(No Model.)

# O. C. WHITE.

## PHOTOGRAPHIC HEAD SCREEN.

No. 382,125. Patented May 1, 1888.

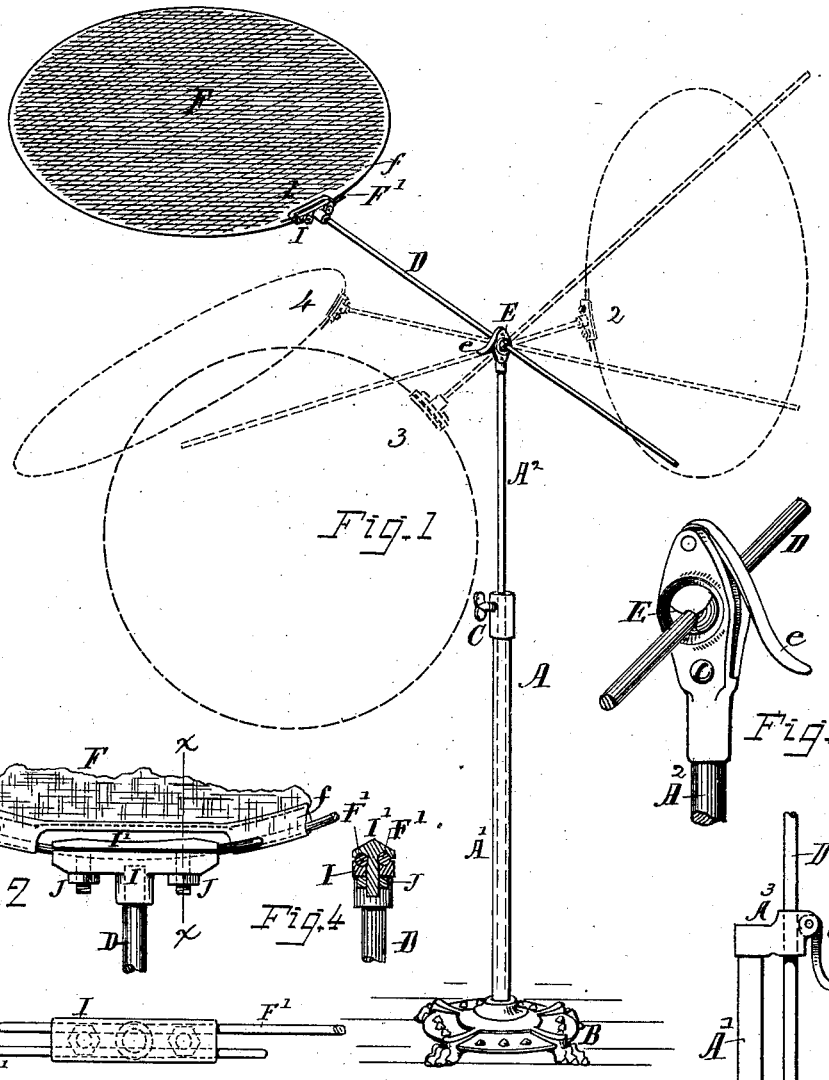


Fig. 1

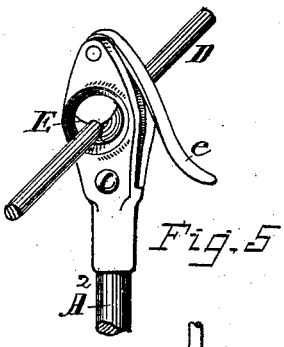


Fig. 5

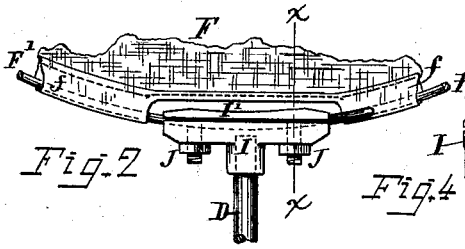


Fig. 2




Fig. 4

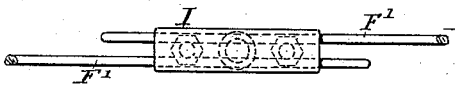


Fig. 3

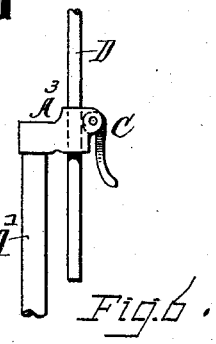


Fig. 6.

Witnesses

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# UNITED STATES PATENT OFFICE.

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## PHOTOGRAPHIC HEAD-SCREEN.

SPECIFICATION forming part of Letters Patent No. 382,125, dated May 1, 1888.

Application filed December 29, 1887. Serial No. 259,278. (No model.)

*To all whom it may concern:*

Be it known that I, OTIS C. WHITE, a citizen of the United States, residing at Worcester, in the county of Worcester and State of Massachusetts, have invented certain new and useful Improvements in Photographic Head-Screens, of which the following, together with the accompanying drawings, is a specification sufficiently full, clear, and exact to enable persons skilled in the art to which this invention appertains to make and use the same.

The objects of my present invention are, first, to provide a practical and convenient adjustable screen apparatus for the use of photographers and others for obstructing or reflecting light or correcting the illumination of subjects and objects, having improved facilities whereby the screen can be readily adjusted and fixed in any desired position and at any desired inclination in relation to the direction and source of the light; second, to provide a peripheral support for the shade or screen fabric that will maintain the fabric properly spread and held at the proper tension free from obstructions, looseness, or wrinkles; also one upon which the fabric can be conveniently placed and removed for cleaning or renewal when desired; third, to provide a photographer's screen having a single universal clamping-joint operated by a conveniently-manipulated binder for effecting adjustment of the shade arm or rod longitudinally, rotatively, and obliquely in relation to the main standard; fourth, to provide an expansible shade-supporting hoop or rim and practically efficient means for retaining it in place of adjustment without obstructing the screen; fifth, to provide a joint device for connecting the shade and its rod in a manner to permit adjustment of the shade to different planes of inclination in relation to the axis of the rod; sixth, to provide a photographer's screen having a supporting-standard and a shade-carrying arm connected therewith by a joint that admits of longitudinal and diagonal adjustment of the shade-rod in relation to the standard and facilitates the clamping of the rods at their various positions of adjustment, and a cloth fabric shade mounted at its periphery on an expanding wire hoop detachably connected with the shade-carrying arm. These objects I attain by mechanism the nature and operation of which are explained in the following description, the particular subject-matter claimed being hereinafter definitely specified.

In the drawings, Figure 1 is a perspective view of my improved photographer's screen, with dotted lines indicating some of the positions to which the shade can be adjusted. Fig. 2 is a side view of the joint device connecting the shade-supporting rim to its arm or adjusting-rod. Fig. 3 is a top view of the same. Fig. 4 is a transverse section at line *x x*, Fig. 2. Fig. 5 is an enlarged view of connecting and adjusting devices shown in Fig. 1 for the attachment of the shade-supporting rod to the standard, and Fig. 6 shows a modification in the construction of the standard and the manner of supporting its elevating-section.

Referring to parts, A denotes the main standard, in the present instance composed of the lower section, A′, (preferably tubular,) fixed to and maintained in upright position by a suitable base, B, and a vertically-adjustable section, $A^2$, retained in connection with the part A′ by a set-screw or clamp at C, which facilitates the extension or contraction of the standard, as desired.

D indicates the shade-arm or adjusting-rod, held to said standard by an adjusting and clamping joint, E, and F indicates the shade fabric; F′, the straining-hoop upon which said fabric is stretched. Said hoop is connected to the end of the rod D by the joint device I, and projects therefrom substantially in the manner illustrated.

The shade F is made of écru scrim-cloth, thin muslin, or paper; or other suitable fabric may be used therefor. It is preferably of circular form, though other shape may in some instances be adopted. The shade may be about thirty-four inches (more or less) in diameter, and is provided with a hem or pocket, *f*, about its outer edge.

The frame F′ is a hoop, preferably of comparatively stiff wire, which is inserted into the hem or pocket *f* of the fabric, and expanded so as to spread the shade flat with the plane of the hoop, leaving its central field free from all obstruction, or anything that would cast a

shadow upon it, and straining the fabric with proper degree of tension to remove all wrinkles and looseness, and the ends of the hoop-wire are then secured, in connection with the arm or rod D, in a suitable manner to support the shade projecting from the end of said rod. The ends of the shade-hoop wire are preferably attached to the rod by a joint or fastening devices that permit or facilitate the adjustment of the hoop to suit shades of different size, as well as for the convenient removal of the hoop and fabric; also, the adjustment of the shade to different planes in relation to the axis of the rod. This joint consists of a head-piece, I, screwed upon or fixed to the rod D, and a binding-cap, I′, each provided with grooves to receive the wire of the frame, which is inserted between the parts and clamped in place by means of the cap-piece I′, which is furnished with threaded shanks that pass through openings in the head-piece I, and are furnished with nuts J, screwed thereon, as indicated in Fig. 2, by means of which the cap can be drawn down upon the wires to hold them with the desired degree of firmness.

The joint E, which connects the standard and rod D, is made so that said rod D can be rotated therein, moved longitudinally through the joint, and also swung up and down to different positions oblique to the axis of the standard, and secured at any position by the clamping together of the parts of the joint. Said joint device is preferably constructed as illustrated in Fig. 5, and consists of a sectional ball and clamping-socket, which is opened and closed by a conveniently-manipulated binding device or operating-lever, *e*. This particular class of joint is described in my Letters Patent No. 259,957. If preferred, an adjusting and clamping joint of other construction than that shown could be employed in this connection for giving equivalent action, and having a binder that can be conveniently released and tightened for facilitating adjustment of the screen-rod—as, for instance, a combined swiveling and clamping joint device such as that described in my Letters Patent No. 369,143—may be substituted in place of the joint shown, as the particular detail of construction of the joint is not the invention herein claimed.

The standard A is preferably made with the adjustable section $A^2$ inserted within a tubular lower section, A′, so that the parts telescope with each other when the standard is shortened or closed down. It may, however, in some instances, be desirable to make the lower part, A′, of the standard with an offsetting head, $A^3$, and arrange the upwardly and downwardly adjustable section $A^2$ so that it will pass down outside of the lower section, A′. An example of such construction is illustrated in Fig. 6.

The device, C, for clamping the joint may be a set-screw, cam, or equivalent mechanism for binding and holding the movable section firmly at positions of adjustment.

In some instances, if desired, the standard A can be non-adjustable and the adjustment be obtained by having the joint E movable up and down upon the standard, as could readily be done if said joint E were of the class described in my Letters Patent No. 369,143, above referred to.

The base B consists of a plate of metal of sufficient weight to maintain the standard in upright position, and may be of any form, style, or design to suit the taste or fancy of the manufacturer.

When desired, the plane of the screen or shade F can be adjusted to different planes in relation to the longitudinal axis of the rod D by turning the hook-wires F′ in their seats on the connecting-head I, the cap I′ being screwed down sufficiently to hold them in place against normal strain, but not so tightly but that they can be moved by application of additional force. (See dotted lines, position 4, Fig. 1.)

This improved head-screen is light, strong, and durable, has a great range of movement in its universal adjustment, and can be manipulated quickly and conveniently to give any degree of shade or reflection desired, thus making an appliance of very great utility in the practice of the photographic art.

What I claim as of my invention, and desire to secure by Letters Patent, is—

1. In a photographer's head-screen, the fabric screen-shade mounted at its border on a bow or hoop and supported at its edge, in combination with an adjusting-rod, to which the ends of said hoop are secured to maintain the fabric extended, substantially as set forth.

2. In a photographer's head-screen, a fabric shade or screen peripherally mounted upon a flexible hoop that is expansible for straining the fabric, and a binding-clamp that detachably holds the ends of said hoop in position and connects said shade to its supporting-rod.

3. In a photographer's head-screen, a fabric shade having its supporting-hoop connected with the rod or arm by a joint and movable thereon to give adjustment of the shade to different planes coincident or diagonal to the longitudinal axis of the rod, substantially as set forth.

4. In combination, the fabric screen having the hem *f*, the expansible wire hoop or bow F′, rove through said hem, and the supporting-rod D, provided with a connecting-head, to which the respective ends of said wire are detachably fastened, for the purpose set forth.

5. The longitudinally-grooved clamping-head I, its cap I′, having screw-threaded shanks, and nuts J, in combination with the shade-supporting wire F′ and rod D, substantially as and for the purpose set forth.

6. In a photographer's head-screen, the fabric shade F, circumferentially supported by an expansible border, in connection with its ad-

justing-rod D, and the universally-adjustable clamping-joint E, having the binder *e*, for releasing and tightening said joint, in combination with an extensible standard, A, and the binder C, for retaining the movable part of said standard at raised or depressed position, substantially as shown and described.

Witness my hand this 27th day of December, A. D. 1887.

OTIS C. WHITE.

Witnesses:
CHAS. H. BURLEIGH,
ELLA P. BLENUS.