

(No Model.)

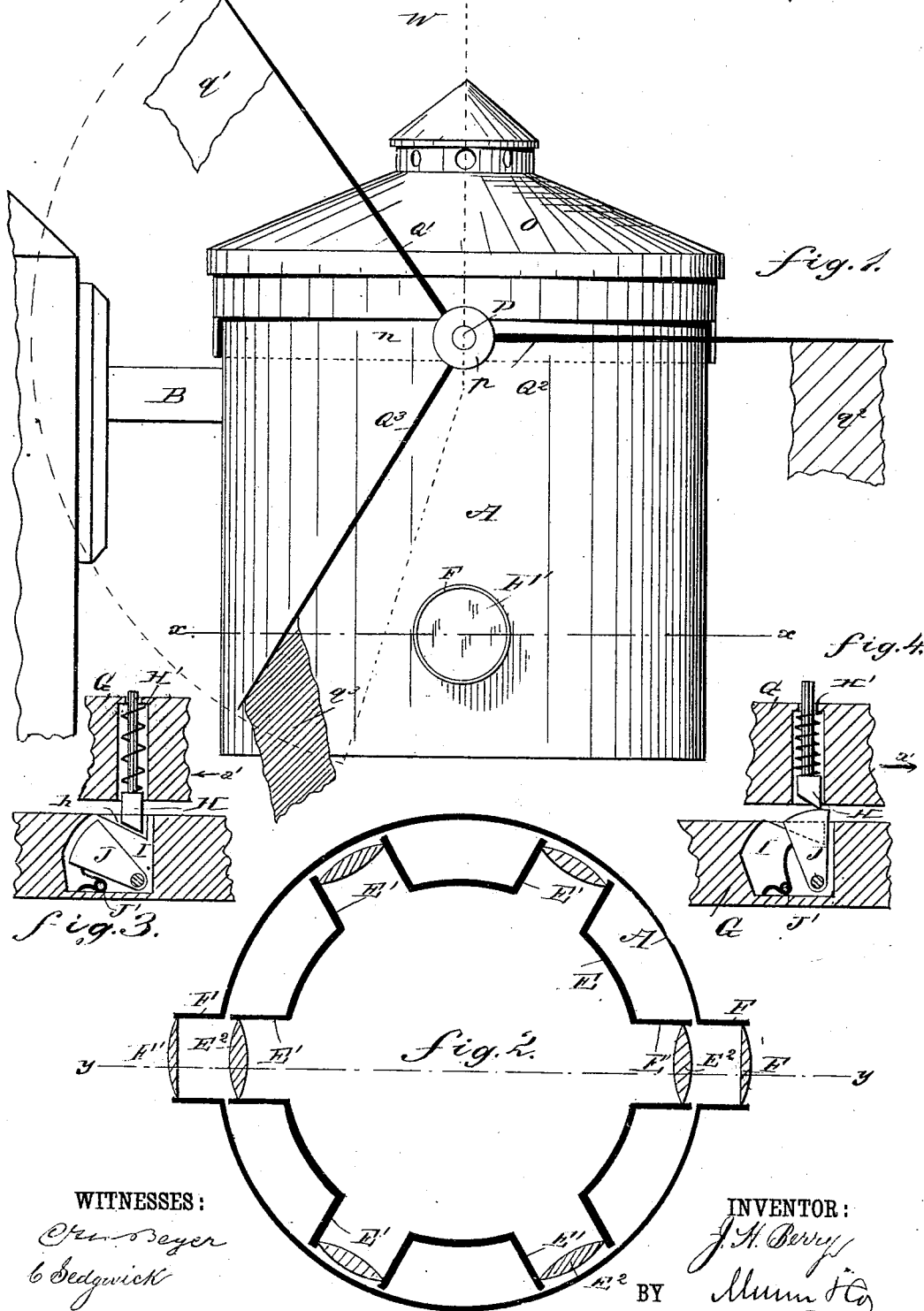
2 Sheets--Sheet 1.

J. H. BERRY.

RAILROAD SIGNAL LANTERN.

No. 270,727.

Patented Jan. 16, 1883.



WITNESSES:

Chas. Dyer  
C. Sedgwick

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ATTORNEYS.

(No Model.)

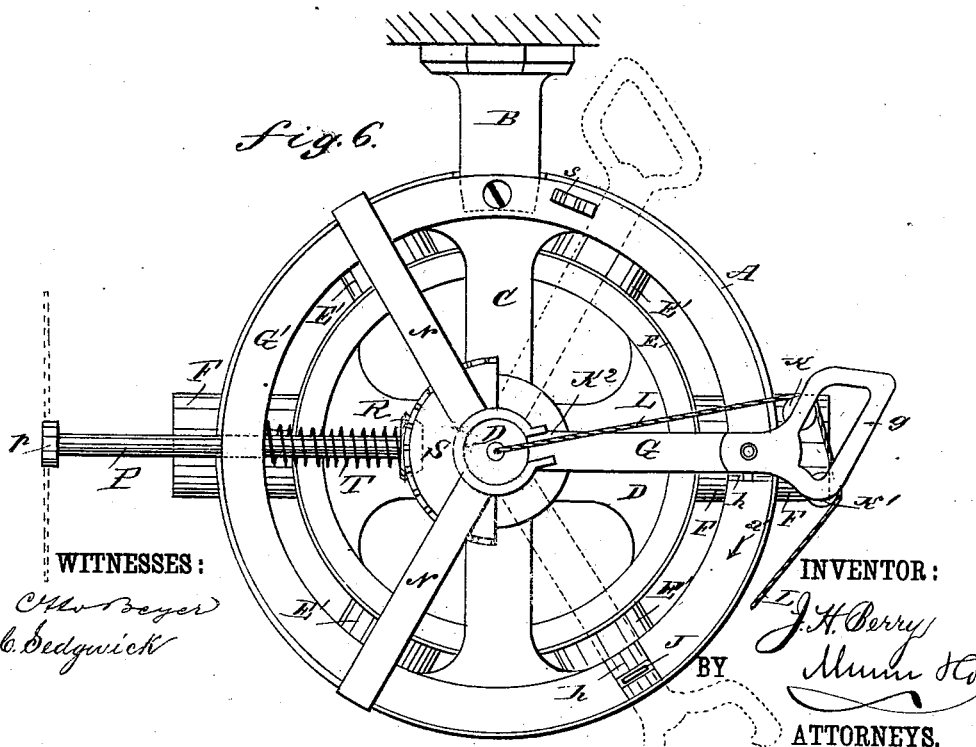
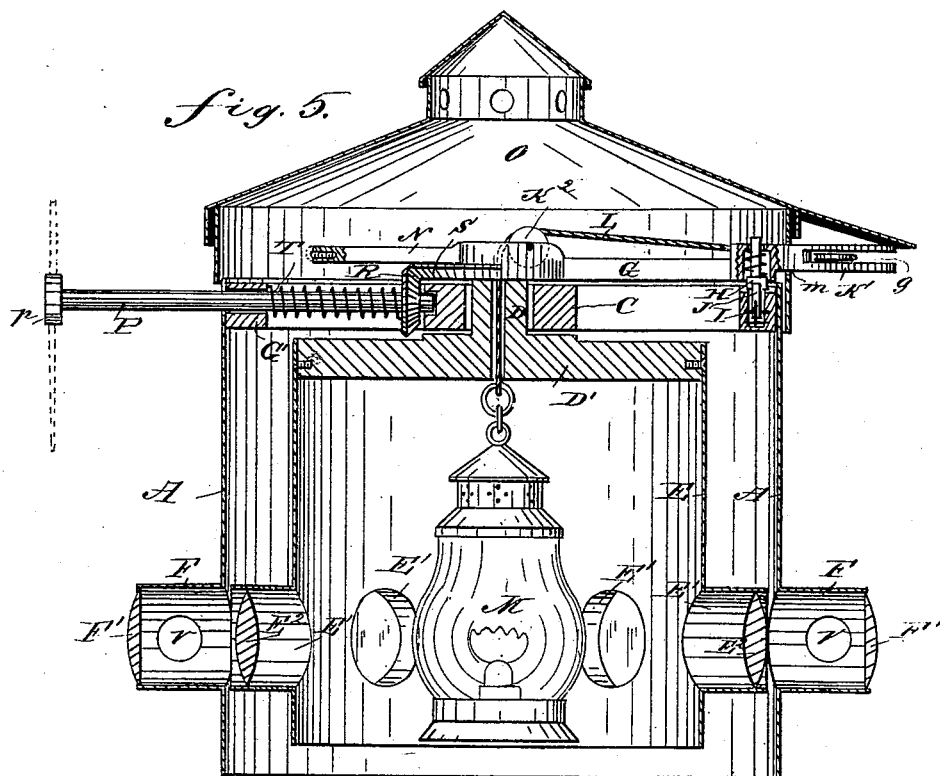
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# UNITED STATES PATENT OFFICE.

JAMES H. BERRY, OF GREENVILLE, SOUTH CAROLINA, ASSIGNOR TO HIMSELF AND WILLIAM M. BERRY, OF MOUNT AIRY, GEORGIA.

## RAILROAD SIGNAL-LANTERN.

SPECIFICATION forming part of Letters Patent No. 270,727, dated January 16, 1883.

Application filed July 7, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, JAMES H. BERRY, of Greenville, in the county of Greenville and State of South Carolina, have invented a new and Improved Railroad Signal-Lantern, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved railroad signal-lantern, which can be operated from the station-building without requiring the operator to leave the room or to light more than one lamp.

The invention consists in a cylinder provided with two opposite lens tubes or openings, and containing a rotating cylinder provided with a series of different-colored lenses or panes, which inner cylinder contains a lantern, which is held by a cord passing over an arm connected with the inner cylinder, whereby the same cord can be used for raising the lantern into this inner cylinder and for turning this cylinder.

The invention further consists in a rotary arm connected with this inner cylinder and having flags held on its end, whereby, when this cylinder is rotated, the flags will be turned so that a flag and a light of the same color will show at the same time.

The invention further consists in spring-catches in the arm of the inner rotating cylinder, which catches are adapted to engage with notches in the upper edge of the frame of the outer cylinder, which notches contain spring-latches, whereby the inner cylinder can be automatically locked in the desired position by pulling on the cord, and can also be released by pulling on this cord, as will be more fully described hereinafter.

The invention also consists in a screen for covering those flags that are not to be exposed.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a front elevation of my improved railroad signal-lantern. Fig. 2 is a sectional plan view of the same, on the line *x x*, Fig. 1. Fig. 3 is a detail sectional elevation of the latch in the upper edge of the casing and the

catch on the arm, showing the latch lowered. Fig. 4 is a like view, showing the latch raised. Fig. 5 is a vertical sectional view of my improved railroad signal-lantern, on the line *y y*, Fig. 2. Fig. 6 is a plan view of my improved railroad signal-lantern, showing the hood removed.

A cylindrical casing, A, open at the bottom, is held by a bracket-arm, B, to the wall of the station-building, or to a suitable standard, in such a manner that it can be seen from a locomotive on the tracks. This casing A is provided in its upper part with a transverse bar, C, into which a pivot, D, projects from the upper part of a cross-bar, D', of a cylindrical casing, E, contained in the casing A, and adapted to turn on its longitudinal axis in the same, which inner casing, E, is also open at the bottom. Two tubes, F, provided at the outer ends with plain glass lenses F', project from the casing A, near the bottom of the same, in diametrically-opposite directions, and in a line parallel with the line of the tracks. The inner casing, E, is provided with six or more or less tubular projections, E', each provided with a lens, E<sup>2</sup>, of which lenses two are plain glass, two are colored red, and two blue, the lenses being arranged consecutively white, red, and blue. The tubular projections E' of the inner cylinder, E, must be of such size that they can be contained within the outer casing, A, as is shown in Figs. 2 and 5. An arm, G, projects from the pivot D above the cross-bar C to the edge of the ring-frame G' in the upper part of the casing A, upon which its outer end rests. A vertically-movable catch, H, having its lower end beveled, projects downward from the under surface of the arm G, and this catch is pressed downward by a spiral spring, H', surrounding it. The ring-frame G' is provided with two beveled notches, *h*, and below them with two recesses, I, containing wedge-shaped latches, J, which are pivoted in the lower parts of the recesses, and have their outer swinging edges rounded, as shown in Figs. 3 and 4, and are pressed upward by springs J', contained in the recesses I.

Two horizontal pulleys, K K', are pivoted in the outer forked end, *g*, of the arm G, and

over these pulleys a cord, L, passes, which also passes over a vertical pulley, K<sup>2</sup>, journaled in the inner end of the arm G near the pivot D, which cord then passes down through a vertical aperture in the pivot D, as shown in Fig. 5. To the lower end of the cord L a lantern, M, is attached. As the cord L passes over the pulleys K K' it must pass through the fork g. The pivot D is also provided with two arms, N, above the transverse bar C, to the ends of which arms the hood O is attached, which hood is provided with a slot, m, through which the fork g of the arm G passes, and with a recess, n, the ends of which form a check for the movements of the pivot D.

An arm, P, journaled horizontally in the ring-frame G', projects some distance from the casing A, over one of the lens-tubes F, and is provided at its outer end with a ring, p, provided with apertures for receiving the ends of the flag-staffs Q', Q<sup>2</sup>, and Q<sup>3</sup> of the flags q' q<sup>2</sup> q<sup>3</sup>. At its inner end this shaft P is provided with a beveled cog-wheel, R, which engages with a cogged segment or a cog-wheel, S, mounted rigidly on the pivot D, above the transverse bar C. A spiral spring, T, surrounding the shaft P, is attached to the same, and is also attached to the ring-frame G', so that it will automatically turn the shaft P back into its original position if this shaft P is turned by the cog-wheels S and R, as will be more fully described hereinafter. A sector-shaped screen, W, is held a short distance in front of the casing A, as is shown in dotted lines in Fig. 1, so that only one flag will be visible from the locomotive. The lens-tubes F are provided with openings V in the sides to permit the operator to see the color of the light.

The operation is as follows: A lantern, M, is attached to the lower end of the cord L, and is raised up into the inner cylindrical casing, E, and then the cord is fastened to some suitable hook within the station-building, so that the lantern M cannot descend. Ordinarily the white lenses of the inner casing, E, are to correspond in position with the tubes F of the outer casing, A, and then the white flag q' will be visible, and its staff Q' will be in a horizontal position. If a red signal is to be shown, the operator, who remains in his room, pulls on the cord L, whereby the arm G is rotated until the catch H, which moves on the top of the ring-frame G' in the direction of the arrow a', will snap into the first notch, h, in the top of the ring-frame G', as shown in Fig. 3, whereby the wedge-shaped latch J will be pressed down into the recess I, and the arm G will be locked in position by this catch H. At the same time that the arm G is turned the inner cylindrical casing, E, will be turned with it, and the red lenses E<sup>2</sup> will correspond in position with the lens-tubes F of the outer casing, A. At the same time the cog-wheel S and the cog-wheel R turn the shaft P, and the red flag q<sup>2</sup> will pass from behind the screen W and will be visible, and the white flag q' will pass

behind the screen. If the white light is to show again, the operator again pulls on the cord L, thereby moving the arm G' in the direction of the arrow a', beyond the notch h, so that the catch H will be pressed into its recess, and at the same time the spring J' will throw the latch J upward. If, now, the cord is released, the spiral spring T rotates the arm P in the inverse direction, and thereby moves the arm G in the inverse direction of the arrow a' over the latch J, until it passes against a check-lug, s. By this movement the red flag q<sup>2</sup> will pass behind the screen W and the white flag q' will show. If a blue signal is to be shown, the operator pulls the cord L until the catch H catches in a second notch, h, and is locked on the same in the manner described above. By this movement of the arm G the inner casing, E, will be rotated to such an extent that the blue lenses E<sup>2</sup> will correspond in position with the lens-tubes F, and the blue flag q<sup>3</sup> only will show, the other two flags being behind the screen. The inner casing, E, and the arm P can be brought back into the original position in the same manner as described above. Only one plain glass lantern, M, is required to show signals of three different colors, and the signal can be adjusted to show any desired color at a moment's notice without requiring the operator to leave his room. The lantern M can be trimmed and lighted within the room, and then attached to the cord L, and it is thus much more convenient to provide the signal apparatus with a light than when the lamp is fixed in the signal apparatus. The different positions of the arms G are shown in dotted lines in Fig. 6. One cord, L, is thus used for raising and lowering the lantern, and also for operating the arm P and the inner casing, E. The cord is out of reach, so that it cannot be meddled with, it being so high above the ground that trains can pass under it.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. In a railroad signal-lantern, the combination, with the exterior casing, A, provided with opposite tubes or openings F, of the interior casing, E, provided with a series of openings, E', containing colored panes or lenses, and of as many signal-flags as there are different-colored glasses or lenses in the inner casing, which flags are moved simultaneously with the inner cylinder, so that a light and a flag of the same color will show at the same time at the signal-lantern, substantially as herein shown and described, and for the purpose set forth.

2. In a railroad signal-lantern, the combination, with the outer casing, A, provided with opposite lens tubes or openings F, of the inner casing, E, provided with a series of openings, E', containing colored lenses or panes, E<sup>2</sup>, the beveled cog-wheel S on the pivot of this inner casing, E, the beveled cog-wheel R on the shaft P, and the ring p, mounted on the outer

end of the shaft P, and provided with sockets for flag-staffs, substantially as herein shown and described, and for the purpose set forth.

3. In a railroad signal-lantern, the combination, with the outer casing, A, provided with the opposite lens tubes or openings F, of the inner casing, E, provided with a series of different-colored glass lenses or panes E<sup>2</sup>, the arm G, connected with the pivot of the inner casing, E, and the cord L, passing from the outer end of the arm G and through the pivot D, and adapted to have a lantern attached to its lower end, substantially as herein shown and described, whereby the lantern can be held in the inner casing, E, and this casing can be turned by the same cord, as set forth.

4. In a railroad signal-lantern, the combination, with the casing A, provided with the opposite lens tubes or openings F, of the inner casing, E, provided with different-colored lenses or panes E<sup>2</sup>, the pivot D, the arm G, the cord L, passing from the end of the arm G through the pivot D, and adapted to have a lantern attached to its lower end, the cog-wheels S and R, the shaft P, and the devices for holding flags on the outer end of the same, substantially as herein shown and described, and for the purpose set forth.

5. In a railroad signal-lantern, the combination, with the casing A, provided with the opposite lens tubes or openings F, of the inner casing, E, provided with different-colored lenses or panes E<sup>2</sup>, the pivot D, the arm G, the cord L, passing from the end of the arm G through the pivot D, and adapted to have a lantern attached to its lower end, cog-wheels S and R, the shaft P, the spring T, surrounding it, and the devices for holding the flags on the outer end of the shaft P, substantially as herein shown and described, and for the purpose set forth.

6. In a railroad signal-lantern, the combination, with the casing A, provided with the opposite lens tubes or openings F, of the inner casing, E, provided with different-colored lenses or panes E<sup>2</sup>, the pivot D, the arm G, and the cord L, passing around the pulleys K K', through the forked end g of the arm G, and through the pivot D, and adapted to have a

lantern attached to its lower end, substantially as herein shown and described, and for the purpose set forth.

7. In a railroad signal-lantern, the combination, with the casing A, provided with the opposite lens tubes or openings F, of the inner casing, E, provided with different-colored lenses or panes E<sup>2</sup>, the pivot D, the arm G, the cord L, the catch H in the arm G, the notches h, and the swinging latches J in the ring-frame G', substantially as herein shown and described, and for the purpose set forth.

8. In a railroad signal-lantern, the combination, with the casing A, provided with the opposite lens tubes or openings F, of the inner casing, E, provided with different-colored lenses or panes E<sup>2</sup>, the pivot D, the arm G, the cord L, the catch H in the arm G, the spring H', the notches h, the recesses I, the latches J, and the springs J', substantially as herein shown and described, and for the purpose set forth.

9. In a railroad signal-lantern, the combination, with the exterior casing, A, of the interior rotating casing, E, the pivot D, the arms N of the pivot D, and the hood O, attached to the ends of these arms, substantially as herein shown and described, and for the purpose set forth.

10. In a railroad signal-lantern, the combination, with the casing A, of the lens-tubes F, provided with side openings, V, the inner casing, E, provided with different-colored lenses or panes E<sup>2</sup>, and of a lantern in this inner cylinder, substantially as herein shown and described, and for the purpose set forth.

11. In a railroad signal-lantern, the combination, with the outer casing, A, of the inner rotating casing, E, containing the lantern, the rotating shaft P, connected with the inner casing, E, the flags q' q<sup>2</sup> q<sup>3</sup>, held on this shaft P, and the screen W for covering two of the flags, substantially as herein shown and described, and for the purpose set forth.

JAMES H. BERRY.

Witnesses:

A. J. MOSELEY,  
G. E. PRINCE.