

M. H. MENDENHALL.
SIGHT PROTECTOR.

No. 171,403.

Patented Dec. 21, 1875.

Fig. 1.

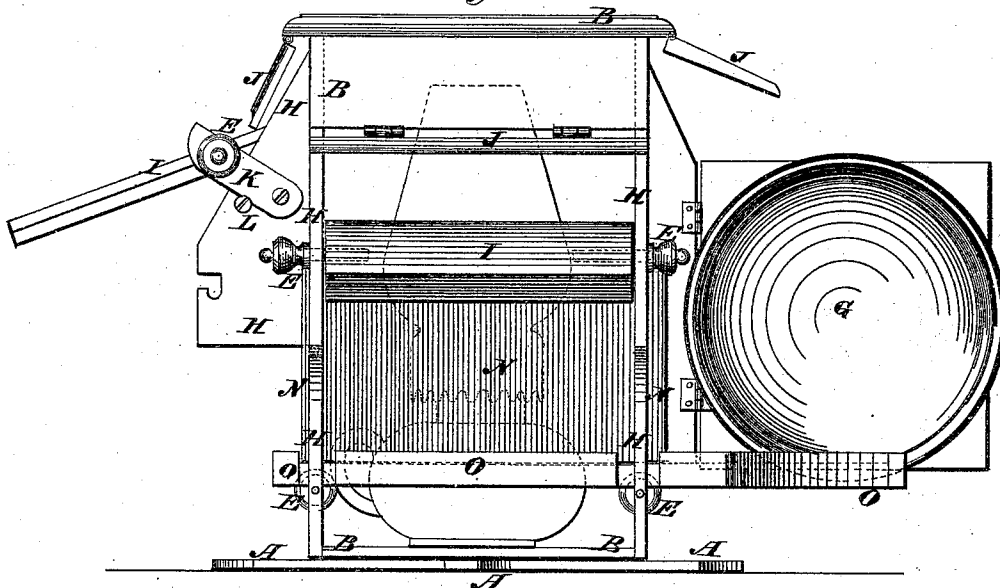
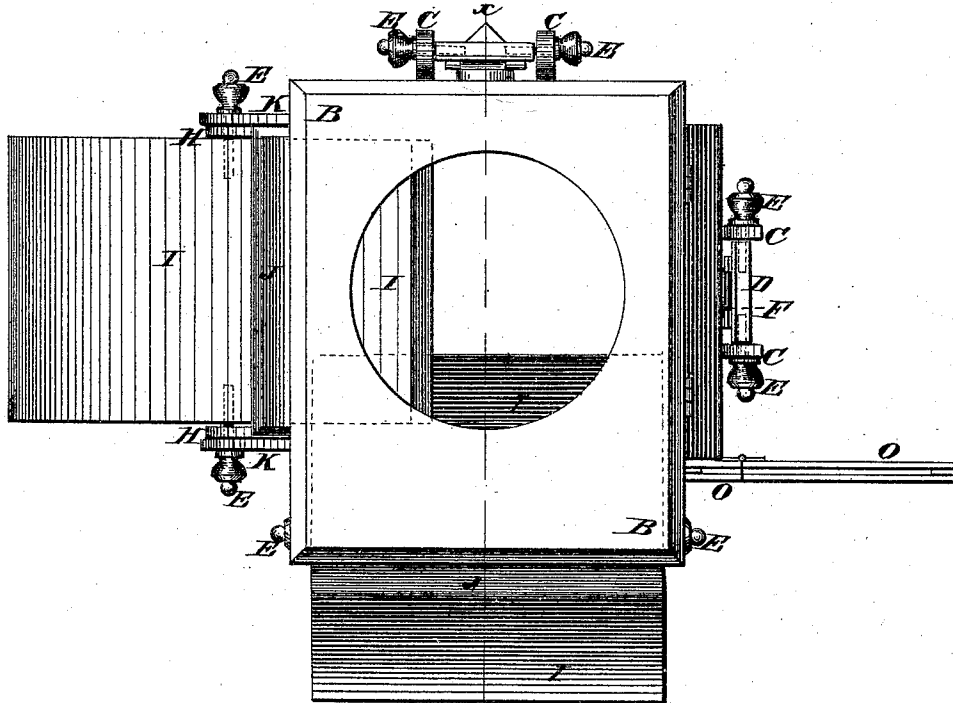


Fig. 2.



WITNESSES:

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Fig. 3

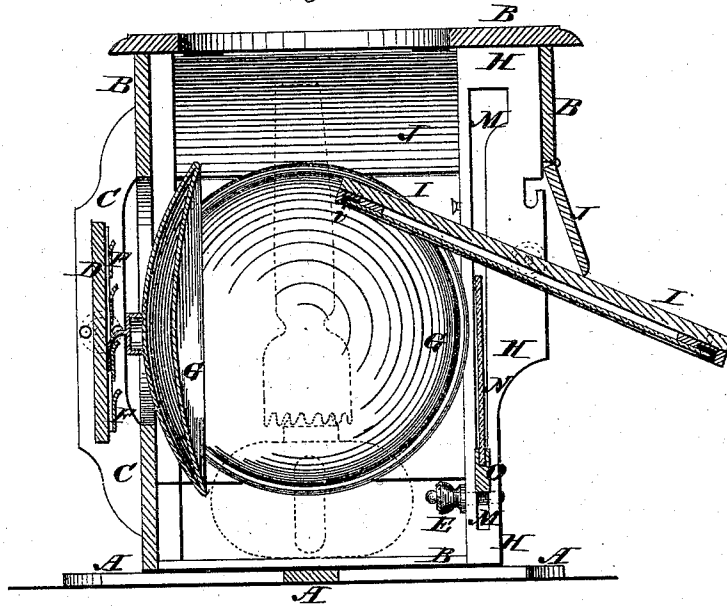


Fig. 4

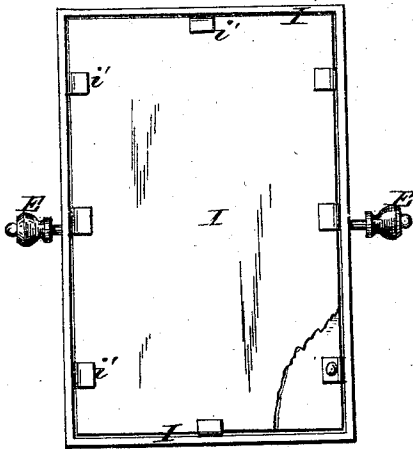
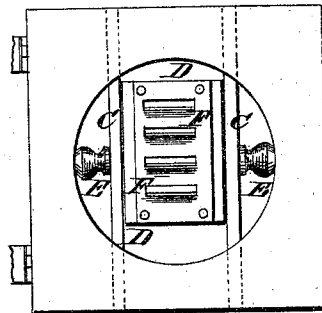


Fig. 5



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UNITED STATES PATENT OFFICE.

MARMADUKE H. MENDENHALL, OF WABASH, INDIANA.

IMPROVEMENT IN SIGHT-PROTECTORS.

Specification forming part of Letters Patent No. **171,403**, dated December 21, 1875; application filed November 6, 1875.

To all whom it may concern:

Be it known that I, MARMADUKE H. MENDENHALL, of Wabash, in the county of Wabash and State of Indiana, have invented a new and useful Improvement in Sight-Protector, of which the following is a specification:

Figure 1 is a side view of my improved sight-protector, the door being shown open. Fig. 2 is a top view of the same. Fig. 3 is a vertical section of the same, taken through the line *xx*, Fig. 2. Fig. 4 is a detail view of one of the deflectors. Fig. 5 is a detail view of one of the devices for adjusting the reflectors.

Similar letters of reference indicate corresponding parts.

The object of this invention is to improve the construction of the sight-protector for which Letters Patent Nos. 158,726 and 162,298 were granted to me January 12 and April 20, 1875, so as to bring the light under perfect control as to quantity, direction, and distance, and at the same time protect the eyes from the glare, intensity, and heat of the light.

The invention consists in the brackets placed upon the opposite sides of a hole in the back or door of the sight-protector, the plate, the hand-screws, and the slitted plate with each other and with the said back or door, to support the concave reflector adjustably; in the pivoted arms and their stop-pins or screws, in combination with the flanges of the sight-protector, for supporting the deflector adjustably; and in the combination of the notched and grooved bar, made in two parts hinged to each other, the plate of colored glass, and the hand-screws, with the slots formed in the flanges of the sight-protector that support the deflector, as hereinafter fully described.

A is the foot or base of the device, which rests upon and may be secured to the table, shelf, or other support upon which the sight-protector is placed. To the center of the base A is pivoted the center of the bottom of the case B, so that the protector may be turned to throw the light in any desired direction without raising it from its support. In the back of the case B, and in the door, when a double instrument is to be made, is formed a round hole, and to the outer sides of said back and door, at the opposite sides of said hole, are attached two brackets, C, between which

is placed a plate, D. The plate D is pivoted to the brackets C by hand-screws E, which pass through holes in the said brackets, and screw into holes in the edges of the plate D, so that, by simply loosening the said screws E, the plate D may be adjusted in a vertical or inclined position, as may be desired. Several holes are formed in the brackets C to receive the hand-screws E, so that the plate D may be moved out and in to adjust it as the concavity of the reflector may require. To the inner side of the plate D is attached a plate, F, of sheet metal, in which are formed a number of cross-slits. The edges of the plate F, at the lower side of its slits, are bent outward to form sockets to receive the catch attached to the knob or shank of the concave reflector G, so that the said reflector may be conveniently raised and lowered, as circumstances may require. To flanges H, formed upon the front of the case B, and upon its side where a double instrument is to be made, is pivoted a deflector, I, by hand-screws E, which pass through notches in the edges of said flanges, and screw into the edges of said deflector, so that the deflector can be readily adjusted at any desired inclination, to deflect the light received from the reflector G to any desired place. Several notches are formed in the edges of the flanges H to receive the hand-screws E, so that the deflector I can be readily raised and lowered to enable it to deflect the light to a greater or less distance from the instrument, as may be required. The glass plate is secured in the rabbeted frame of the deflector I by narrow strips *i* of sheet-lead, the inner ends of which are secured in recesses in the rabbet of said frame, and which are bent down upon the outer side of said glass plate. The lead *i* being without elasticity, holds the glass plate very firmly and securely in place when bent down upon it, and at the same time allows it to be conveniently removed when required. The leads *i* also take up but little of the reflecting-surface, and in this respect have a decided advantage over putty and other similar fasteners. The space above the deflectors I and above the door may be closed, when desired, by flaps J, hinged at their upper edges to the top or the upper part of the case B, to prevent or regulate the dif-

fusion of light through the room. To the front or side flanges H are pivoted the inner ends of two arms, K, in the upper edges of the outer ends of which are formed notches to receive the hand-screws E of the deflector I when it is desired to raise the said deflector, and cause it to throw the light higher and farther, to enable one or several to read by the light while sitting with his or their back toward the said light. The arms K and deflector I are secured in any position into which they may be adjusted by tightening the hand-screws E. To the sides of the flanges H are attached shoulder or stop screws or pins L, for the arms K to rest upon, to prevent the deflector I from falling when the said screws E are loosened. In the flanges H are formed vertical slots M, which are made of sufficient width to receive a plate, N, of blue or other colored glass. The upper ends of the slots M are widened, as shown in Fig. 3, to allow the bar O to be inserted. The opposite sides of the bar O are notched, as shown in Fig. 1, so that after being inserted through the enlarged upper ends of the slots M it may be slipped down through said slots.

The upper edge of the bar O is grooved, as shown in Figs. 1, 2, and 3, to receive the lower edge of the colored glass plate N, to support it, and allow it to be adjusted horizontally, to cause the whole or any desired part of the light to pass through it, according to the desired effect to be produced upon the light. To enable this to be done one end of the grooved bar O must project beyond the case of the sight-protector. The projecting part of the bar

O is hinged to the other or main part, so that it may be swung in against the case when not required for use.

Through the narrow lower part of the flanges H and the lower part of the slots M are passed set-screws E, so that, by tightening the said screws, the bar O may be clamped in place, in whatever part of said slots it may be placed.

This construction enables the colored glass plate N to be adjusted vertically, as may be desired.

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

1. The brackets C, placed upon the opposite sides of a hole in the back or door of the sight-protector, the plate D, the hand-screws E, and the slitted plate F, in combination with each other and with the said back or door, to support the concave reflector G adjustably, substantially as herein shown and described.

2. The pivoted arms K and their stop-pins or screws L, in combination with the flanges H, for supporting the deflector I adjustably, substantially as herein shown and described.

3. The combination of the notched and grooved bar O, made in two parts hinged to each other, the plate N of colored glass, and the hand-screws E, with the slots M, formed in the flanges H that support the deflector I, substantially as herein shown and described.

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Witnesses:

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