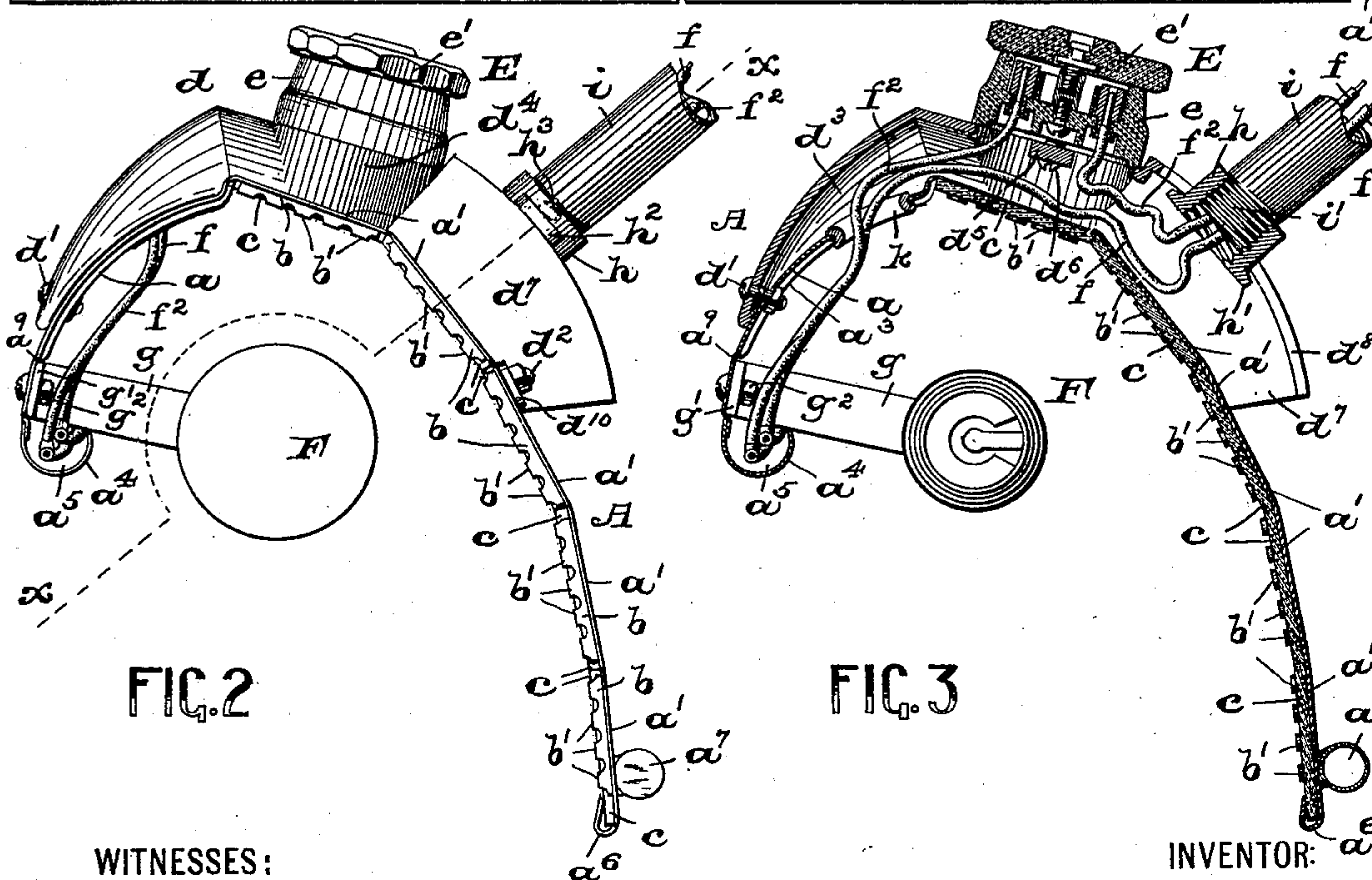
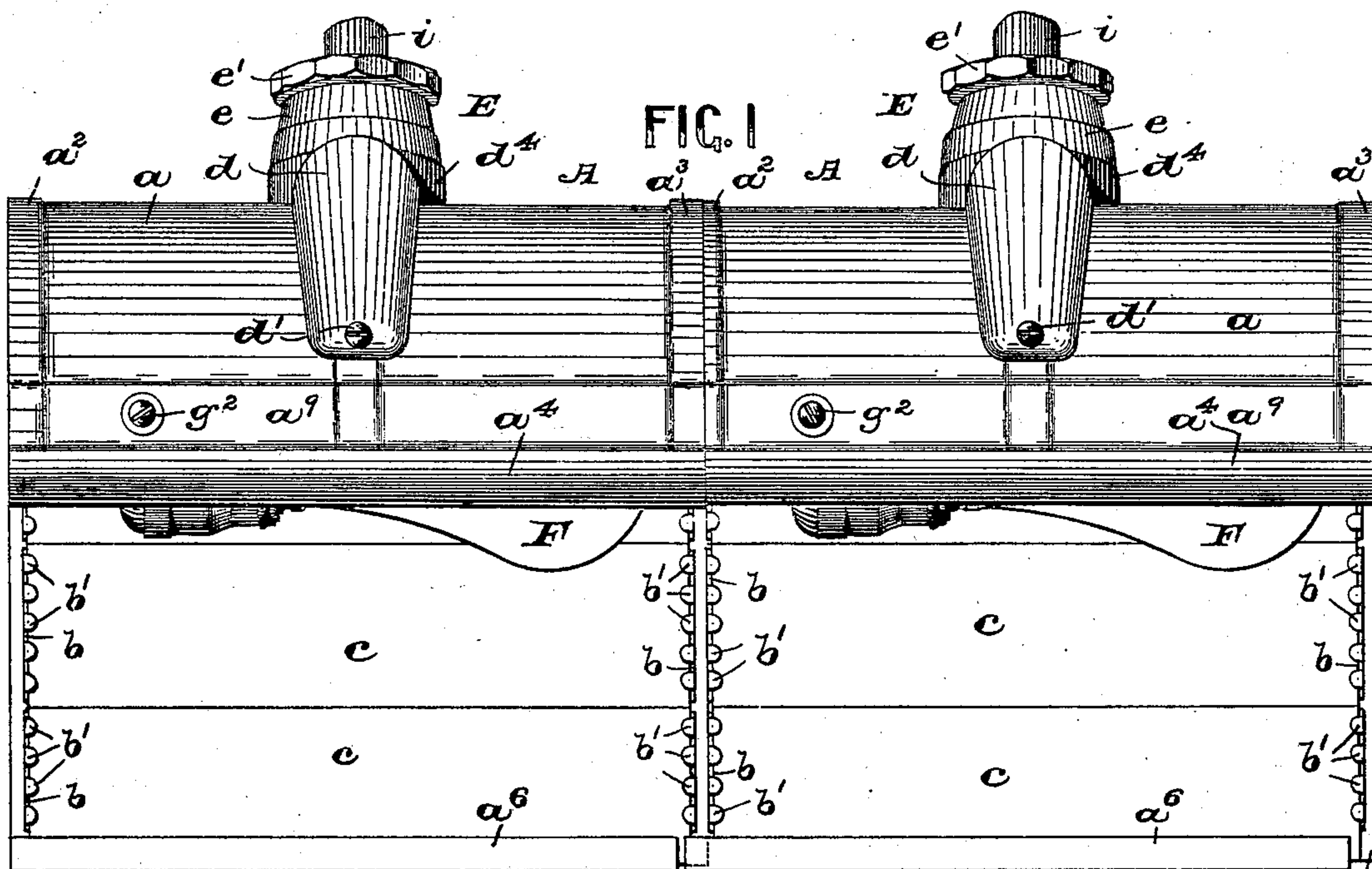


2 Sheets—Sheet 1.

REFLECTOR FOR ART GALLERIES, SHOW WINDOWS, &amp;c.

Patented Apr. 20, 1897.



**WITNESSES:**

M. B. Fraenkel.

Wm. H. Canfield, Jr.

INVENTOR:

# NELSON WEEKS,

BY  
Fred E. Fraentzel,  
ATTORNEY

(No Model.)

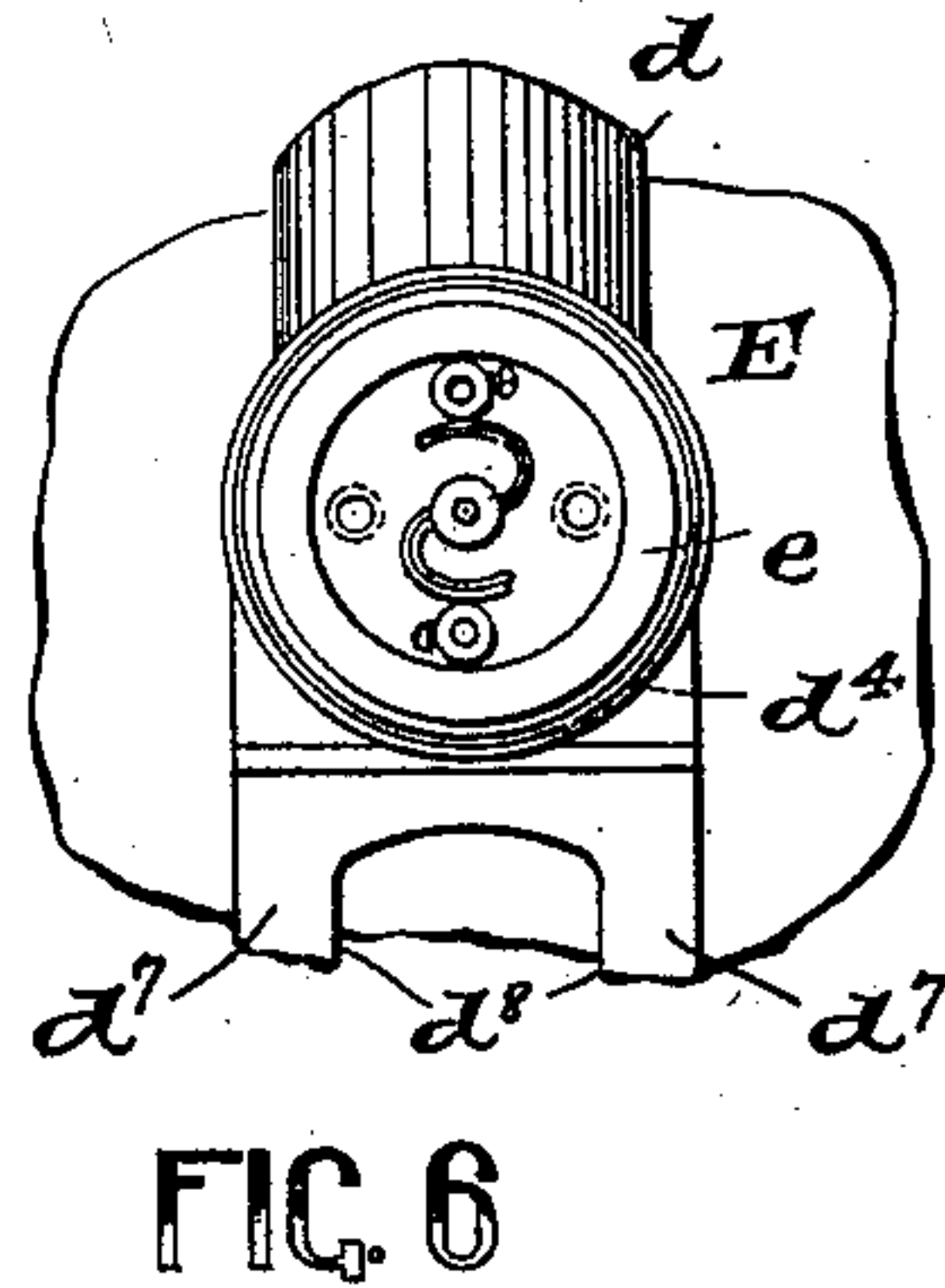
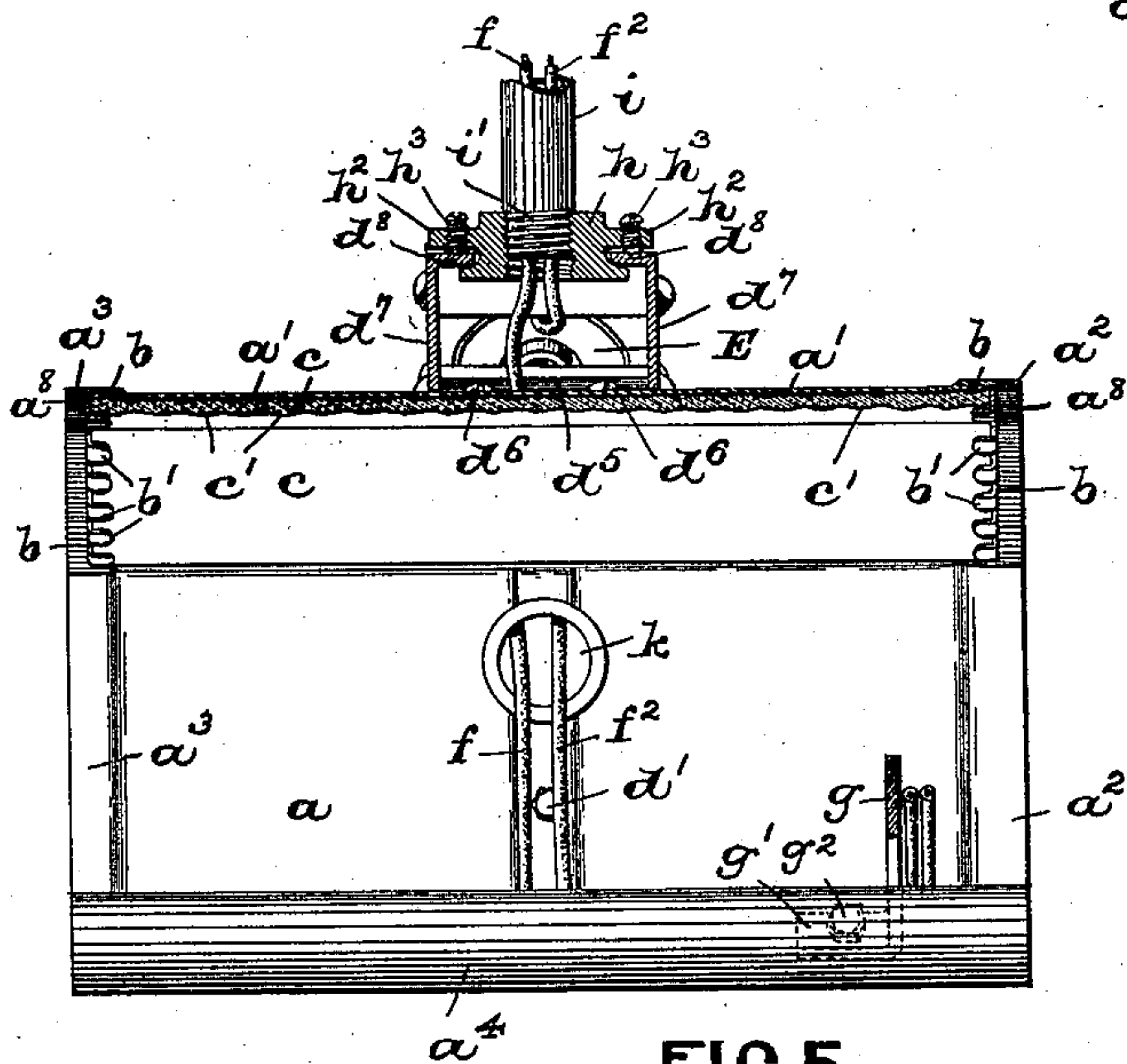
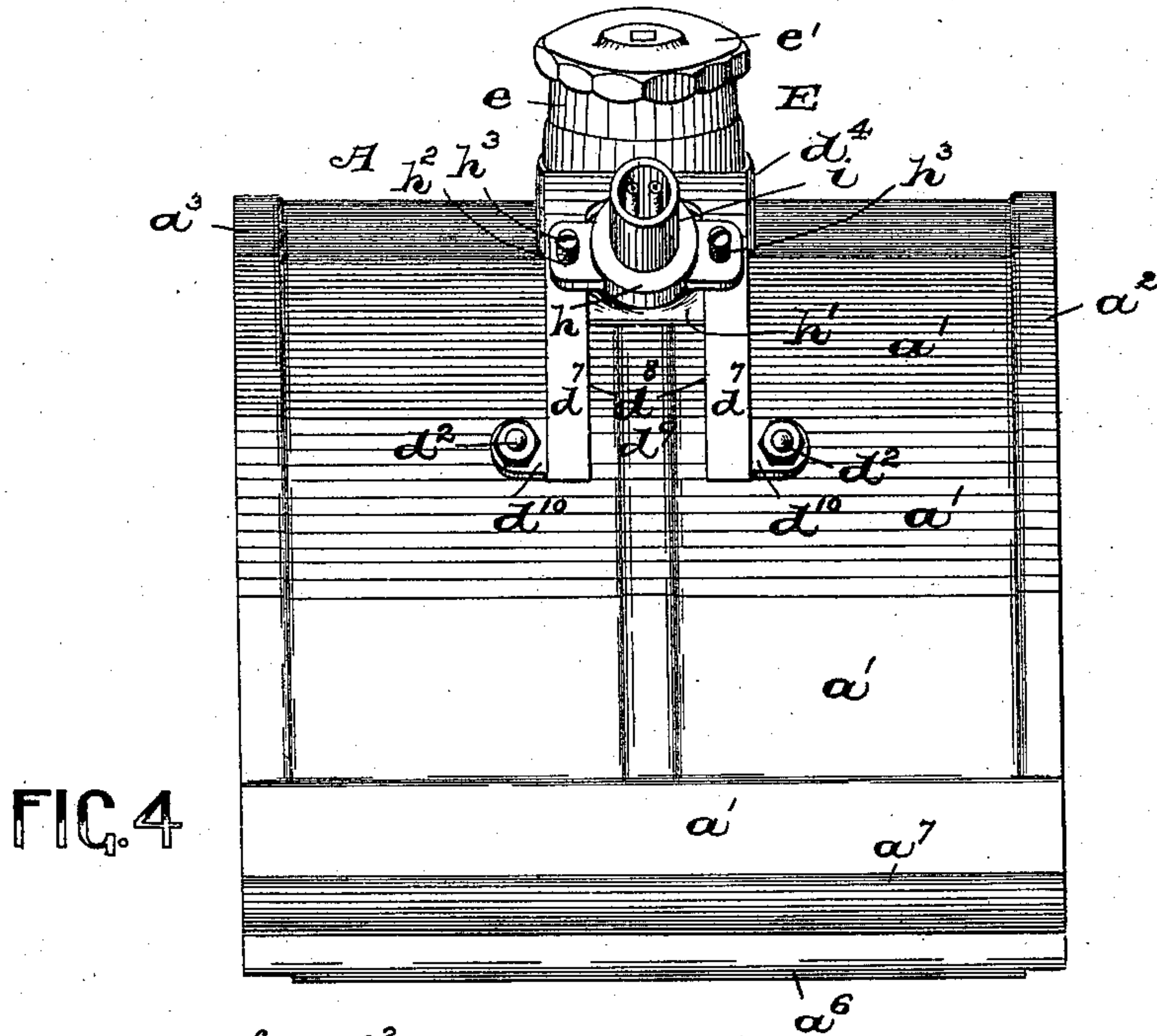
2 Sheets—Sheet 2.

N. WEEKS.

REFLECTOR FOR ART GALLERIES, SHOW WINDOWS, &c.

No. 581,093.

Patented Apr. 20, 1897.



WITNESSES:

*W. B. Fraentzel,*  
*Wm. H. Campfield Jr.*

INVENTOR:

NELSON WEEKS,

BY

*Fred C. Fraentzel,*  
ATTORNEY



# UNITED STATES PATENT OFFICE.

NELSON WEEKS, OF HACKENSACK, NEW JERSEY, ASSIGNOR TO GEORGE FRINK SPENCER, OF NEWARK, NEW JERSEY.

## REFLECTOR FOR ART GALLERIES, SHOW-WINDOWS, &c.

SPECIFICATION forming part of Letters Patent No. 581,093, dated April 20, 1897.

Application filed December 18, 1896. Serial No. 616,120. (No model.)

*To all whom it may concern:*

Be it known that I, NELSON WEEKS, a citizen of the United States, residing at Hackensack, in the county of Bergen and State of New Jersey, have invented certain new and useful Improvements in Reflectors for Art Galleries, Show-Windows, &c.; 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 letters of reference marked thereon, which form a part of this specification.

This invention relates generally to improvements in reflectors, and more particularly to that class of reflectors used for store-window lighting and for lighting up the pictures in art galleries.

The invention has for its primary object to provide a novel and simple construction of reflector to be used in lighting store-windows, picture galleries, and the like, to be placed at or near the top of a window or picture to reflect the light inward and downward.

A further object of this invention is to provide a reflector, to be used in connection with electric or other light, which shall be of such a construction that the direct light is concealed from the eyes of an observer, at the same time giving a strong even light when wanted and doing away with the annoyance of a dazzling light in the eyes of the observer.

Other objects of the invention, not here specifically set forth, will be evident from the accompanying specification.

With these several objects in view this invention consists in a novel construction of reflector for show-windows, picture galleries, &c., hereinafter set forth, and also in such novel arrangements and combination of parts and details of construction to be fully described in the accompanying specification and finally embodied in the clauses of the claim.

The invention is clearly illustrated in the accompanying sheets of drawings, in which—

Figure 1 is a front view of the reflector made up of sections, said view illustrating two of such sections arranged and secured

end to end and in position ready for use. Fig. 2 is an end view of one of the said reflector-sections, and Fig. 3 is a vertical cross-section of the same. Fig. 4 is a back view of one of the reflector-sections, and Fig. 5 is a cross-section taken on line *xx* in Fig. 2. Fig. 6 is a detail view of a switch employed in connection with the reflector when electric lamps are employed in connection with the same.

Similar letters of reference are employed in all of the above-described views to indicate corresponding parts.

In said views, A indicates an apron made from sheet metal and of any desired length which is provided with an arc-shaped apron-portion *a* and the angularly-arranged straight portions *a'*, of which five are usually employed, but this number may be departed from, if desired. Said portions *a* and *a'* are all formed integral with each other, and at the ends of said portions the metal is raised, as at *a<sup>2</sup>* and *a<sup>3</sup>*, to produce rigidity of the sheet-metal apron A and to enable the overlapping of any two adjacent sections when more than one section is employed to make up the reflector, as will be clearly evident.

The arc-shaped portion *a* of the apron is usually provided at the bottom with an inwardly-curved part *a<sup>4</sup>*, which extends the entire length of the section and forms a suitable trough *a<sup>5</sup>* to produce additional stiffness of the apron A and also to conceal and support the electric-light wires in the manner and for the purposes to be hereinafter more specifically specified. The last one of the straight portions *a'* is provided on the front with a bead or rim *a<sup>6</sup>* and on the back with a stiffening-bar *a<sup>7</sup>*, soldered or otherwise fastened thereto.

As will be seen from Figs. 1, 2, and 3, and more especially from Fig. 5, I have secured against the inner surfaces *a<sup>8</sup>* of the raised portions *a<sup>2</sup>* and *a<sup>3</sup>* at the ends of the apron certain holding-clamps of sheet metal, as *b*, which may be soldered fast to the said inner surfaces *a<sup>8</sup>* and are provided with any suitable number of holding or clamping prongs *b'*, adapted to be bent over the ends of certain silver-plated glass or polished metal plates *c*, which are for the purpose of reflecting the



light-rays inward and downward. Said glass plates *c* are preferably corrugated, as indicated at *c'* in Fig. 5.

On the back of the arc-shaped portion *a* 5 and one of the straight portions *a'* of the apron *A* is a holder *d*, which is preferably made of cast metal and is secured to the back of said apron by means of screws *d'* and bolts *d''* or in any other well-known manner. Said holder 10 *d* is chambered on its under side, as at *d''*, and is also provided with a cylindrically-shaped supporting portion *d''*, provided with a cross-piece *d'''*, forming a suitable bridge against which can be fastened, by means of the screws 15 *d''*, a porcelain cup *e* of any of the usual forms of electric switches *E*. Said switch being of the well-known construction and not forming an essential feature of this invention the same need not be described in detail here. Suffice 20 it to say that by partially turning the cover *e'* of the cap *e* a complete electrical circuit can be formed through the wires *f*, *f'*, and *f''* to the lamp *F*, supported on a bracket-bar *g*. Said bar *g* is provided with a step *g'*, formed at a 25 right angle thereto or approximately so, which has a perforation and is secured by means of a screw-bolt *g''* in a channeled way or recess *a''* in the arc-shaped portion *a* of the apron *A* (see Figs. 1, 2, and 3) to prevent the turning 30 of the bracket-bar *g* and its lamp supported thereon when secured in position.

As will be seen from Figs. 3, 4, and 5, said holder *d* is provided with the two backwardly-extending and downwardly-curved guide- 35 pieces *d'*, having perforated lugs or ears *d''*, through which the bolts *d''*, hereinabove mentioned, are passed for securing said holder *d* to the back of one of said parts *a'*. Each guide-piece *d'* is provided with an inwardly- 40 extending flange *d''*, thereby providing an open space *d'''* between said guide-pieces *d'*. Movably arranged in the space *d'''* and adjustably secured on said guide-pieces *d'* is a screw- 45 threaded socket *h*, into which is screwed the end *i'* of a hollow supporting-rod *i*, by means of which the reflector is supported at or near the top of the show-window or from the ceiling of a room. Said socket *h* is provided with an annular flange *h'* and two oppositely- 50 extending lugs or supporting-ears *h''*, which loosely embrace and can be made to slide on said flanges *d''* of the two guide-pieces *d'*. Each lug or ear *h''* is provided with a screw-threaded perforation, into which are screwed the set- 55 screws *h'''*, by means of which said socket *h* can be securely fixed in its adjusted position in said guide-pieces *d'* of the holder *d* and whereby the reflector can be arranged at the desired angle in a store-window or in front of 60 a picture to give the best results by throwing a perfect and an evenly-distributed light upon the articles or picture displayed. As will be seen from Figs. 2 and 3, the flanges *d''* and the upper surfaces of said guide-pieces *d'* are 65 of an arc of a circle having its radius terminating in the longitudinal central axis of the lamp *F*, whereby when the reflector is ad-

justed on its supporting-rod *i* the position of the lamp or lamps *F* will remain unchanged. Likewise the portion *a* of the apron *A* is also 70 of an arc of a circle having its radius terminating in the longitudinal central axis of the lamp, whereby the rays from the light are reflected directly back to their initial starting- 75 points in the lamp; but the reflector glass plates *b* are arranged at such angles to each other that the light-rays are all reflected inward and downward and directly upon the goods displayed in the show-window, while in 80 an art gallery the picture receives nearly all the reflected rays at its lower end and the upper and central portions receive the direct rays, thus blending together and producing a beautiful and most perfect effect.

When electric lamps are used in connection 85 with the reflector, the light-wires are introduced through the tubular bar *i* and arranged in the chambered portions of the holder *d*, as illustrated in Fig. 3. At a suitable point in the arc-shaped portion *a* of the apron *A* they 90 pass through an opening in a suitable lead or other like gasket *k*, suitably secured in an opening in said portion *a*, and are then connected to the lamp-socket in the usual manner. 95

The herein-described reflector is especially designed for use in connection with electric lights, but it will be evident that the same can also be used with gas-jets or oil-lamps with slight modifications being made in the 100 reflector construction.

It will be furthermore understood that changes may be made in the several arrangements and combinations of the parts and the details of the construction thereof without 105 departing from the scope of my present invention, and I do not limit myself to the exact arrangements and combinations of the parts herein described and illustrated in the accompanying drawings, claiming, broadly, a re- 110 flector comprising the arc-shaped portion *a* and the straight parts *a'*, arranged angularly to each other, so that the light-rays from a light connected with the reflector will have the rays which strike the part *a'* reflected 115 back to their initial source, while the rays to the parts *a'* are reflected inward and downward, at the same time concealing the direct light from the eyes of the observer.

Having thus described my invention, what 120 I claim is—

1. A reflector-section for art galleries, store-windows, &c., consisting of an apron, comprising an arc-shaped portion *a*, arranged concentric with the center of the light con- 125 nected with the reflector, and straight portions *a'*, at angles to each other, all arranged to throw a reflected light inward and downward, and said portions *a* and *a'* having raised parts *a''* and *a'''* at their free ends to enable the 130 overlapping of any two adjacent reflector-sections, substantially as and for the purposes set forth.

2. A reflector-section for art galleries, store-



windows, &c., consisting of an apron, comprising an arc-shaped portion *a*, arranged concentric with the center of the light connected with the reflector, and straight portions *a'*, at angles to each other, holding-clamps on said portions *a'*, and glass reflector-plates, held by said clamps, said glass plates being arranged to throw a reflected light inward and downward, and said portions *a* and *a'* having raised parts *a<sup>2</sup>* and *a<sup>3</sup>* at their free ends to enable the overlapping of any two adjacent reflector-sections, substantially as and for the purposes set forth.

3. A reflector-section for art galleries, store-windows, &c., consisting of an apron, comprising an arc-shaped portion *a*, arranged concentric with the center of the light connected with the reflector, straight portions *a'*, at angles to each other, all arranged to throw a reflected light inward and downward, a holder, secured to the back of said apron, and a supporting-rod adjustably connected with said holder, and said portions *a* and *a'* having raised parts *a<sup>2</sup>* and *a<sup>3</sup>* at their free ends to enable the overlapping of any two adjacent reflector-sections, substantially as and for the purposes set forth.

4. A reflector for art galleries, store-windows, &c., consisting of an apron, comprising an arc-shaped portion *a*, arranged concentric with the center of the light connected with the reflector, straight portions *a'*, at angles to each other, all arranged to throw a reflected light inward and downward, a holder, secured to the back of said apron, having a chambered portion, and a pair of guide-pieces provided with flanges *d<sup>8</sup>*, a socket *h* provided with flanges embracing said flanges *d<sup>8</sup>*, set-screws for adjustably securing said socket in position, and a supporting-rod connected with said socket, substantially as and for the purposes set forth.

5. A reflector-section for art galleries, store-windows, &c., consisting of an apron, comprising an arc-shaped portion *a*, arranged concentric with the center of the light connected with the reflector, straight portions *a'*, at angles to each other, holding-clamps on said portions *a'*, glass reflector-plates, held by said clamps, said glass plates being arranged to throw a reflected light inward and downward, a holder secured to the back of said apron, and a supporting-rod adjustably connected with said holder, and said portions *a* and *a'* having raised parts *a<sup>2</sup>* and *a<sup>3</sup>* at their free ends to enable the overlapping of any two adjacent reflector-sections, substantially as and for the purposes set forth.

6. A reflector for art galleries, store-windows, &c., consisting of an apron, comprising an arc-shaped portion *a*, arranged concentric with the center of the light connected with the reflector, straight portions *a'*, at angles to each other, holding-clamps on said portions *a'*, glass reflector-plates, held by said clamps, said glass plates being arranged to throw a reflected light inward and downward,

a holder secured to the back of said apron, having a chambered portion, and a pair of guide-pieces provided with flanges *d<sup>8</sup>*, a socket *h* provided with flanges embracing said flanges *d<sup>8</sup>*, set-screws for adjustably securing said socket in position, and a supporting-rod connected with said socket, substantially as and for the purposes set forth.

7. In a reflector for art galleries, store-windows, &c., the combination, with an apron, as A, having an arc-shaped portion *a*, provided with a longitudinal recessed portion *a<sup>9</sup>*, of a lamp-bracket *g*, having a foot *g'*, adapted to be fitted in said recessed portion, and means for securing it therein, substantially as and for the purposes set forth.

8. In a reflector for art galleries, store-windows, &c., the combination, with an apron, as A, of a holder *d*, consisting, essentially, of a chambered portion, and a pair of guide-pieces *d<sup>7</sup>* provided with flanges *d<sup>8</sup>*, a socket on said guide-pieces, set-screws for adjustably securing said socket in position, and a supporting-rod connected with said socket, substantially as and for the purposes set forth.

9. In a reflector for art galleries, store-windows, &c., the combination, with an apron, as A, of a holder *d*, consisting, essentially, of a chambered portion, a cylindrical supporting portion *d<sup>4</sup>*, having a cross-bar *d<sup>5</sup>*, an electric switch secured thereon, guide-pieces *d<sup>7</sup>* connected with said holder *d*, a socket and supporting-bar adjustably arranged on said guide-pieces *d<sup>7</sup>*, a lamp-bracket and lamp secured to said bracket, and electrical connections, all arranged, substantially as and for the purposes set forth.

10. In a reflector for art galleries, store-windows, &c., the combination, with an apron, as A, of a holder *d*, consisting, essentially, of a chambered portion, a cylindrical supporting portion *d<sup>4</sup>*, having a cross-bar *d<sup>5</sup>*, an electric switch secured thereon, guide-pieces *d<sup>7</sup>* connected with said holder *d*, and having flanges *d<sup>8</sup>*, a socket *h* having flanges embracing said flanges *d<sup>8</sup>*, set-screws for adjustably securing said socket in position, and a supporting-rod connected with said socket, a lamp-bracket and lamp secured to said apron, and electrical connections, all arranged, substantially as and for the purposes set forth.

11. The herein-described reflector for art galleries, show-windows, &c., consisting of an apron A, comprising an arc-shaped portion *a* having an opening, and a gasket *k* therein, said portion *a* being arranged concentric with the center of the light connected with the reflector, straight portions *a'*, at angles to each other, all arranged to throw a reflected light inward and downward, a holder *d* secured on the back of said apron, comprising, a chambered portion, a cylindrical supporting portion *d<sup>4</sup>*, having a cross-bar *d<sup>5</sup>*, an electric switch secured thereon, guide-pieces *d<sup>7</sup>* connected with said holder *d*, having flanges *d<sup>8</sup>*, a socket *h* having flanges embracing said flanges *d<sup>8</sup>*, set-screws for adjustably securing said socket



in position, and a tubular supporting-rod  
connected with said socket, a lamp-bracket  
and lamp secured to said apron, and electric  
connections in said holder, passing through  
5 said gasket and connected with said lamp,  
substantially as and for the purposes set  
forth.

In testimony that I claim the invention set  
forth above I have hereunto set my hand this  
15th day of December, 1896.

NELSON WEEKS.

Witnesses:

GEORGE FRINK SPENCER,  
FREDK. C. FRAENTZEL.