W. A. BELL.

DARK ROOM LANTERN.

APPLICATION FILED JULY 18, 1918.

1,374,714. Patented Apr. 12, 1921.

3 SHEETS—SHEET 1.

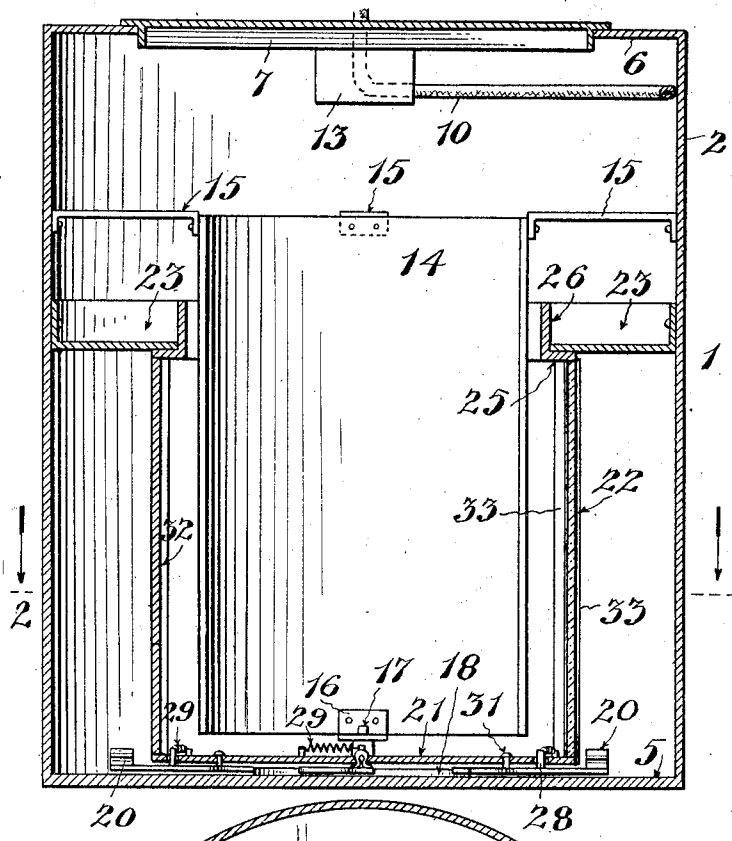


Fig. 1.

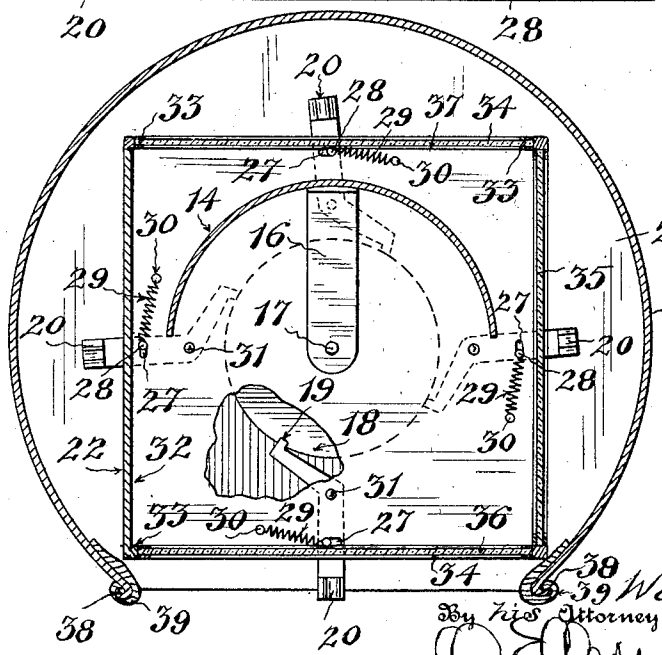


Fig. 2.

Inventor

Walter A. Bell

By his Attorney

O. Perry Edwards

W. A. BELL.

DARK ROOM LANTERN.

APPLICATION FILED JULY 18, 1918.

1,374,714. Patented Apr. 12, 1921.

3 SHEETS—SHEET 2.

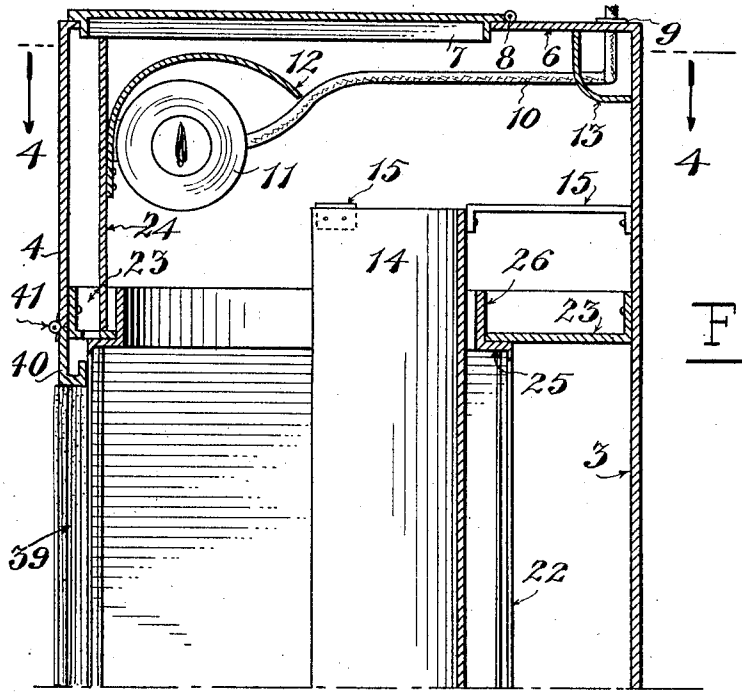


Fig. 3.

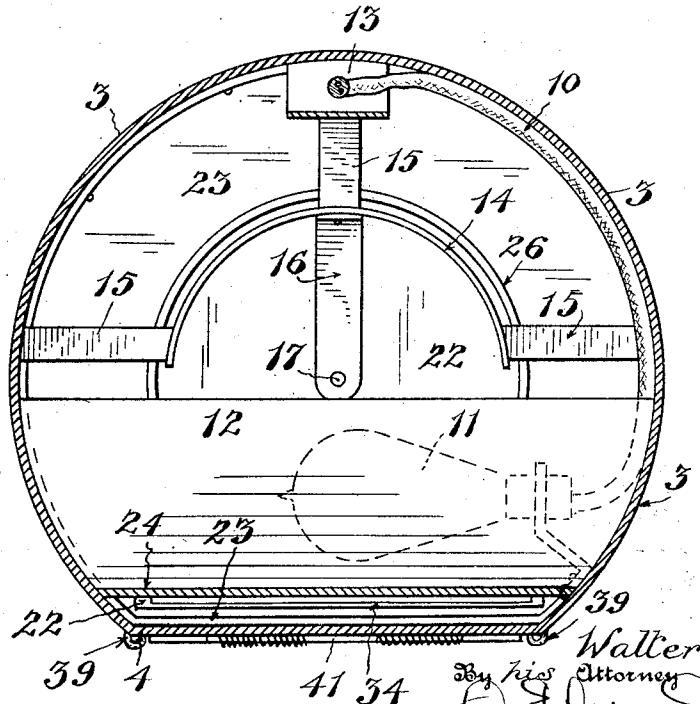


Fig. 4.

Inventor

Walter A. Bell

By his Attorney

O. Guy Edwards Jr.

W. A. BELL.

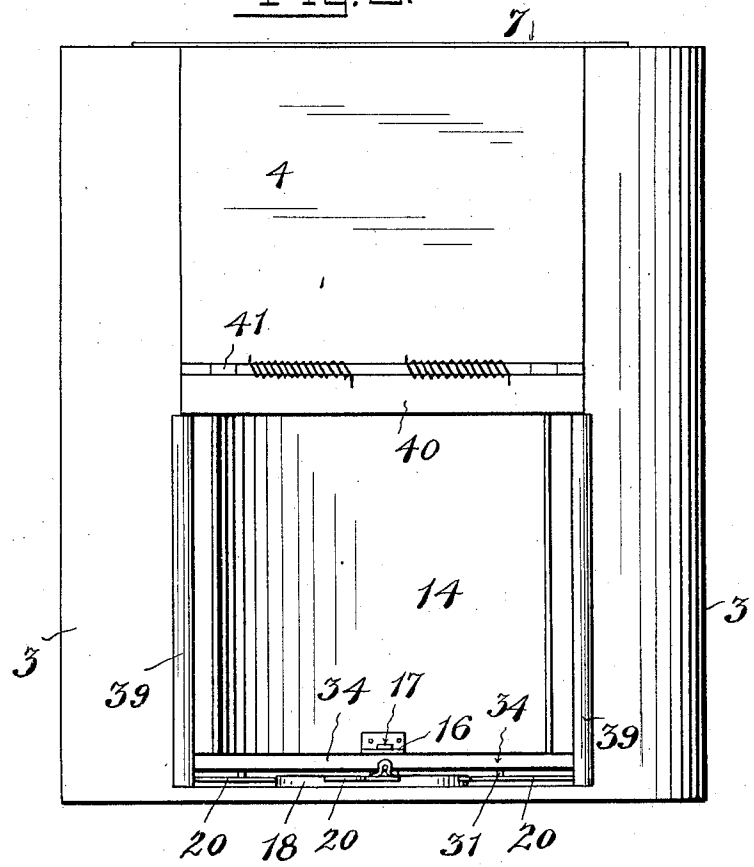
DARK ROOM LANTERN.

APPLICATION FILED JULY 18, 1918.

1,374,714. Patented Apr. 12, 1921.

3 SHEETS—SHEET 3.

Fig. 5.



Inventor

Walter A. Bell

By his Attorney

O. Ellery Edwards Jr.

UNITED STATES PATENT OFFICE.

WALTER A. BELL, OF NEW YORK, N. Y.

DARK-ROOM LANTERN.

1,374,714. Specification of Letters Patent. Patented Apr. 12, 1921.

Application filed July 18, 1918. Serial No. 245,440.

To all whom it may concern:

Be it known that I, WALTER A. BELL, a citizen of the United States, and a resident of the city, county, and State of New York, have invented a new and useful Improvement in Dark-Room Lanterns, of which the following is a specification.

The object of my invention is to provide a dark room lantern of a portable nature which can be used at the option of the operator so as to render a red light, a green light, no light or a pure diffused white light, as may be required by the peculiar conditions or place in the dark room and in due course of developing. These and other objects are accomplished by my invention, one embodiment of which is hereinafter more particularly set forth.

For a more particular description of my invention, reference is to be had to the accompanying drawings in which—

Figure 1 is a longitudinal section of my improved lantern.

Fig. 2 is a cross section taken substantially on the line 2—2 of Fig. 1 looking in the direction of the arrows.

Fig. 3 is a sectional view of the upper portion of my improved lantern taken at right angles to the view shown in Fig. 1.

Fig. 4 is a sectional view taken on the line 4—4 of Fig. 3 looking in the direction of the arrows.

Fig. 5 shows a front elevation of my improved lantern.

Throughout the various views of the drawings, similar reference characters designate similar parts.

My improved lantern 1 has an outside casing 2 which is composed of a cylindrical shell 3 with a flat front 4, a bottom 5 and a top 6. The bottom is preferably made of flat metal which is rigidly secured to the cylindrical wall 3. The top is also made substantially integral with the wall 3 except that it has a hinged cover 7 which is preferably closed by a light tight joint and in the preferred embodiment of my invention is hinged at 8. This top 6 is provided with an insulating bushing 9 through which passes a double cable 10 which runs to a suitable glow lamp 11 mounted in the conventional way in the front upper corner of the casing 2 and under a reflector 12. All metal parts, on which the light from the glow lamp 11 falls directly, are painted white so as to give an even and diffused light at the glass in front, as will appear below. No direct light is thrown on a glass at any time. A covering plate 13 is placed over the conductor 10 where it enters the interior of the casing 2 as shown in Figs. 1 and 3, so as to prevent light from leaking in through the insulator 19 and about the cable 10.

A little below the top and extending near the bottom, is a suitable reflector 14 which is preferably made in the form of a cylindrical shell extending about 180 degrees. At its upper edge, this reflector is held in place by means of suitable brackets 15 which run radially to the shell 3, as shown in Fig. 4, and at its lower end this reflector 14 is held by a radial bracket 16 that runs to a pivot 17 which is fixed at the center of the bottom 5.

This pivot 17 is also fixed in a disk 18 which has a single notch 19 which is adapted to be engaged by one of four spring pressed pawls 20 which are pivoted in the bottom 21 of the rotating glass holder 22.

The upper end of the rotating glass holder 22 bears against the under side and the inside edge of an angle strip 23 which is fixed below the brackets 15 to the cylindrical wall 3 and false front wall 24. To make this fit good and tight at all times and in all positions, the rotating glass holder 22 is provided with a top 25 which rests under the angle plate 23 and from this top 25 extends upwardly a cylindrical flange 26.

The bottom 21 of the rotary glass holder 22 has four elongated slots 27 through which protrude pins 28 which are attached to coil springs 29 that run to pins 30 extending upwardly from this bottom 21. The bottom 21 also is provided with suitable pivots 31 on which the pawls 20 are mounted. The pins 28 which pass through the slots 27 are also fixed to these pawls so that their ends are normally kept in engagement with the disk 18 and one of these four pawls can lock the bottom 21 so that one of its edges is always parallel with the front of the instrument, when so locked. The direction of rotation is always anti-clockwise and is caused by pressing the thumb of the operator against the left hand vertical face of a pawl 20.

The glass holder 22 has four vertical walls one of which is numbered 32, which has at each vertical edge, suitable run ways 33 to receive corresponding edges of glass. The

opposing run ways 33 at the other corners are for the same purpose and these run ways at the top and bottom are connected by suitable strips 34 which make three frames for the glass. One glass is red and is preferably placed opposite the side 32. This is numbered 35. Another glass, which follows the red, is preferably made green and this is numbered 36. Then comes the opaque side 32 and after this a plain glass 37. The glass may be inserted or removed by raising the cover 7 and then sliding the glass upwardly between the false front 24 and the front 4, one glass being removed at a time when at the front of the instrument. An opposite movement permits an insertion of the glass.

To make the front of the lantern 1 absolutely light proof except for the light transmitted through the glass, the front edges of the shell 3, see Fig. 2, are thrown out and back at 38 to receive and hold leather pads 39 which extend inwardly and press against the corners of the holder 22. The top of the opening is protected against light leakage by means of the hinged flap 40 which is pivoted at its upper edge by a spring hinge 41 that presses against the upper front edge or corner of this holder 22.

Operation.

In view of the foregoing, the operation of my improved lamp 1 will be readily understood. If an ordinary plate is being developed, the red glass is sufficient and may be used. If a color plate which cannot be developed with red light is being developed, the protruding pawl 20 is pressed and the green glass is presented opposite the opening. If darkness is desired, the pawl 20 is pressed and the side 32 closes the opening. If a clear diffused light is desired, such as is ordinarily derived from sky lights, it may be obtained by turning the part 22 the same as before and bringing the clear glass to the front. This part 22 is so constructed and mounted that it must always be turned one way so that the operator knows that red, green, darkness and diffused light will follow each other in the order given and he will use whatever he may require for his particular work. This lamp 1 may be used anywhere as it is portable. It may be used in connection with X-ray work or color photography in hospital or other work, at any desired place. By changing the color of the glasses, any kind of dark room work may be done.

While I have shown and described one embodiment of my invention, it is to be understood that it is not restricted thereto but is broad enough to cover all structures that come within the scope of the annexed claims.

What I claim is:

1. In a device of the class described, a casing, a reflector therein, an incandescent lamp below the reflector and adjacent to the same so that the lamp will throw a diffused light in the casing and a rotary frame mounted in said casing with opaque, transparent and colored sides so that when the device is in use, diffused, colored light, or no light may be thrown from the apparatus.

2. In a device of the class described, a casing painted white in its interior and with a fixed white reflector mounted therein, a frame pivoted so as to surround said reflector and carrying an opaque side, a white transparent side and a colored transparent side, the said parts being so arranged and disposed that diffused light only may be thrown from the apparatus or no light according to which side of the frame is brought to the front.

3. In a device of the class described, a casing with a source of light mounted therein, a reflector back of said source of light, a reflector in front of said source of light and a pivoted glass holder revoluble about said last named reflector.

4. In a device of the class described, a casing with an angle plate mounted therein, a source of light in said casing, a glass holder pivoted in said angle plate and casing and a pawl and ratchet connection between the glass holder and the casing so that the glass holder may be turned continuously in one direction only.

5. In a device of the class described, a casing with an opening in its front, a source of light in said casing, pads on the sides of the said opening, a rotary glass holder mounted in said casing and means for permitting the glass holder to rotate in one direction so that its corners will rub against said pads.

6. In a device of the class described, a casing with an opening in its front, a source of light in said casing, a rotary glass holder mounted in said casing and a hinged flap mounted on the top of said opening and adapted to rub said glass holder when the same is shifted.

7. In a device of the class described, a casing with a top and a bottom, a source of diffused light in said casing, a hinged cover mounted in the top, a reflector, a second reflector in front of said source of light, a rotary glass holder and means for mounting the same in said casing, means in said glass holder for receiving glass and permitting the same to be removed or inserted and means for shifting the glass holder.

WALTER A. BELL.