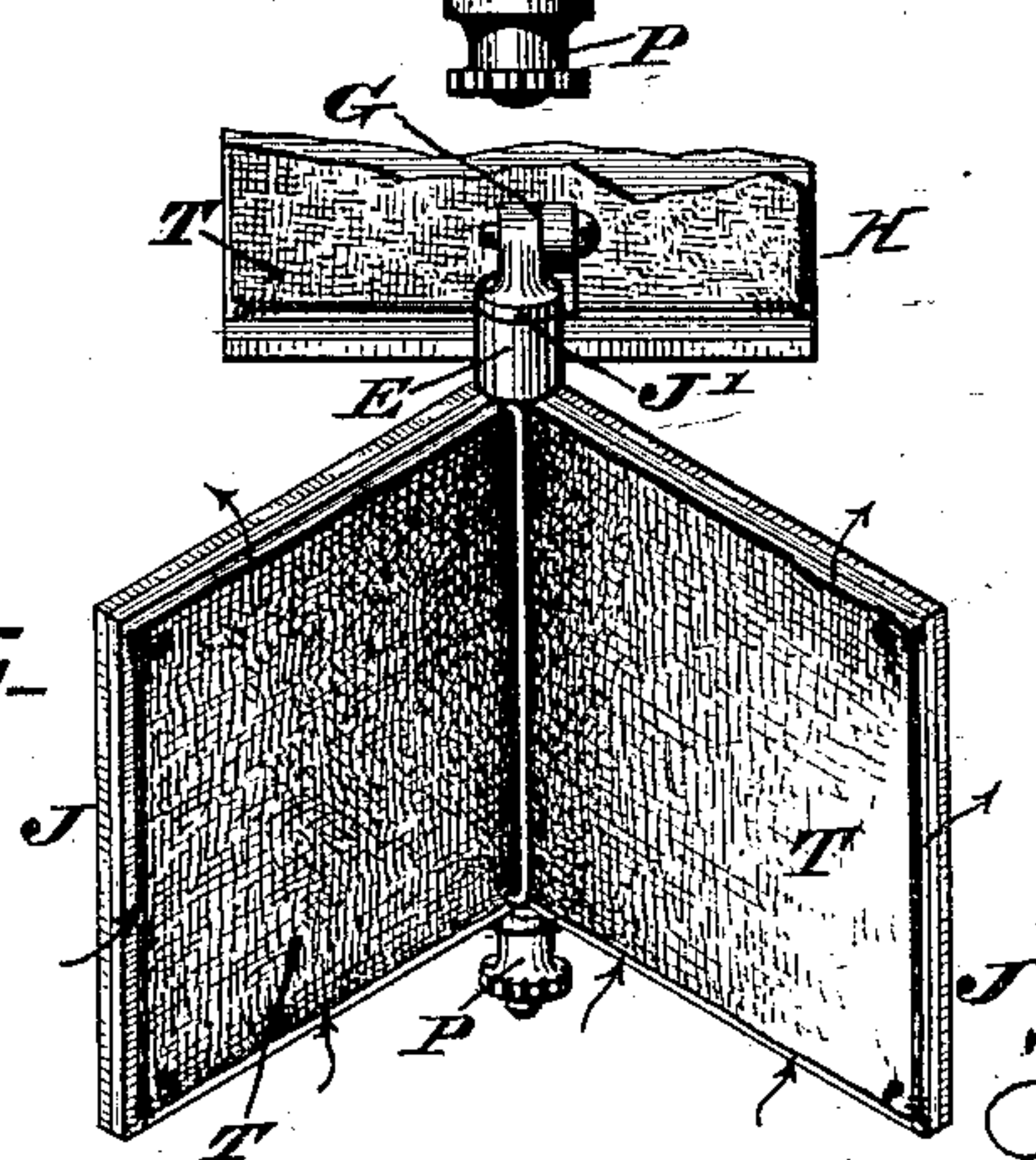


Fig. 6.



WITNESSES:

*L. Rouville,*  
*P. H. Hagler*

INVENTOR:

*Thomas Houghton*  
BY *Paul Diederichsen*  
ATTORNEY.





# UNITED STATES PATENT OFFICE.

THOMAS HOUGHTON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO  
JOHN H. BROMLEY, OF SAME PLACE.

## REFLECTOR.

SPECIFICATION forming part of Letters Patent No. 427,996, dated May 13, 1890.

Application filed June 5, 1889. Serial No. 313,116. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS HOUGHTON, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Reflectors; which improvement is fully set forth in the following specification and the accompanying drawings.

My invention relates to improvements in reflectors, more particularly those designed for window purposes; and it consists, first, in providing means, substantially as described, for securing in adjusted position the reflectors; second, in forming an air-chamber at the back of the reflector with an opening in the same, and, third, in providing said opening with a rain and dust guard.

It further consists in the combination of parts herein set forth and claimed.

Figure 1 represents a face view of a reflector embodying my invention, the same being partly sectional. Fig. 2 represents a side elevation of a portion thereof, partly sectional. Fig. 3 represents a section of a portion on line *xx*, Fig. 2. Fig. 4 represents a perspective view of one of the lower pair of reflectors. Fig. 5 represents a perspective view of a portion of the other reflector of the lower pair. Fig. 6 represents a perspective view of the lower pair of reflectors and portion of the upper swinging reflector.

Similar letters of reference indicate corresponding parts in the several figures.

Referring to the drawings, A designates a socket, which may be secured to a window-frame or other support by screws B, one of the screws passing through horizontally-extending slot C in said socket, whereby the swinging arm D, which has one end fitted in said socket, may be set true or plumb. The other end of said arm D has an eye E, through which passes a vertical rod or shaft F, to whose upper end is connected by a knuckle-joint G the top reflector H, which, as is evident, may be adjusted or set in angular positions, owing to said joint G, said rod F having also near its upper end a collar J', which rests on the eye E.

J designates the reflectors, which form a right angle with each other, and are con-

nected by means of ears K, which are formed on the inner ends of the frames or holders of the glasses of the reflectors, the rod F passing through said ears. The upper ear of one of the holders is formed with a collar L, with which the eye E of the arm D is in contact, and has also a tongue M, which enters a slot or groove N in the contiguous ear of the other holder, whereby said eyes interlock and the reflectors J are held in their angular position in relation to each other. The lower end of the rod F is screw-threaded for engagement of a nut P, which when tightened serves to tighten the ears K against each other and connect said rod F with the arm D, whereby the several reflectors are firmly and steadily sustained at their centers and vibrations of the same prevented. It will be seen that when the nut P is loosened the reflectors J may be turned on the rod F, and thus adjusted to the right or left. The reflector H may also be rotated with the rod F, and thus also adjusted to the right or left, after which the nut P is tightened, and thus the reflectors retain their adjusted positions. The reflector H may also be turned on the knuckle or knuckle-joint G, as has been stated, and thus said reflector may be set for viewing objects on either side of the door of the house to which the device is attached without the person necessarily stooping or changing his position in the room, this operation being also assisted by the adjustability of the swinging arm D, the latter being secured by a screw Q at the socket or socket-joint A.

The holder or frame of the glass of either of the reflectors has a space *a* between the glass and back of the holder, and said back has ports or openings R, whereby air may enter and circulate in said space, thus preventing sweating of and injury to the coating or plating of the glass due to heat and moisture. Guards S overhang said openings R, whereby rain, snow, and ice are prevented from entering the same. The glass rests against the rim of the holder, between which and the glass a quantity of putty, cement, &c., as at *b*, (see Figs. 3 and 5,) is placed, whereby a tight joint is formed between the holder and glass.



To the backs of the holders is secured a curtain or guards T, of fabric or other suitable material, (see Fig. 6,) the same being set out from said backs, so that air may circulate 5 between the same and the guards, as will be shown by the arrows in said Fig. 6, whereby the reflectors are prevented from being injured by the heat of the sun.

Having thus described my invention, what I 10 claim as new, and desire to secure by Letters Patent, is—

1. The combination of a bracket with a horizontally-swinging arm fitted therein, the said arm having an eye in its outer end, a 15 vertical rod with a collar at its upper end and a screw-thread at its lower end, a reflector hinged to the head of said rod, two reflectors, each having ears embracing said rod and secured at a right angle to the other, and a 20 clamping-nut on the screw-threaded end of the rod, substantially as described.

2. An adjustable bracket with a swinging arm fitted thereto, a vertical rod depending from said arm, a reflector having a knuckle-

joint connection with the head of said rod 25 and above said swinging arm, a reflector with a collar and ears at one end, one of said ears having a tongue, and a second reflector secured to the said last-mentioned reflector by 30 an ear, the latter having a groove in which said tongue is inserted, both of said connected reflectors being mounted on the rod, and a clamping-nut on the lower end of the rod, said parts being combined substantially as 35 described.

3. A reflector having a frame or holder with a chamber between the glass and back, and air inlets or ports leading into said chamber, substantially as described.

4. In a device of the character named, a 40 reflector having a backing with intervening air-chamber, said backing having air vents or openings therein, and guards overhanging said openings, substantially as described.

THOMAS HOUGHTON.

Witnesses:

JOHN A. WIEDERSHEIM,

A. P. JENNINGS.