

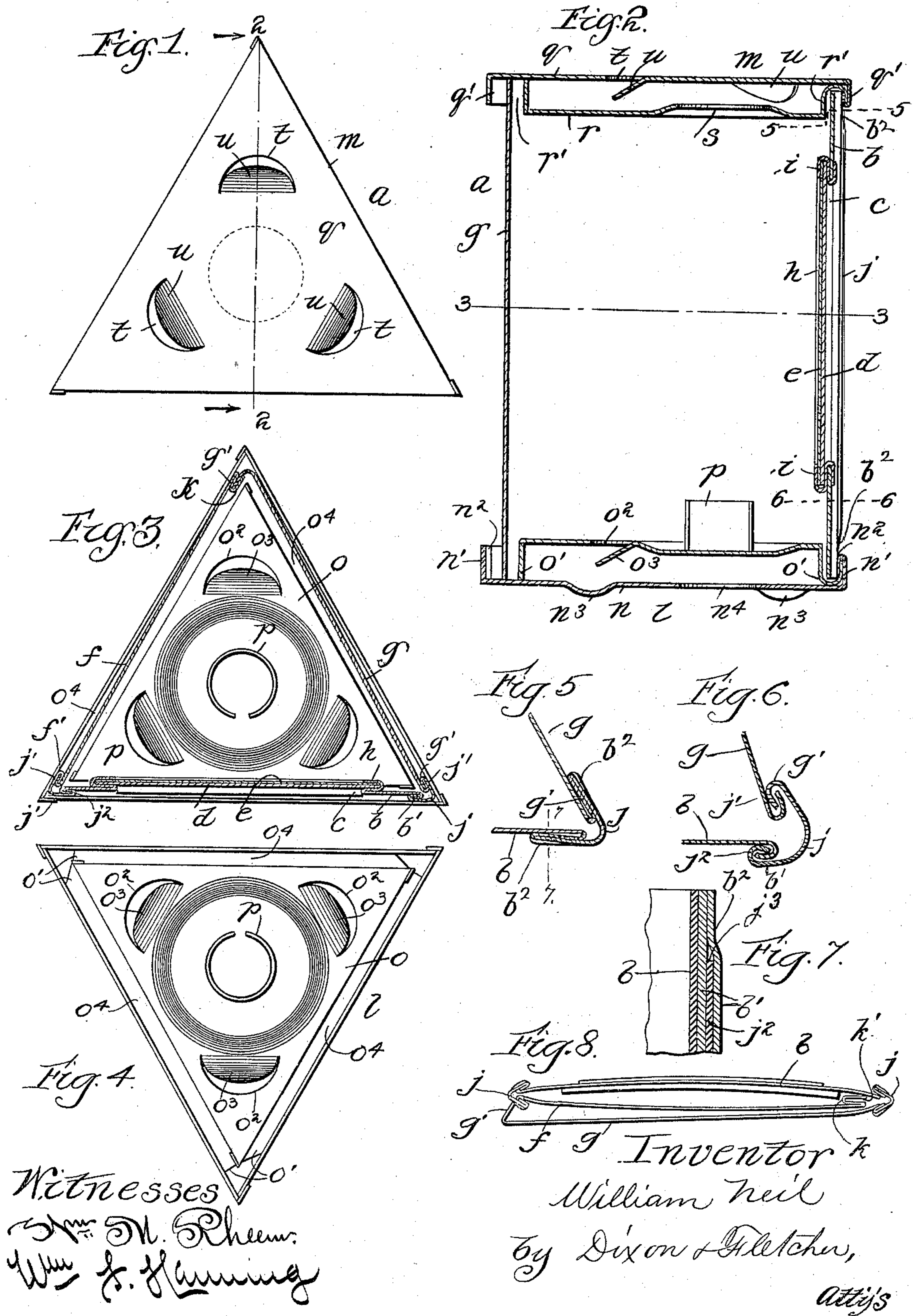
No. 610,194.

Patented Sept. 6, 1898.

W. NEIL.
PHOTOGRAPHER'S LANTERN.

(Application filed Nov. 29, 1897.)

(No Model.)



UNITED STATES PATENT OFFICE.

WILLIAM NEIL, OF CHICAGO, ILLINOIS, ASSIGNOR TO JAMES H. SMITH, OF
SAME PLACE.

PHOTOGRAPHER'S LANTERN.

SPECIFICATION forming part of Letters Patent No. 610,194, dated September 6, 1898.

Application filed November 29, 1897. Serial No. 660,099. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM NEIL, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful
5 Improvements in Photographic Lanterns, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in which corresponding letters of reference in the different figures indicate like parts.

My invention has for its object to provide a simple, cheap, and effective knockdown lantern for photographers' use, which shall
15 be so constructed that it may be readily folded into a compact space and when in use may serve to prevent the escape of actinic light while affording complete and thorough ventilation.

To these ends my invention consists in the combination of elements hereinafter more particularly described and claimed.

In the drawings, Figure 1 is a plan view of my improved lantern. Fig. 2 is a vertical
25 sectional view thereof, taken upon the line 2 2, Fig. 1. Fig. 3 is a sectional view in plan taken upon the line 3 3, Fig. 2. Fig. 4 is a plan view of the detachable base. Fig. 5 is a sectional view in detail taken upon the line
30 5 5, Fig. 2. Fig. 6 is a like view taken upon the line 6 6, Fig. 2. Fig. 7 is a sectional view in detail taken upon the line 7 7, Fig. 5; and Fig. 8 is an end view of the walls of the lantern as they would appear when folded for
35 packing.

Referring to the drawings, *a*, Figs. 1 and 2, represents my improved lantern, which is preferably triangular in cross-section and consists of folding side walls adapted to interlock with each other and with a detachable
40 base and top, respectively, in such a manner that the walls are locked in position, while the escape of actinic light through the joints is entirely prevented.

In one of the side walls *b*, which consists of a single plate of sheet metal, is formed an opening, Figs. 2 and 3, preferably rectangular in form, in which is inserted a panel of transparent or translucent material—such, for
50 example, as ruby-colored or ruby and yellow colored glass, cloth or paper, but preferably

ruby cloth *d* and yellow paper *e*, placed together, as shown in Figs. 2 and 3—said panels being larger than the opening in the side wall and secured in place by means of flanges
55 *h h* upon the sides, bent, as shown, so as to form grooves for the reception of the panels, (see Figs. 2 and 3,) and flanged clips *i i* at the bottom and top, respectively, which are bent, as shown, to overlap the bottom and
60 top edges of the panels and also the corresponding edges of the opening. This arrangement prevents leakage of light around the edges of the panel. Each of the remaining side walls *f g* is formed from a single
65 piece of sheet metal having outwardly-turned hook-shaped flanges *f' g'*, adapted to engage with inturned flanges *j' j'* upon V-shaped corner-pieces *j j*. (Better shown in Fig. 6.) The corner-pieces *j j* are also provided with flanges
70 *j²*, which interlock in like manner with the flanges *b'* upon the front *b*. The flanged corner-pieces connect the two side walls with the front or paneled wall in such a way as to permit of a considerable hinge-like move-
75 ment of the side walls while serving to completely intercept the passage of light. This construction enables the several walls to be compactly folded upon each other in the manner shown in Fig. 8.

In order to provide for the partial hinge movement described, it is obvious that the flanges *g'* of the side walls, as well as the flanges *j'* of the corner-pieces, should be at
80 an angle sufficiently oblique to the plane of the parts upon which the flanges are formed, respectively, to permit of a sufficient hinge-like action of said parts to enable the walls to be readily folded together or to be separated from each other far enough to enable
90 them to connect and interlock with the grooves in the bottom and top. This construction renders it essential that means should be provided for preventing longitudinal movement of the side and corner pieces with respect to
95 each other, and thereby enabling them to become disconnected. I accomplish this end by cutting away the flanges *g'* at the respective ends, as shown at *j³*, Fig. 7, and by compressing those portions of the flanges upon
100 the corner-pieces, as shown at *b²*, so as to prevent an endwise movement of the flanges *g'*

and hold them longitudinally in position while permitting the desired hinge action. The angles described by the corner-pieces should be more obtuse than those described by the side walls when the latter are unfolded and in position for use in order to provide for the loose hinge-like interlocking of the flanges.

In order to enable the walls $f g$ to be detachably interlocked and at the same time to provide a light-tight joint, I preferably form a double flange k , Figs. 3 and 8, upon the edge of one of said walls, as f —that is to say, I first bend the metal back upon itself and then reverse it, so as to leave an outwardly-extended flange in a plane parallel to that of the wall itself, with a space k' , Fig. 8, therein for the reception of a flange g' upon the wall g . When the walls are unfolded from the position shown in Fig. 8 and the flange g' is inserted into the space k' , the walls assume the position shown in Fig. 3, and each of the corners is rendered light-tight.

The bottom l and top m of the lantern are detachable and are constructed in such a way as to engage and lock the side walls in the position indicated in Fig. 3. Both the top and bottom are constructed with double walls, so as to provide ventilation and intercept light-rays. The lower wall or bottom plate n is in the construction shown made triangular in shape and provided upon the three sides with vertical upturned flanges n' , upon which are formed return-flanges n^2 . Bosses n^3 serve to raise the plate n to admit air to an opening n^4 , formed in said plate. A secondary plate o of like triangular shape, but smaller in area, forms the inner wall of the base and is provided upon three sides with downwardly and upwardly bent flanges o' , Figs. 2 and 4, the upwardly-bent portions of which interlock with the flanges $n' n^2$, thus securely connecting together the two plates $n o$, so as to provide an intervening space or chamber between them. The plate o is provided with openings o^2 for the admission of air, which openings are shielded by means of the obliquely-bent flanges o^3 , which serve to prevent the escape of light through the opening n^4 . A socket p is attached to the plate o to serve as a support for a candle.

The top is formed substantially like the base. The top plate q is provided with depending hook-shaped flanges q' , which interlock with the hook-shaped flanges r' upon the edges of the inner plate r , a space being provided between the two plates, as shown. An opening s through the inner plate (shown in Fig. 2 and indicated in dotted lines in Fig. 1) and openings t in the top plate serve to ventilate the lantern, and inasmuch as the latter openings are shielded by the wings u the passage of light-rays is entirely intercepted.

Owing to the construction of the interlocking flanges upon the plates constituting the base and top, respectively, intersecting grooves $o^4 r'$ are provided to receive the bottom and top of the side walls and to secure

them in position, as shown in Figs. 2 and 3, while preventing the escape of light.

My improved lantern is especially adapted for the use of amateur photographers, inasmuch as it is light and portable and capable of being folded and packed into a very small space.

It is obvious that instead of being triangular in cross-section the lantern may be rectangular or polygonal, it being only necessary that the base and top be made to conform to the configuration of the side walls and that one of the joints of the latter be made detachable; but I prefer the triangular shape, as being lighter, simpler, and cheaper.

By reference to Figs. 3 and 6 it will be apparent that one of the side walls of the lamp may be withdrawn by merely sliding it out longitudinally from the grooves formed by the flanges of the corner-pieces, thus permitting the remaining sides to fold; but I regard this as an inferior modification, in the best construction such withdrawal being prevented by cutting away the flange j^2 at the top and bottom, as shown at j^3 , Fig. 7, and compressing the part b' , as shown at b^2 , Figs. 2, 5, and 7.

Having thus described my invention, I claim—

1. The combination in a lamp of the class described, of folding side walls and vertically-flanged corner-pieces, each corner-piece being provided with two inturned flanges loosely interlocking with counterpart flanges upon adjacent side walls, and a suitable light-tight base and top arranged to engage therewith, substantially as described.

2. The combination in a photographic lantern, of folding side walls having their vertical edges flanged outwardly, vertical corner-pieces having inturned flanges adapted to engage loosely with the outwardly-turned flanges upon said side walls, whereby a hinge action may be obtained while the passage of light-rays is intercepted, and a removable base and top having vertical grooves adjacent to the edges thereof respectively, to engage the bottom and top of said side walls and lock them in position while rendering the separable joints light-tight, substantially as described.

3. The combination in a photographer's lantern, of side walls provided with flanges arranged to interlock at all but one of the intersecting corners, with vertical corner-pieces adapted to intercept light and to loosely engage with the flanges of said side pieces, thereby serving as hinged connections, detachable interlocking flanges arranged to join one of said corners, and a suitable light-tight base and top arranged to engage with said side walls, substantially as described.

4. A photographer's lantern having side walls arranged to interlock with each other at one corner by means of a light-tight disconnecting joint and at the others by means of corner-pieces, said corner-pieces being ver-

5 tically flanged, vertical flanges upon said side walls arranged to loosely interlock with the flanges upon said corner-pieces so as to permit a hinge movement, and a detachable base and top formed to engage with and lock said side walls in position when the lantern is in use, substantially as described.

10 5. A photographer's folding lantern, having flanged corner-pieces adapted to engage and interlock with its side walls so as to form light-tight joints, a detachable, double-walled base and top respectively, each provided with ventilating-openings therein arranged to ad-

mit air and to intercept the passage of light, and suitable grooves for the reception and 15 engagement respectively of the bottom and top of the side walls, substantially as described.

In testimony whereof I have signed this specification, in the presence of two subscrib- 20 ing witnesses, this 23d day of November, 1897.

WILLIAM NEIL.

Witnesses:

D. H. FLETCHER,
M. E. SHELDON.