

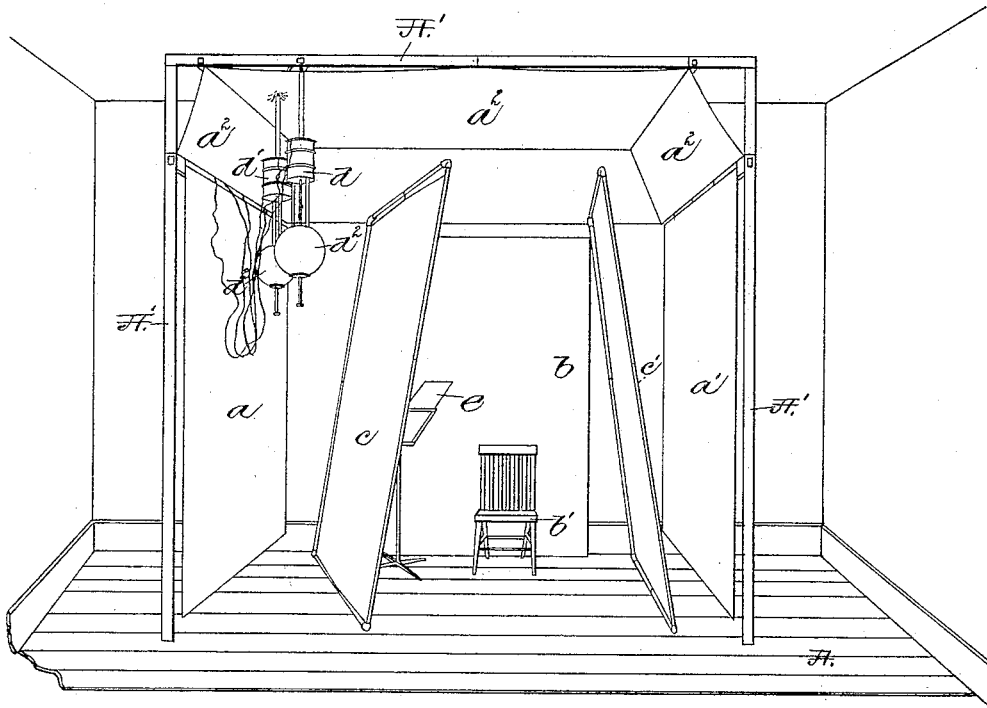
(No Model.)

F. B. GOULD.

APPARATUS FOR PHOTOGRAPHING BY ARTIFICIAL LIGHT.

No. 384,151.

Patented June 5, 1888.



Witnesses.

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# UNITED STATES PATENT OFFICE.

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## APPARATUS FOR PHOTOGRAPHING BY ARTIFICIAL LIGHT.

SPECIFICATION forming part of Letters Patent No. 384,151, dated June 5, 1888.

Application filed May 9, 1887. Serial No. 237,577. (No model.)

*To all whom it may concern:*

Be it known that I, FORREST B. GOULD, of Milford, county of Worcester, and State of Massachusetts, have invented an Improvement  
5 in Apparatus for Photographing by Artificial Light, of which the following description, in connection with the accompanying drawing, is a specification, like letters on the drawing representing like parts.

10 This invention relates to the art of photography, and has for its object to provide an apparatus or cabinet whereby photographs may be taken in a novel manner by artificial light, the photograph when completed being  
15 substantially equal in quality or tone to those produced by daylight.

Prior to my invention I am aware that photographs have been taken by artificial light; but such photographs do not compare in delicacy of shading or harmonious blending of  
20 light and shadow with those produced by daylight.

In accordance with my invention I have aimed to and have brought the artificial light  
25 under the natural laws of light, as it were, so that the rays of artificial light fall upon the subject in the same manner as does natural light.

To accomplish my object, the subject is station-  
30 ed in a cabinet or apparatus the top, sides, and rear walls of which are made of or covered on one side with translucent material, preferably fine cotton cloth, and rendered opaque on its opposite side, and preferably on each side of  
35 the said subject within the cabinet is placed a screen of cotton cloth or other translucent material. The screens referred to are placed in an oblique position, the distance between the said screens at the front of the cabinet being  
40 less than that at the rear—that is, the said screens diverge from the front toward the rear of the cabinet. Between one of the screens referred to and a side of the cabinet is located the artificial light, which will preferably be an  
45 electric arc lamp.

My invention therefore consists, essentially, in a photographer's cabinet, in the combination, with an artificial light, of a translucent screen at the source of light to effect a diffusion of  
50 the rays and an opaque or semi-translucent screen to effect a toning down of the diffused light.

Other features of my invention will be pointed out in the claims at the end of this specification.

The drawing shows a sufficient portion of a room in which my improved cabinet or apparatus is located to enable my invention to be understood.

Referring to the drawing, A represents the  
60 floor of a room or gallery in which my improved cabinet or apparatus is situated, the said room being a gallery such as now used by photographers; or it may be any other room of sufficient size to enable the photographer to  
65 operate.

The room referred to may be a dark room—that is, free from daylight, which is not requisite to the successful operation of my process—  
70 thus enabling photographers to utilize less expensive galleries or quarters than now required, and to operate in a lower story rather than in an upper story of a building; as now occupied the rooms are usually located at the top of a building and provided with a large  
75 glass skylight.

The cabinet referred to, and as shown in the drawing, consists of a frame, A', to which are secured pieces of sheets  $a a' a''$  of cotton cloth or other translucent material, which are  
80 painted or otherwise rendered opaque on the outside; but instead of attaching the pieces or sheets  $a a' a''$  to the frame A' they may be secured to the sides and ceiling of the room; or the said sides and ceiling of the room may be  
85 painted of light color. Between the sides  $a a'$ , at the rear, is placed a background,  $b$ , of any desired or well-known form, such as now commonly used.

The subject to be photographed is stationed  
90 in front of the background  $b$ , and the subject (if a person) may be seated in the chair  $b'$ . On the sides of the subject are placed screens  $c c'$  of cotton cloth or other translucent material, the said screens preferably resting upon the  
95 floor, as shown, and extended above the source of light, being placed in a slanting or oblique position and diverging from the front toward the rear of the cabinet, the length of the said screens being less than the height of the room,  
100 so as to leave a space between the top of the screen and the sheet  $a''$ , the said screens being shown as resting against the background  $b$ . Between one of the screens, as  $c$ , and one

side of the cabinet, as *a*, is placed the artificial light, shown in the present instance as two electric-arc lamps, *d d'*, the lamp *d* being preferably somewhat higher than the lamp *d'*.  
 5 Each lamp is provided, as shown, with a porcelain or ground glass or other globe, *d<sup>2</sup>*, by which the rays of light emitted from the arc are intercepted and diffused through the room. Part of the rays of light pass upward over the  
 10 screen *c*, and, being reflected by the sheet *a<sup>2</sup>*, fall down over the subject. Another portion of the diffused rays of light falls upon the outer inclined side of the translucent screen *c*, passing through the said screen and falling upon  
 15 the subject.

By placing the screen *c* in an oblique position, as shown, the incident rays are not deflected as they pass through the said screen, but fall directly upon the subject, the said rays  
 20 being softened by passing through the screen, so that the light surrounding the subject is softened and diffused over the said subject in a substantially even manner, so that the fine points of the subject may be more thoroughly  
 25 brought out or produced in the photograph. Part of the rays of light fall down behind the screen *c'*, and, passing therethrough, assist to light the side of the subject nearest the screen *c'*. It will thus be noticed that the rays of  
 30 light from the lamps *d d'* are first broken up or diffused at the lamps by the globes *d<sup>2</sup>*, and that portion of the diffused rays passing over the screen *c* falls down on the subject, while the portion of the rays falling upon the screen  
 35 *c* lights up the said screen evenly, thus assisting to produce an even light in which the subject may be stationed.

Shadows may be cast upon the subject should necessity require by means of an  
 40 opaque or semi-translucent screen, *e*, placed between the subject and the screen *c*.

It has been demonstrated by actual practice that a harmonious blending of light and shadow may be effected and an artistic photograph be  
 45 taken by first diffusing the light near its source and then causing the said diffused light to fall

naturally upon the subject, a nicer effect is obtained, and a harmonious blending of light and shadow being effected.

The opaque or semi-translucent screen *e* is  
 50 interposed between the screen *c* and the subject to tone down any seeming high lights upon the face, so as to further produce a proper balance or harmonious blending of the high light and natural shadow. To produce a desired effect, a  
 55 second screen may be interposed between the screen *c'* and the subject, if desired.

In practice a screen opaque on its outer side and white on its inner side will preferably be extended from the front of the screen *A'* to  
 60 the front of the screen *c* and *c'*, to thus shut in the light from the room.

The screens *a d' a<sup>2</sup>* are made opaque on their outer side to prevent the rays of light from penetrating through them and being lost, as it  
 65 were.

I claim—

1. A photographer's cabinet or apparatus having sides *a a'* and top *a<sup>2</sup>* of translucent material rendered opaque on its outer side, and an  
 70 artificial light located in said cabinet, combined with a translucent screen, *c*, between the said light and the subject to be photographed, and with a second screen located on the opposite side of the said subject, substantially as  
 75 described.

2. A photographer's cabinet or apparatus having sides *a a'* and top *a<sup>2</sup>* of translucent material rendered opaque on its outside, an artificial light located in said cabinet, a translucent  
 80 screen between the said light and the subject to be photographed, and a second screen located on the opposite side of the said subject, combined with a screen, *e*, as and for the purpose specified.  
 85

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FORREST B. GOULD.

Witnesses:

G. W. GREGORY,  
 B. DEWAR.