D. F. CHARLTON.

PHOTOGRAPHIC DARK ROOM LAMP.

APPLICATION FILED FEB. 10, 1914.

1,104,245. Patented July 21, 1914.

Fig. 1.

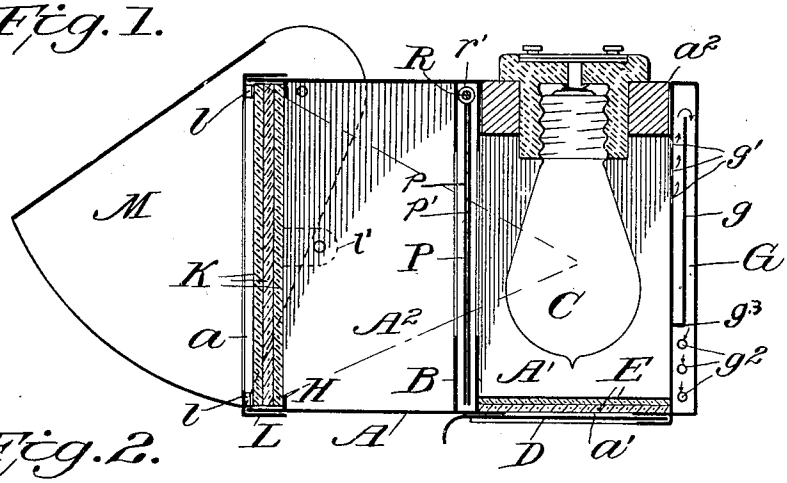


Fig. 2.

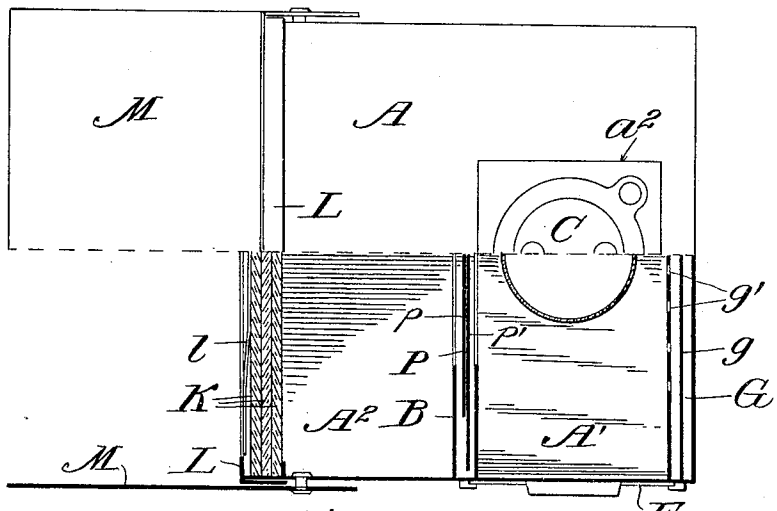
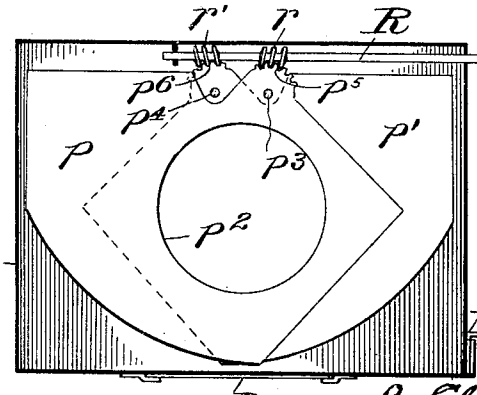


Fig. 3.



Witnesses

C. A. Wacker.

E. Williams

Inventor

D. Fred. Charlton

By Chas. A. Riordan

Attorneys

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

DEMETRIUS FREDERICK CHARLTON, OF MARQUETTE, MICHIGAN.

PHOTOGRAPHIC-DARK-ROOM LAMP.

1,104,245. Specification of Letters Patent. Patented July 21, 1914.

Application filed February 10, 1914. Serial No. 817,741.

To all whom it may concern:

Be it known that I, DEMETRIUS FREDERICK CHARLTON, a citizen of the United States, residing at Marquette, in the county of Marquette and State of Michigan, have invented certain new and useful Improvements in Photographic-Dark-Room Lamps, of which the following is a full, clear, and exact specification.

This invention relates to lamps for use in photographic dark rooms where photographs are developed or treated chemically, and it has for its object to provide a lamp of this character which is simple in construction, may be readily and conveniently operated, and which is inexpensive to manufacture.

Another object is to provide improved means for ventilating the lamp.

A further object is to throw the light in different directions either at the same or different times. I also have in view the control of the light thrown in either direction, thereby giving actual diminution from the full light to complete darkness. Furthermore, I provide improved and simplified means for removably holding the colored glass plates over the light exit openings, whereby the required non-actinic light rays may be obtained.

The invention will be first hereinafter described in connection with the accompanying drawings, which constitute a part of this specification, and then more specifically defined in the claims at the end of the description.

In the accompanying drawings, wherein similar reference characters are used to designate corresponding parts throughout the several views: Figure 1 is a central longitudinal vertical section of a lamp constructed in accordance with my invention; Fig. 2 is a plan view of the same, partly in horizontal section, and Fig. 3 is a transverse section through the shutter case.

Referring more particularly to the drawings, A designates the casing of the lamp having an opening a in the front, another opening a' in the bottom, and a third opening a^2 in the top. The casing is divided into two portions A′ and A² by the shutter case B. The openings a' and a^2 in the bottom and top, respectively, enter the inner portions A′ of the casing, while the opening a in the end of said casing lets into the outer portion or compartment A².

Into the top opening a^2 is introduced an electric lamp or bulb C. The bottom opening a', which is disposed directly below the electric bulb, is equipped with a slide or closure D which may be opened to a greater or less extent to control the amount of light emitted through said bottom opening. Colored glasses E may be inserted above said bottom opening, in order to obtain the required non-actinic rays of light, through a slot in the side of the inner compartment of the casing, said slot being normally closed by a small slide F, see Figs. 2 and 3.

Ventilation of the casing is secured by a double air space G on the rear end of the inner compartment, as clearly illustrated in Figs. 1 and 2. The partition g in said space, prevents any of the light from escaping, the heated air entering the air space or chamber G through perforations g' in the end wall of the inner compartment near the upper end of said partition and escaping from said chamber G via openings g^2 below said partition and in the side wall of the casing. Consequently, no light rays, reflected or otherwise, can possibly escape through the openings g^2. The partition g does not extend the full height of the case, but said partition g has its lower end bent inwardly at an angle and the inwardly bent portion g^3 connects the partition g with the end wall of the inner compartment at a point above the outlet openings g^2.

Spaced inward a short distance from the opening a in the front of the casing, is a flange H constituting a stop or rest for the glasses K which are placed in said front opening to reduce the light emitted through the same to non-actinic rays. A holder frame L having upper and lower leaf springs l, is slipped on the outer end of the casing for retaining the glasses K in place. This frame L may be secured to the casing by spring clips l', indicated in dotted lines in Fig. 1, or in any other suitable manner. The leaf springs l, having considerable resiliency, will accommodate themselves to different numbers or thicknesses of glasses, holding a fewer number or lesser total thickness of the combined glasses as well as a larger number or greater total thickness.

A pivoted hood or shade M is provided at the front end of the casing to direct the light emitted from the front opening at the desired angle. The degree of light permitted to escape through said front opening is gov-

erned by the shutter P mounted in the shutter case B already mentioned as dividing the casing into the inner and outer compartments.

The shutter comprises two similar but reversed sections or wings p and p', Fig. 3. Each section has a circular opening p^2 adapted to exactly register with one another when the shutter is wide open. The shutter sections are pivoted respectively at p^3 and p^4 and are provided with segmental worm gears p^5 and p^6 meshing with oppositely pitched worms r and r' on a shaft R, whereby the shutter sections may be simultaneously turned in opposite directions to open or close the openings therein. It will be observed that the openings in the shutter sections are so positioned with respect to the electric bulb in the inner compartment of the casing as to cause the direct rays of the light from said bulb to be distributed over the entire inner surface of the colored glasses K when the shutter is wide open. It will also be noted that actual diminution from the full light to total darkness may be obtained by the shutter with respect to the front opening in the casing, to an equal degree as is obtained for the bottom opening by the sliding closure D.

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

1. In a lamp of the character described, the combination with a casing, of a lamp therein, said casing having a light emitting opening, a two wing shutter arranged between the lamp and the opening for controlling the degree of light emitted from said opening, said wings overlapping one another and pivoted at points adjacent each other, each wing having an arcuate rack concentric with its pivot, and a shaft provided with oppositely inclined worms engaging the respective racks on the wings for simultaneously swinging said wings in opposite directions for the purpose specified.

2. In a lamp of the character described, the combination with a casing, of a shutter case provided with a shutter dividing the casing into two compartments, a lamp in the inner compartment, the outer compartment having a light emitting opening opposite the shutter case, and the inner compartment having a direct light emitting opening through a wall of the casing.

3. In a lamp of the character described, the combination with a casing, of a shutter case dividing the lamp casing into two compartments, a lamp in the inner compartment, the outer compartment having a light emitting opening in its end and the inner compartment having a light emitting opening in its bottom, an adjustable closure for said bottom opening, and means for holding colored glasses over both openings.

4. In a lamp of the character described, the combination with a casing, of a lamp therein, said casing having a light emitting opening, a stop arranged inside said opening, a cover frame removably secured over said opening in fixed relation to said stop, and resilient means on said frame for engaging and holding various thickness of colored glasses over said opening and against said stop without changing said fixed relation of the cover frame to the stop.

5. In a lamp of the character described, the combination with a casing, of a lamp therein, and a ventilating chamber in one wall of said casing, there being inlet and outlet openings in walls of said chamber which are disposed at an angle to each other, all of the inlet openings being above the outlet openings, and an angular partition having a portion arranged parallel to the wall having the inlet openings, and another portion extending from said first portion to said wall with the inlet openings, said second portion of the partition being disposed above the outlet openings.

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

DEMETRIUS FREDERICK CHARLTON.

Witnesses:
FLORENCE THIBAULT,
Mrs. PETER THIBAULT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."