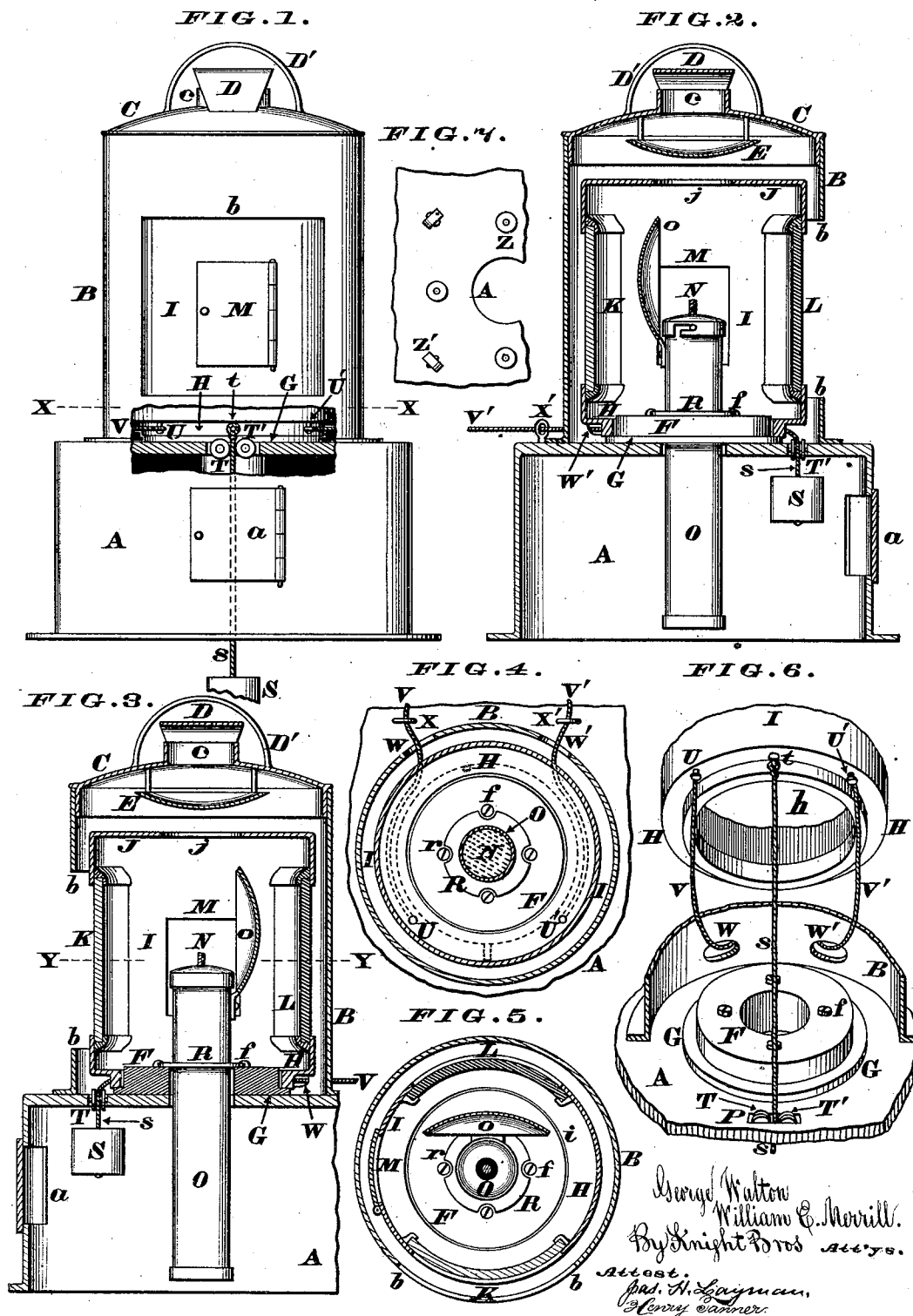


G. WALTON & W. E. MERRILL.

Signal-Lantern.

No. 164,351.

Patented June 8, 1875.



UNITED STATES PATENT OFFICE.

GEORGE WALTON AND WILLIAM E. MERRILL, OF CINCINNATI, OHIO.

IMPROVEMENT IN SIGNAL-LANTERNS.

Specification forming part of Letters Patent No. **164,351**, dated June 8, 1875; application filed March 22, 1875.

To all whom it may concern:

Be it known that we, GEORGE WALTON and WILLIAM E. MERRILL, both of Cincinnati, Hamilton county, Ohio, have invented certain new and useful Improvements in Signal-Lights, of which the following is a specification:

Our invention relates to a device for enabling the pilot of a steamboat or other water-craft, by means of visible signals, to indicate to persons on an approaching vessel which side of the channel he desires to take, thereby furnishing an additional means of communicating the desired information at night or in foggy weather, and rendering collisions less liable to occur than when indications by sound are alone depended upon.

For the above purpose any two strongly-contrasted colors would serve, and we have adopted for illustration those prescribed by the United States service, namely, green for right and red for left.

Our device, when in its normal condition—that is to say, when no signal is being made—emits no light whatever, but is simply a dark-lantern. As soon, however, as a vessel approaches, the pilot of the vessel carrying the lantern has only to pull one of two cords to cause either a green or a red light to instantly flash forth, thereby indicating his intentions of steering to the right or to the left by the color employed.

In the accompanying drawing, Figure 1 is a front elevation of our lantern in its normal or closed condition, a portion of its base and shell being broken away. Fig. 2 is a vertical section of the same from front to rear, with the lantern rotated to the left, so as to emit a red light. Fig. 3 is a similar section, but with the lantern rotated to the right, so as to emit a green light. Fig. 4 is a horizontal section at the line X X. Fig. 5 is a horizontal section at the line Y Y. Fig. 6 is a perspective view, showing the lantern detached from its supporting-base and a portion of the shell broken away. Fig. 7 represents a modification of the devices for supporting the rotatable screen or lantern.

A represents a supporting base or curb, which may be made of any appropriate material and of any suitable shape, but preferably cylindrical, as shown. Said base is furnished,

in front, with a door, *a*, whereby access can be had to the interior of this part of the apparatus when desired. Resting upon this base, and securely attached thereto, is a cylindrical jacket or-shell, B, within which the operative parts of the apparatus are securely housed, so as to be protected from the inclemencies of the weather. The front side of this shell is pierced with an opening, *b*, for a purpose which will presently appear. Applied to the upper end of jacket B is a detachable cap or cover, C, having a chimney, *c*, two external guards or hoods, D D', and an internal deflector, E. Secured to the base A, by means of screws *f*, or otherwise, is a circular hub, F, having an annular flange or rim, G, which projects horizontally therefrom. Said hub and flange serve to centralize and support the base-plate H of the lantern proper, I. This base-plate is furnished with a central and circular opening, *h*, which fits snugly around the fixed hub F. The screen or lantern proper I is simply a sheet-metal or other suitable cylindrical or polygonal member, whose top, J, is pierced at *j*, to permit the escape of smoke from the burner or other illuminating device. The lantern I has, on diametrically-opposite sides of it, two windows of two differently-colored glass—as, for example, a green one, K, and a red one, L. The lantern I has a door, M, that is situated between the windows K and L, for the purpose of affording access to the illuminating device N. This device is here shown as a candle, such as ordinarily used upon railroad-cars; but any appropriate form of lamp-burner or other illuminating agent may be employed. The tubular sheath O, which contains the candle, has a suitable reflector, *o*, attached to its rear side, so as to concentrate the rays of light toward the front part of the lantern. In order to prevent any rotation of this sheath, and to maintain it in a proper axial position with reference to the front opening, said sheath has a collar, R, secured to it, which collar is notched at *r*, so as to fit snugly around the screws or bolts *f* of hub F. For the purpose of maintaining the lantern in its normal or closed condition, we provide a weight, S, which is suspended, by a cord, *s*, from a pin, *t*, that projects horizontally from the base-plate H. This cord passes between two sheaves, T T', which oc-

occupy a slot, P, in the base or curb A. Projecting downwardly from the base-plate H, and to the right of pin *t*, is a stud, U, having a cord, V, attached to it, which cord passes around the hub F toward the rear of the apparatus, emerging through a slot, W, in jacket B, and, passing through a staple, ring, eye, or sheave, X, is thence carried astern far enough to be convenient to the pilot. Located to the left of pin *t* is another stud, U', whose cord, V', passes first through a slot, W', then through a sheave or its equivalent, X', and is finally conducted back to the pilot-house like the other one.

The manner of arranging and manipulating our signal apparatus is as follows: The curb A is fixed to the deck of the boat in such a way as to present the opening *b* toward the bow, and the weight S is allowed to swing freely upon the cord *s*. As the pin *t*, to which the cord *s* is secured, is directly under the door M, it is apparent that the weight S has a tendency to maintain the lantern I in such a position as to bring the aforesaid door M opposite the opening *b*, thereby causing the windows K and L to be presented toward the opaque sides of the jacket B, and consequently to shut in the light. If the pilot now wishes to indicate to an approaching vessel that he desires to steer to starboard, so that the other vessel will be on his port side, he has only to pull upon the cord V, so as to rotate the lantern I to the right, and allow the rays of light to pass through the green window K, as seen in Fig. 3. Having displayed this green light for a sufficient length of time, he quits his hold of the cord, and the weight S, being then free to act, instantly rotates the lantern to the left until its normal position is resumed and the light cut off. On the other hand, should the pilot desire to signal that he is going to port, so that the other vessel will pass on his starboard side, he pulls

the other cord, V', thereby rotating the lantern I to the left, and thus exposing the red window L opposite the opening *b*, as seen in Fig. 2.

From the above description it will be seen that our apparatus can be employed either as a dark-lantern or else as a device for emitting two diversely-colored signal-lights, thereby obviating the necessity of employing a separate and distinct lantern for each color.

The windows K and L, instead of being flat plates of glass, may be dioptric lenses of the Fresnel or other approved form.

The weight S may be omitted and a spring or a number of springs be employed for maintaining the lantern in its closed condition, or the lantern may be rotated by means of gearing.

The hub F and flange G may be dispensed with and their office be filled by rollers Z Z', as seen in Fig. 7.

A glass door may be hinged to the opening *b* of shell B.

The words "right" and "left" as used in this specification have reference to the positions of the ports relatively to the pilot who controls them.

We claim as new and of our invention—

In a signal-lantern having an outside stationary case and an inside revolving case or screen, adapted to be operated from a distance by means of cords passing to the operator, the combination of the weight S with the inside screen, for returning the latter to its normal position when the operating-cord is released, substantially as described.

In testimony of which invention we hereunto set our hands.

GEO. WALTON.

WILLIAM E. MERRILL.

Attest:

GEO. H. KNIGHT,

JAMES H. LAYMAN.