No. 694,172. Patented Feb. 25, 1902.

H. C. MOORE.

PHOTOGRAPHIC SCREEN OR CANOPY.

(Application filed June 3, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

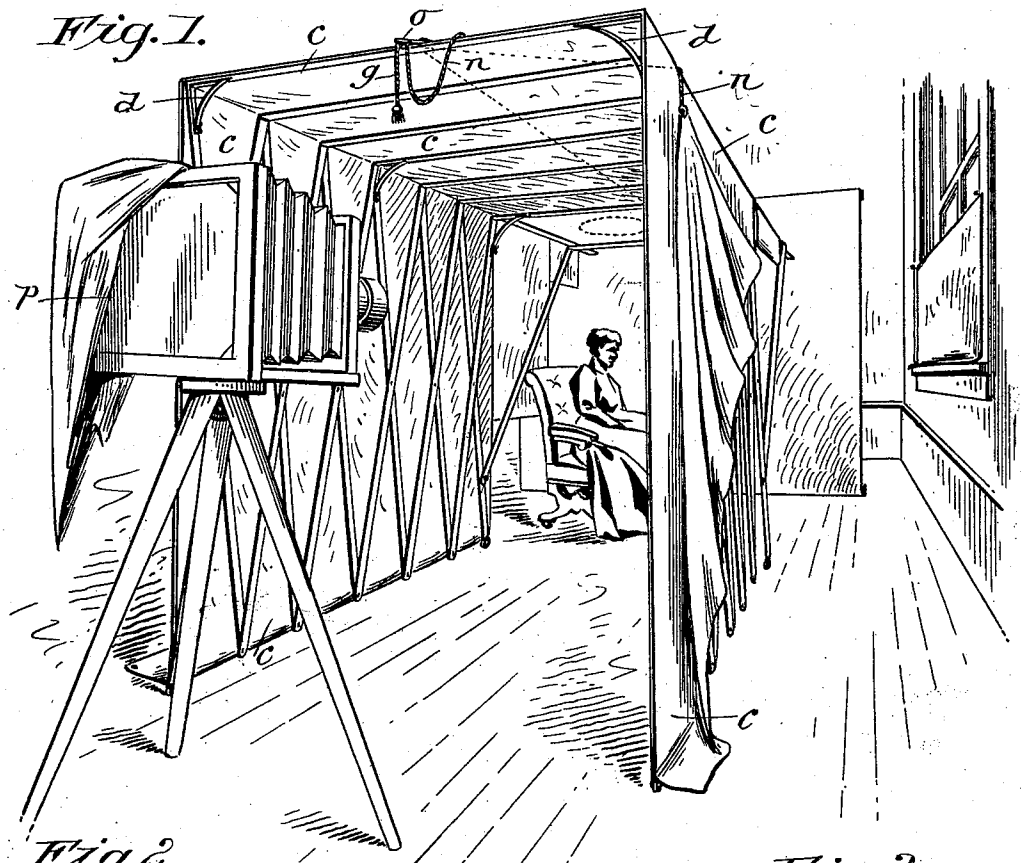


Fig. 2.

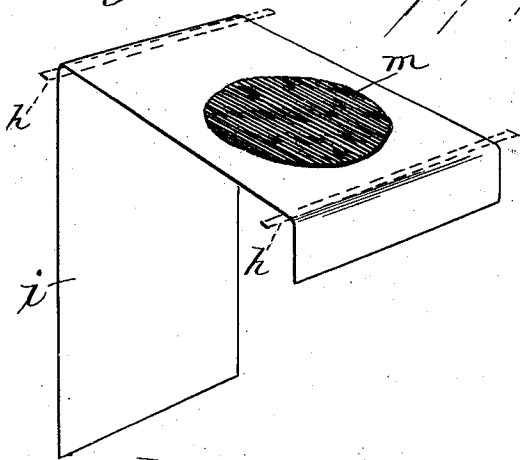
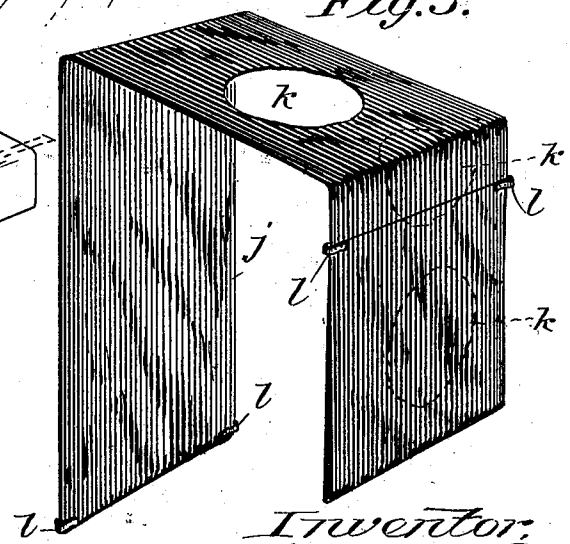


Fig. 3.



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(No Model.) 2 Sheets—Sheet 2.

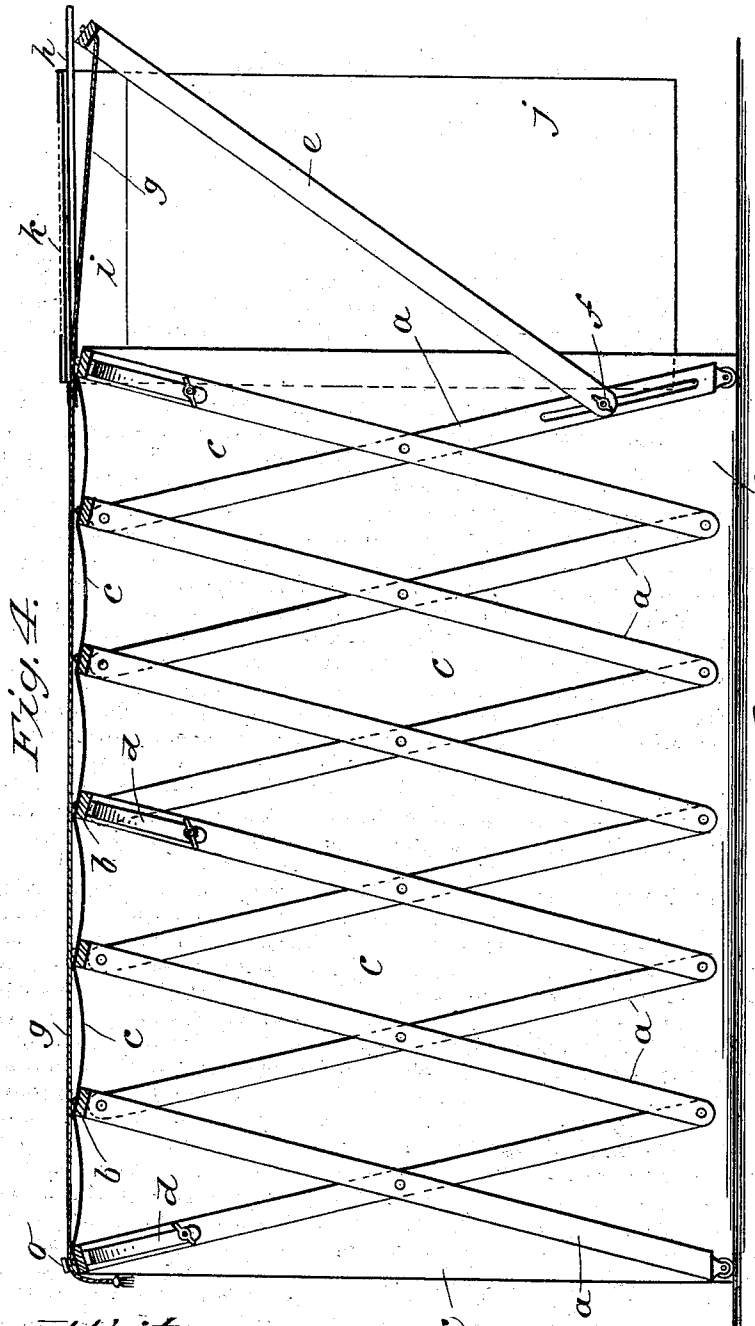


Fig. 4.

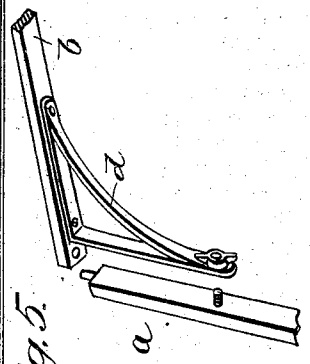


Fig. 5.

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UNITED STATES PATENT OFFICE.

HIRAM C. MOORE, OF SPRINGFIELD, MASSACHUSETTS.

PHOTOGRAPHIC SCREEN OR CANOPY.

SPECIFICATION forming part of Letters Patent No. 694,172, dated February 25, 1902.

Application filed June 3, 1901. Serial No. 62,859. (No model.)

To all whom it may concern:

Be it known that I, HIRAM C. MOORE, a citizen of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Photographic Screens or Canopies, of which the following is a specification.

This invention relates to photography, and particularly to the construction of means for controlling the light to be thrown on the subject to be photographed and having special relation to portrait-work, the object of the invention being to provide means whereby the photographer may vary the light thrown upon the subject at will, whereby regardless of outside conditions of light any effect from the most delicate shading to the deepest shadow may be at the command of the operator, and whereby the direction from which the light falls upon the subject may be varied to suit different subjects; and the invention consists in the apparatus described in the following specification and clearly pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a perspective view of an apparatus constructed according to my invention. Figs. 2 and 3 represent shade-cloths adapted to be interposed between the subject and the lights. Fig. 4 is a sectional elevation of the apparatus shown in Fig. 1. Fig. 5 is a detail of the frame construction.

In carrying my invention into practice I construct a longitudinally-extensible framework, within one end of which is located the camera and at the opposite end of which the subject is posed. The two vertical sides of this frame are made of thin slats *a*, put together in the form of the well-known lazy-tongs, which is clearly illustrated in Fig. 4, the lower extremity of each side being preferably provided with a caster, as shown, to permit the structure to be easily moved about and to afford free movement to the end thereof which is drawn out. One of the slats *a* of the two which are pivoted together at the top in pairs is carried somewhat above the other, and there is attached thereto the upper cross-bar *b*, this bar preferably being removably attached for packing and shipping purposes. Over the sides and top of the frame so constructed there is thrown some suitable textile covering *c* not permeable by the light. For the purpose of strengthening this frame brackets *d* (shown in Figs. 4 and 5) may be secured to the upper end of some of the slats *a* and to such bars *b* as are located thereon. The construction shown in Fig. 5 illustrates one method of applying these brackets for the purpose specified. The maximum length of this extensible tubular structure having been determined, the covering *c* may be secured to the frames and to the top bars in any desirable way, said covering being ordinarily of a light texture, which can readily fold in between the slats *a* and the top bars *b* when the frames are folded together. Means are provided at the end of this tubular structure at which the subject is placed which is to be photographed for extending over the subject a framework adapted to support coverings having different degrees of permeability to light, said framework consisting of two upwardly-inclined side bars *e*, adjustably pivoted by the lower end thereof, as at *f*, to the lower end of the first of the slats *a*, which constitute the side frames, all of which is clearly shown in Fig. 4. The upper ends of these bars *e* are united by a bar like the bars *b*, the whole constituting a swinging frame pivoted at *f*, which may be permitted to swing out to form a canopy extending over the subject, more or less, and which is controlled in its movements by a cord *g*, extending from the top of the frame back to the opposite end of the structure, from which point it may be operated by the photographer, according to the light effect which he desires to obtain. Extending from each corner of this swinging frame back to a point of support on the side frame are two light wooden strips *h*, which, together with the top of the swinging frame, constitute supports for the more or less transparent coverings, (represented by *i*, Figs. 2 and 4,) one border of which should overlap the end of said tubular structure. For certain effects a light covering, as *i*, may be thrown over said frame, and then there may be superposed thereover a covering of darker less permeable material *j*, (shown in Figs. 3 and 4,) having a circular opening *k* cut therein, whereby light may be admitted only from a point directly over the subject, or said covering *j* may be so manipu-

lated as to bring the opening *k* therein in a position (shown in dotted lines in Fig. 3) whereby the light may be thrown through said opening *k* from a point more or less at one side of the subject. The covering *j* is provided with suitable clips *l*, whereby one end or the other thereof may be turned back upon itself and secured in order to permit more or less light to fall upon the subject through the more transparent covering *i*. Obversely, the covering *j* may be omitted, and after having obtained a suitable general effect with the covering *i* a disk *m*, (shown in Fig. 2,) of less permeable material, may be placed on the covering *i* above the subject, whereby a different effect in light and shade may be obtained. This last-described device is, however, more for the purpose of toning down or softening the light.

To still further vary the effect which may be obtained through the control of the light by means of my apparatus, that part of the covering *c* lying over the side frame near the subject may be clued up, as shown in Fig. 1, by means of a cord *n*, attached to the lower front corner thereof and extending up over the top of the frame and back to a point within easy reach of the operator, where it may be secured under the end of a spring-clip or some similar contrivance, (represented by *o*.) The cord *g* may also be fastened at this point.

The herein-described apparatus consists, therefore, essentially, of an extensible tubular structure covered with a light-excluding material inclosing at one end the camera and having posed at the opposite end under the coverings hanging over the swinging end frame the subject to be photographed. The photographer can then operate the various appliances which have been described for varying the light to obtain precisely the effect that is needed.

There are many advantages to be derived from the use of the within-described device, for the photographer is never at the mercy of general light conditions, but may make them what he pleases. Furthermore, the protection afforded to the camera by having the lens-tube project more or less into the said tubular structure, whereby all direct rays of light may be excluded from the plate, is a great aid to securing the desired effects. This structure being collapsible, and therefore portable, may be used out of doors, thus rendering the photographer independent of regular studio-fittings.

In practice it has been demonstrated that with this device there may be taken successively under the same general light conditions a portrait having the most delicate shadings thrown at will upon any part of the face or a portrait which is practically in black-and-white effects. Between these two extremes the shading may be modulated and the direction of light so adjusted as to produce good detail even in the heavily-shaded parts of the subject.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. A photographic screen or canopy consisting of a suitable frame, a light-excluding covering therefor, a curtain-supporting device movable toward and from the end of said canopy over a subject to be photographed, removable curtains or screens on said supporting device, and means for moving said device toward and from one end of said screen or canopy, substantially as described.

2. A photographic screen or canopy consisting of a longitudinally-extensible structure substantially as described, a frame pivotally supported near the bottom on the end of the structure, and adapted to swing outwardly more or less, removable curtains for said frame more or less permeable by light, and means for controlling the swinging movement of said frame, substantially as described.

3. A photographic screen or canopy comprising a longitudinally-extensible frame, a light-excluding covering therefor, a more or less transparent canopy extension supported at one end of said frame to extend more or less over a subject to be photographed, means for extending said canopy more or less relative to the frame, and means for withdrawing a portion of said light-excluding covering from the frame, substantially as described.

4. A photographic screen or canopy consisting of a suitable longitudinally-extensible frame, a light-excluding covering therefor, a curtain-supporting device movable toward and from one end of said frame, more or less, over a subject to be photographed, removable curtains or screens on said supporting device, and means for adjusting said device relative to one end of said frame, substantially as described.

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J. D. GARFIELD.