

(No Model.)

J. S. BRIDGES.
PHOTOGRAPHIC FLASH LIGHT DIFFUSER.

No. 439,999.

Patented Nov. 4, 1890.

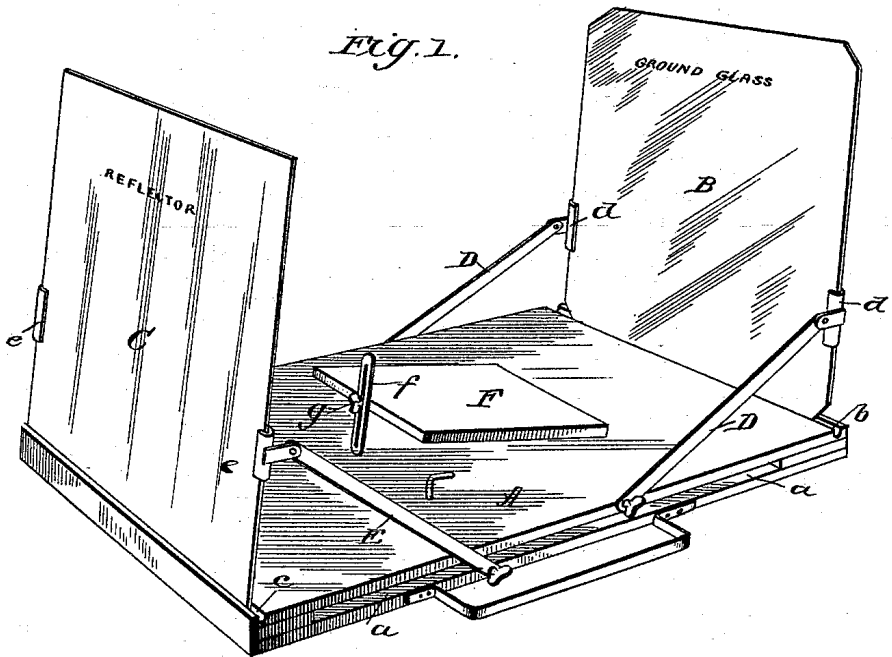


FIG. 2.

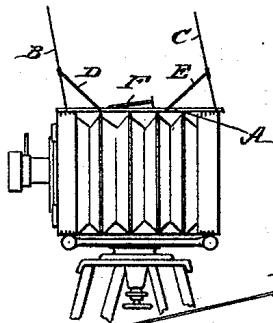
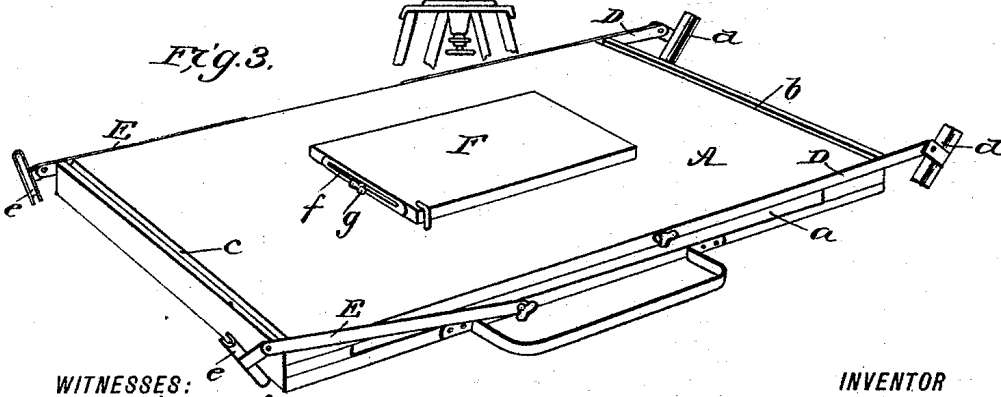


FIG. 3.



WITNESSES:

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PHOTOGRAPHIC FLASH-LIGHT DIFFUSER.

SPECIFICATION forming part of Letters Patent No. 439,999, dated November 4, 1890.

Application filed May 12, 1890. Serial No. 351,572. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. BRIDGES, of Baltimore city, in the State of Maryland, have invented a new and useful Improvement in Photographic Flash-Light Diffusers, of which the following is a specification.

In taking photographs at night, and also in making interior views where a magnesium lamp or other artificial light is employed, known as "flash-lights," it has been found that the brilliancy of the light-rays causes very pronounced shadows to be formed, and also the reflection caused by polished surfaces causes such interference as to prevent the best results from being obtained. My invention is in the nature of a flash-light diffuser or device for causing a uniform and equal diffusion of the artificial light throughout the room or confined place, so as to avoid the objectionable effects above described.

To this end my invention consists of a base adapted to support the magnesium lamp, and having upon one side a translucent medium of ground glass or similar translucent material and upon the other side a reflector.

It also consists in the combination of said parts with means for adjusting them with relation to each other, as hereinafter fully described.

Figure 1 is a perspective view of the device as adjusted for use. Fig. 2 is a view on a smaller scale of the device, showing the application of the device to a camera; and Fig. 3 is a perspective view of the device as packed for easy portability.

A represents the base of the device, which is composed of two boards with strips between their ends and one upon one side, so as to form between the boards a shallow pocket or compartment *a* to receive the translucent plate and the polished reflector while being transported.

B is the translucent plate of ground glass or similar material, and C is the reflector. This reflector is a flat plate of polished metal; but it may be of other shape and material, if desired. At one end of the base is formed a transverse groove *b*, in which is detachably seated the lower edge of the translucent plate B, and at the other end of the base is another transverse groove *c*, in which is detachably seated the edge of the reflector C. For hold-

ing this glass plate and reflector at various angles to the base, metal brace-arms D D are pivoted at one end to the base, and are provided at the other end with jointed shoes, clamps, or holders *d*, which have a groove in the side adapted to receive and hold the glass plate at the desired inclination. A similar set of brace-arms E E, with holders *e*, serve to hold the reflector to suit the inclination of the diffuser-plate.

F is a supplemental base for the lamp to rest upon. This base is hinged at one end, and at the other end is provided with a slotted bar *f* and set-screw *g* to raise or lower that end to give any desired inclination to the lamp-base in canting the lamp forward to get the best effect of the light.

In carrying out my invention I do not confine myself to the specific means shown for adjusting the inclination of the diffuser-plate, reflector, and lamp-base, as various means for accomplishing this may be devised.

In practical operation the diffuser is mounted upon the top of the camera, as shown in Fig. 2, and the inclination of the ground-glass plate, the reflector, and the magnesium lamp is adjusted so as to cause the light to be dispersed or diffused in the direction of the object to be photographed. Then when the flashing of the magnesium light takes place it passes through the diffuser, and while being preserved as to its intensity, it is made uniform by diffusion, lighting up all points, reducing the shadows, and avoiding reflection and interference from polished objects.

The advantages secured by this device are such that as good, and in many cases better, effects are obtained for taking views at night and interior views than are ordinarily obtainable by daylight. The device when not in use is compactly folded for transportation, as seen in Fig. 3, in which the ground-glass plate and reflector have been safely housed for transportation within the shallow chamber of the base, thus bringing the device within the range of use by the tourist and amateur photographer.

Having thus described my invention, what I claim as new is—

1. In a flash-light diffuser for photographic apparatus, the combination, with a detachable base A, adapted to be placed upon the cam-

era, of a diffusion-plate B of translucent material mounted upon the end of said base, substantially as shown and described.

2. In a flash-light diffuser, the combination, 5 with a horizontal base and a reflector arranged at one end, of the ground-glass plate B placed at the other end of said base and supported vertically or at some vertical inclination for the purpose of allowing passage, yet producing 10 diffusion of light-rays upon the object to be photographed, as and for the purpose hereinbefore set forth.

3. A flash-light diffuser consisting of a hollow base, a detachable translucent plate and 15 a detachable reflector both arranged to be carried in the hollow base, substantially as shown and described.

4. A flash-light diffuser consisting of a base having a translucent plate at one end and a reflector at the other, and means for adjusting the inclination of the same, substantially 20 as shown and described.

5. A flash-light diffuser consisting of a base having a supplemental base upon it made adjustable as to inclination for supporting the 25 lamp, a translucent plate arranged upon one side of it, a reflector arranged upon the other side, and means for adjusting the inclination of the same, substantially as shown and described.

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Witnesses:

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