(No Model.)

F. L. WELLS.

LANTERN.

No. 475,646. Patented May 24, 1892.

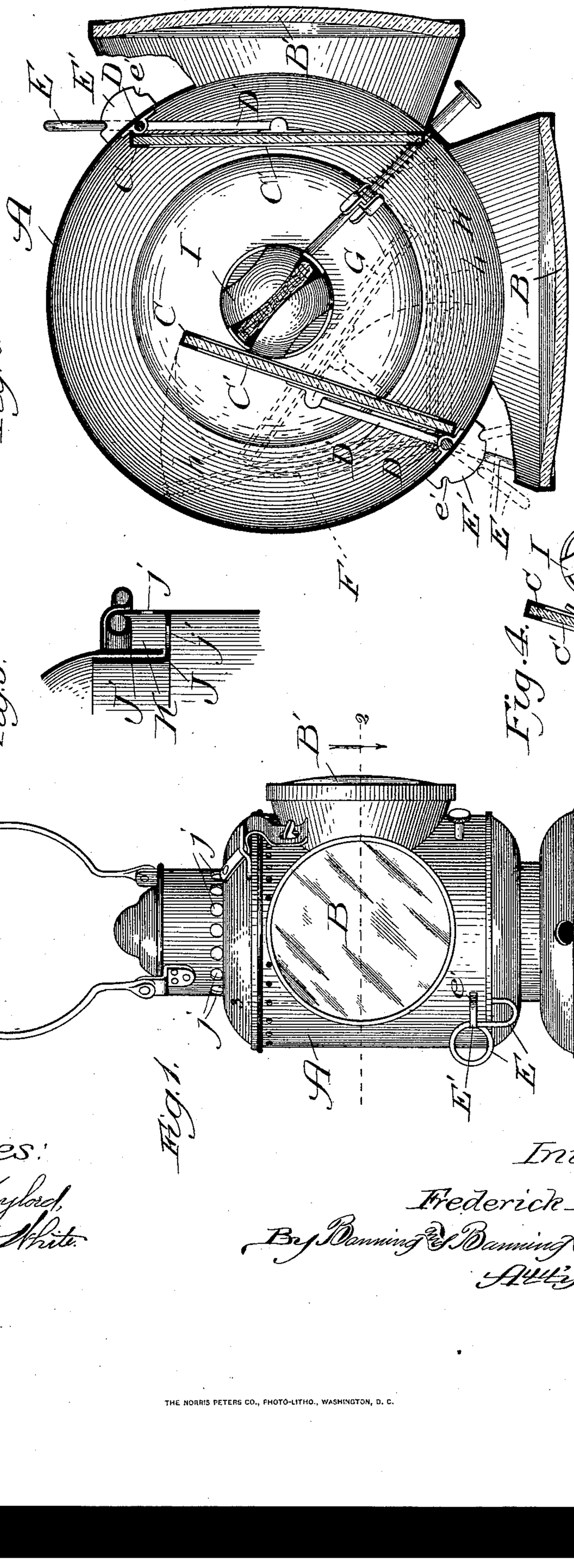

Fig. 2.

Fig. 3.

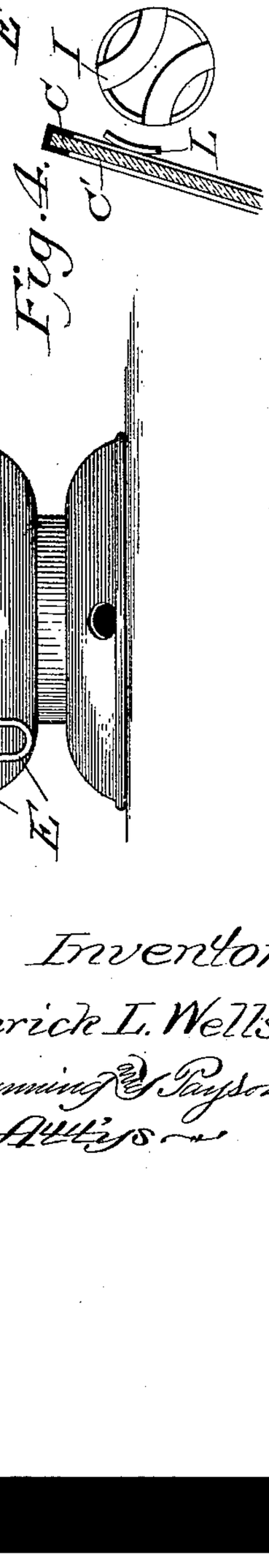

Fig. 4.

Fig. 1.

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UNITED STATES PATENT OFFICE.

FREDERICK L. WELLS, OF AURORA, ILLINOIS.

LANTERN.

SPECIFICATION forming part of Letters Patent No. 475,646, dated May 24, 1892.

Application filed August 25, 1891. Serial No. 403,650. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK L. WELLS, a citizen of the United States, residing at Aurora, Kane county, Illinois, have invented a certain new and useful Improvement in Lanterns, of which the following is a specification.

In using lanterns in various places—as, for instance, upon railways—it is often necessary or desirable to change the color of a lantern at any particular point, so that at one time such lantern shall give a white light and at other times a light of any desired color. To accomplish this, lanterns have been made with lenses of different colors, adapted to be supported in a position of non-use or to be allowed to fall therefrom by gravity. In other cases these colored lenses have been swung more or less circularly by means of clockwork between the ordinary lens of the lantern and the light. The first plan is objectionable, since the interposed colored light is not moved positively in both directions nor locked when lowered into a position for use, and the second plan is objectionable, since it is only adapted for intermittent or flash lights.

The object of my invention is to obviate the above difficulties, and this I accomplish by constructing a lantern preferably provided with one or more openings or uncolored lenses, and with lenses or panes of glass of any desired color supported within the lantern in such manner as they may be swung horizontally between the light and the opening or uncolored lens, or moved out of such position into one in which they do not affect the color of the light, means being preferably provided for locking these colored glasses in either a position of use or non-use.

In the drawings, Figure 1 is a vertical elevation of a lantern provided with my improvements; Fig. 2, a cross-section on line 2 of Fig. 1, looking in the direction of the arrow; Fig. 3, a section on line 3 of Fig. 1; and Fig. 4, a detail illustrating a modification, the last three figures being on an enlarged scale.

The lantern A may be of any desired form and provided with one or more preferably colorless lenses B, and inasmuch as this lantern, except as hereinafter more particularly described, forms by itself no part of my invention it requires and will receive no further description.

Within this lantern I support frames C in a manner to allow them to move as hereinafter described, there being one of these frames for each of the openings or lenses B, and in these frames are supported sheets or panes of glass C′ of any desired color. To movably support these frames, I prefer to mount rods D in suitable bearings in the lantern, the lower end of one of such rods being bent inward and pivotally secured to the lower side of the corresponding frame, and the upper end thereof bent and pivotally secured to the upper side of the frame the lower arms being denoted by the letters D′ in the drawings and the upper arms not being shown. These arms should be of a suitable length and be secured to the lantern at suitable points relatively to the lenses to adapt the device to operate as hereinafter described. Operating-handles E, consisting, preferably, of a suitable piece of rod or wire, extend from the outside of the lantern within the same and are secured to the rods D or arms D′. Catches E′ are preferably provided, having notches *e*′, adapted to engage with and lock this operating-handle in various positions. When one of these frames is in a position of non-use, it rests against the side of the lantern, as shown in dotted lines at F in Fig. 2. When it is desired to change the light through the lens B from an uncolored to a colored one, the handle E corresponding to such frame is released from its notch and moved toward the left, Fig. 2, swinging the frame and glass into the position shown in solid lines at the left hand of this figure. The frame then contacts with the burner I, as shown, and is swung upon its supports, by means of this contact, into the position shown in dotted lines at G, Fig. 2, and being further swung around comes into the position shown in dotted lines at H, Fig. 2, occupying a position against the side of the lantern substantially parallel to the lens B and between such lens and the light. This position of the colored glass is also shown in solid lines at the right hand of Fig. 2. When it is desired to change the light to an uncolored one, the motions are reversed and the colored glass swung from the position shown at H into the posi-

tion shown at F, being again rotated by contacting with the burner, so that as the colored glass moves in either direction the burner acts to set it to the proper angle to rest against the side of the lantern or against the opening through which the light passes to the uncolored lens, the dotted lines *h h* indicating the travel of the ends of the frame as it passes from the position shown at F to that shown at H. While I have shown the burner as acting upon these pivoted glasses as they are swung from one position to another, it will be obvious that it is not essential that the burner should so act, since the lantern may be provided with an arm or extension suitably placed and shaped to contact with the frame or glass as it is swung in one direction or the other to change the angle thereof, as already described. This modification I have shown in Fig. 4, wherein a lug or extension L is shown adapted to contact with the frame or glass to turn the same, the burner I in this case being too small to accomplish this purpose.

Means for admitting air to the lantern are constructed as follows: Around the inside of the lantern, at a point preferably near the top thereof and above the lenses, I secure a flange J, running in from the side of the lantern and then turning and running upward to any desired height. The hinged top of the lantern is preferably provided with an annular tongue J′, fitting, as shown, inside of the upwardly-turned lip of the flange J. By this means an annular channel K is formed, extending around the lantern. I then form a series of holes *j*, opening into this channel from the outside, and another series *j′* in the bottom of the channel opening into the lantern, the air passing from the outside through the holes *j*, and then being directed through the holes *j′* down along the sides of the lantern to supply air to the flame.

While I have described more or less precise forms, it is not my intention to limit myself thereto, since I contemplate changes in form, proportions, and relative location of the parts, and the substitution of equivalent members, as may be desirable or necessary. For instance, I have already stated that a suitable arm or extension may be substituted for the burner as a means of contacting with and acting upon the pivoted frames, and it will further be evident that the method of pivotally attaching these frames to the lantern may be changed, as desirable or necessary. It will also be obvious that these improvements can be applied to any other form of lamp or lantern, the necessary changes in form and dimensions being made.

I claim—

1. A lantern provided with an uncolored lens, a frame pivotally supported within the lantern and carrying a colored glass, means for moving this frame from a position of non-use to a position where it is interposed between the light and the lens, and vice versa, and means in the path of the frame for turning the frame to the desired angle as it is being swung from one position to the other, substantially as described.

2. The combination of a lantern provided with an uncolored lens, a frame pivotally supported within such lantern and carrying a colored glass, means for swinging this frame from a position of non-use into a position between the light and the lens, and vice versa, and a burner or lug with which the frame contacts as it is moved in one direction or the other, and whereby it is set at the desired angle, substantially as described.

3. In a lantern, the combination of an uncolored lens, a frame carrying a colored glass, pivotally attached to the inside of the lantern, an operating-handle attached to such frame and extending outside of the lantern, a locking-plate attached to the outside of the lantern, and means contacting with the frame as it is moved to set it to the desired angle, whereby the colored glass may be moved from a position of non-use into a position where it is interposed between the light and the lens, and vice versa, and locked in either of such positions, substantially as described.

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Witnesses:
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