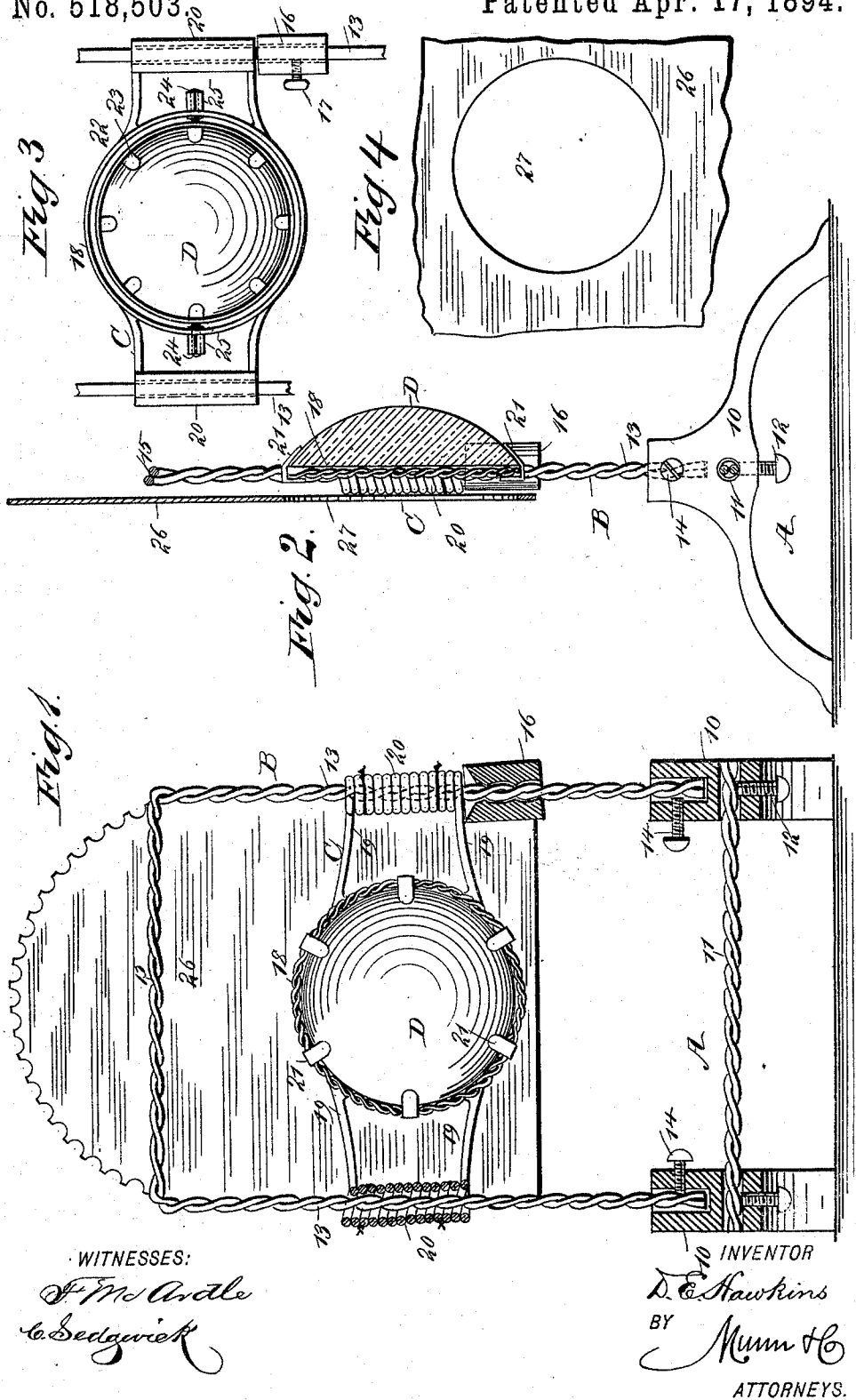


(No Model.)

D. E. HAWKINS.  
LIGHT DEFLECTOR.

No. 518,503

Patented Apr. 17, 1894.



# UNITED STATES PATENT OFFICE.

DEXTER E. HAWKINS, OF NORTH ATTLEBOROUGH, MASSACHUSETTS.

## LIGHT-DEFLECTOR.

SPECIFICATION forming part of Letters Patent No. 518,503, dated April 17, 1894.

Application filed October 11, 1893. Serial No. 487,844. (No model.)

*To all whom it may concern:*

Be it known that I, DEXTER E. HAWKINS, of North Attleborough, in the county of Bristol and State of Massachusetts, have invented a new and Improved Light-Deflector, of which the following is a full, clear, and exact description.

My invention relates to an improvement in light deflectors, and it has for its object to provide a device adapted to concentrate the light of a lamp or gas flame, and thereby increase the power thereof; and a further object of the invention is to provide a means whereby the concentrated rays of light may be directed upon a page of a book or upon any object being worked upon.

Another feature of the invention is to provide a device of the character described of simple, durable and economic construction, and likewise to so construct the device that it will not interfere with the stand or pedestal of a lamp if used in connection therewith, and furthermore to provide a means whereby the frame may be adjusted at the base in such a manner as to accommodate in a measure bases of different sizes and shapes.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a front elevation of the deflector, portions thereof being in section. Fig. 2 is a central vertical longitudinal section through the deflector. Fig. 3 is a side elevation of the lens portion of the deflector, illustrating a slight modification in the construction of the device; and Fig. 4 is a partial side elevation of the screen.

In carrying out the invention a base A, is provided, which consists preferably of legs 10, each leg being adapted to constitute one side of the base, and a cross bar 11, which adjustably connects the legs. Usually the cross bar is introduced in openings in the legs and held in position by means of set screws 12.

The main frame B of the device is of skeleton formation and practically of rectangular

shape, embracing in any event two uprights 13, which are secured preferably by means of set screws 14 in sockets produced in the legs 10 of the base. The upper ends of the standards 13 of the main frame may be connected by an arched bar but preferably a straight or horizontal member or bar 15, is employed.

The main frame, and likewise the cross bar 11 of the base may be, and preferably are, constructed of twisted wire, whereby the frame will be rendered light and ornamental as well as durable, and each standard 13, of the frame will be formed with a thread extending from end to end; but if in practice it is found desirable and as shown in Fig. 3, the standards 13 of the frame, in fact, the entire portion of the main frame may be made plain. One of the standards is provided with a sleeve 16, adapted to have vertical movement upon it, and when the standard is threaded as shown in Figs. 1 and 2 the interior of the sleeve 16 is correspondingly threaded to form a nut; and when the standard is smooth as shown in Fig. 3 the interior of the sleeve is smooth, and the sleeve is held in position by means of a set screw 17, so as to permit the ready insertion of the pivots therein. By means of the nut or sleeve 16, the lens frame can be adjusted vertically in the frame.

The main frame is adapted to carry a sliding frame C, and the latter frame usually consists of a ring-body 18 and arms 19 which are projected from opposite sides of the ring-body, the arms at each side of the body terminating in or being connected with a sleeve 20, and the sleeves are adapted to have easy sliding movement upon the standards 13 of the main frame above the nut 16. The arms 19 may be, and preferably are made of wire, and the sleeves 20 may be made either of twisted wire, as shown in Fig. 1, or they may be made of sheet metal, or cast as shown in Fig. 3.

The frame C, is adapted to carry the lens D used, and this lens, as shown in Fig. 1, may be held in the ring body 18 of the sliding frame through the medium of clamps 21, or as shown in Fig. 3 an auxiliary ring 22 may be provided, carrying clamps 23 for securing the lens D within the auxiliary frame; and the auxiliary lens-frame 22 is in this event pivoted in the sliding frame C, and the

pivoting of the lens is preferably effected by projecting pivots 24 from opposite sides of the auxiliary ring or frame for the lens and causing the said pivots to be journaled in sockets 25, formed upon opposite sides of the ring section or member 18 of the sliding frame C of the lens, the said sockets being preferably made of spring metal and split upon one side, as shown in Fig. 3.

Under the construction shown in Fig. 1, the lens can be adjusted vertically only, while under the construction shown in Fig. 3 the lens may not only be adjusted vertically but may be given any desired inclination, the spring sockets serving by frictional contact upon the pivots 24 to hold the lens in whatever inclined position it may be placed; but if in practice it is found desirable clamp screws may be employed in connection with the sockets, to regulate the space between their abutting edges.

In connection with the lens a shield 26, is employed, which may be made of paper, metal, or any approved material. The shield is adapted to move with the sliding or main lens frame C, and to that end is attached to the frame, preferably to the sleeve sections thereof. The shield may be of any desired height, and as shown in Fig. 4 it is provided with an opening 27, preferably of slightly greater diameter than that of the lens. The shield is arranged at the rear of the main lens frame C, and the aperture or opening 27, is located immediately at the rear of the lens.

In the operation of the device, as shown in Fig. 1, the lens is raised and lowered by manipulating the nut 16, and the main lens frame will remain in whatever position it is placed, since one arm of the lens-carrying frame will rest, as is also shown in Fig. 1, against the upper outer edge of the nut, and will thereby hold the nut in frictional engagement with the standard upon which it is placed. If in practice it is found desirable the upper edge of the nut may be provided with recesses in any one of which an arm of the main frame C may fit and thus prevent the nut from turning. Under the construction shown in Fig. 3 the adjustment is accomplished by simply sliding the nut up and

down and securing it in its adjusted position by the set screw 17, and the nut will hold the main lens frame in whatever position it may then be placed. The lens is given any desired inclination by simply turning it upon its pivot. As the legs of the base are adjustable to and from each other the space between them may be regulated to receive the base of a lamp, if such a light is to be used.

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

1. A light deflector, comprising a base, a frame having its vertical members carried by the base, a lens carrying frame fitted to slide on the said vertical members of the said frame, means for vertically adjusting said lens carrying frame, and an apertured shield secured to the frame in rear of the lens, substantially as described.

2. A light deflector, comprising a base consisting of legs and a cross bar connecting the legs, a frame having its vertical members detachably secured to the base, a lens carrying frame mounted to slide on the vertical members of the said frame, means for adjusting the lens carrying frame vertically, and an apertured shield secured to the rear of the frame, substantially as described.

3. In a light deflector, the combination with a base, of a frame having its vertical members threaded and secured to the base, a lens carrying frame provided with sleeves loosely encircling the vertical members of the said frame, and a nut on one of the said vertical members, substantially as described.

4. In a light deflector, the combination with a base, of a frame formed of twisted wires and having its vertical members provided with threads formed by twisting the wires together and secured to the base, a lens carrying frame provided with sleeves loosely encircling the vertical members of the frame, and a nut on one of the vertical members of the said frame, substantially as described.

DEXTER E. HAWKINS.

Witnesses:

FREDRICK M. MERCK, Jr.,  
JOHN P. BONNETT.