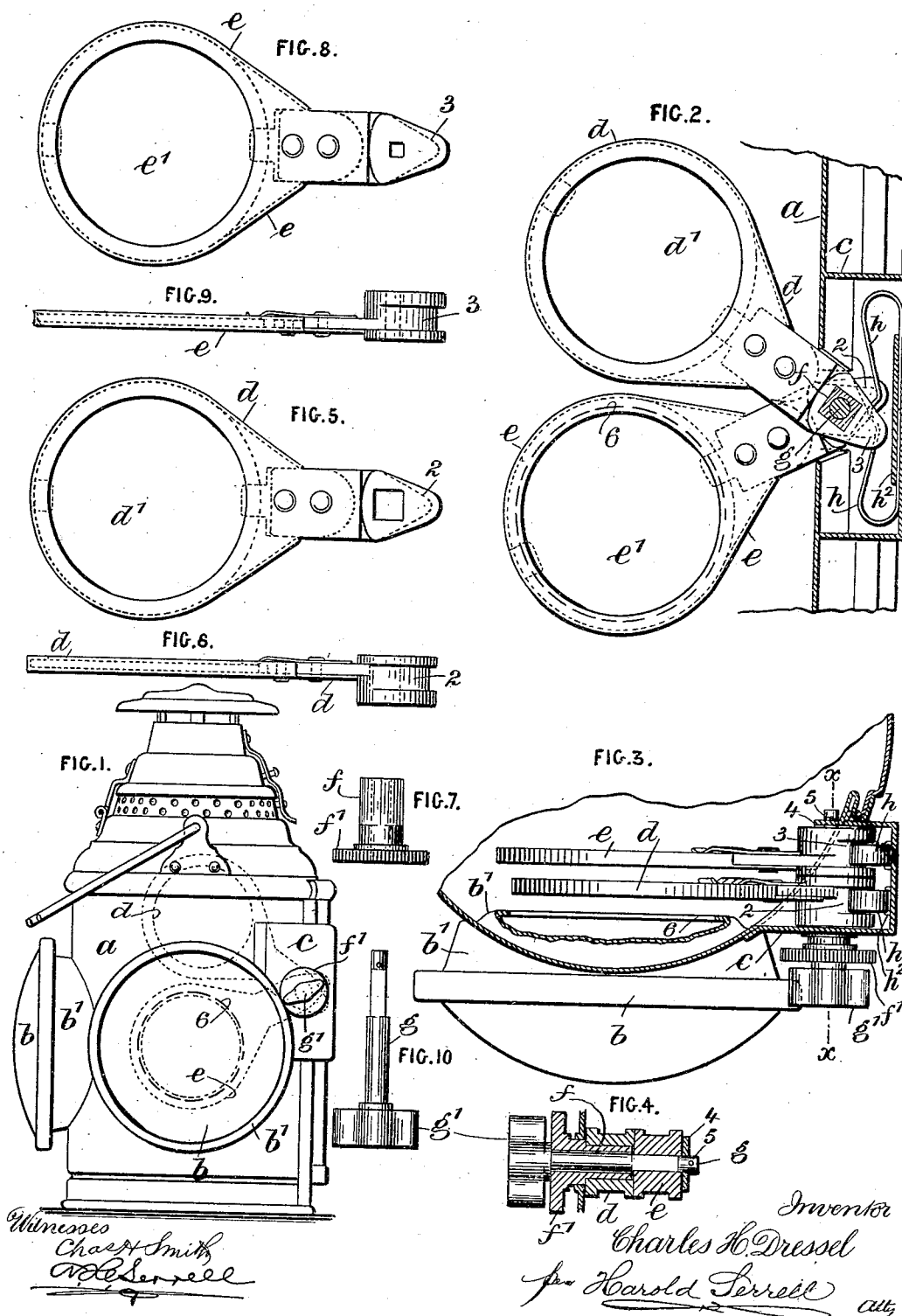


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PATENTED FEB. 27, 1906.

C. H. DRESSEL.
SIGNAL LANTERN.
APPLICATION FILED SEPT. 20, 1905.



UNITED STATES PATENT OFFICE.

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SIGNAL-LANTERN.

No. 813,781.

Specification of Letters Patent.

Patented Feb. 27, 1906.

Application filed September 20, 1905. Serial No. 279,243.

To all whom it may concern:

Be it known that I, CHARLES H. DRESSEL, a citizen of the United States, residing in the borough of Manhattan, in the city, county, and State of New York, have invented an Improvement in Signal-Lanterns, of which the following is a specification.

My invention relates particularly to such signal-lanterns as are employed upon railroads in connection with semaphore and other signals and by trainmen in the performance of their duties; and my invention has special reference to the construction and operation of the color-glasses of the signal-lanterns, with the object both of readily turning the same and of employing as few parts as possible in the mechanism, it being understood that the shifting of the glasses to change the color of the light is effected externally of the lantern and without removing the lantern from its position of use.

In the device of my invention the frames of the color-glasses are operated directly by and from the axes upon which they are mounted in the box-casing built upon the side of the lantern-body adjacent to the lens-glass. One color-glass is mounted upon a sleeve which passes through the box-casing and terminates outside the lantern in a knurled disk, while the other color-glass is mounted upon a shaft which passes through said sleeve and terminates in a thumb-nut outside of the casing and beyond said disk, said shaft at its inner end having a bearing in the body of the lantern. The frames of the color-glasses at their ends adjacent to their pivots are made as cams, and I provide suitable springs to engage said cam ends to hold the color-glasses and their frames in either their operative or inoperative positions.

In the drawings, Figure 1 is an elevation of a lantern in small size. Fig. 2 is an elevation and section through the lantern-body and casing built over the side of the lantern-body, showing the devices of my improvement. Fig. 3 is a plan and horizontal section of the parts shown in Fig. 2, also showing the lens-glass and its frame associated with the color-glasses illustrated. Fig. 4 is a longitudinal section and partial elevation at $x x$ of Fig. 3. Fig. 5 is an elevation, and Fig. 6 an edge view, of one of the frame-arms and its color-glass. Fig. 7 is a plan of the sleeve adapted to pass

through the color-glass frame of Figs. 5 and 6. Fig. 8 is an elevation, and Fig. 9 an edge view, of the other frame-arm and its color-glass; and Fig. 10 is a plan of the shaft and thumb-nut associated with the frame-arm in Figs. 8 and 9.

Referring to Fig. 1, the lantern-body a is provided with lens-glasses b and frames b' therefor, also with a hinged top and a bail for carrying the lantern about by hand, and c represents a box-casing built on the side of the lantern-body adjacent to the lens-glass. In Fig. 1 only one of these casings is shown, as the other is out of view. Referring particularly to Figs. 2 to 10, inclusive, it will be noticed that the frame b' of the lens-glass is constructed within the lantern, as shown especially in Fig. 3, and provided with an aperture at 6 which agrees in diameter substantially with the diameter of the color-glasses in their frames for the purpose of obliging all the light of the lamp of the lantern to pass through the color-glass. The casing c built on the side of the lantern-body and adjacent to the lens-glass is in large part open to the interior of the lantern. This will be apparent from Figs. 2 and 3. The frame-arms $d e$ for the color-glasses are made of connected parts in any desired manner, their construction being described in Letters Patent granted to Robert Black July 18, 1905, No. 795,096. Adjacent to the pivot ends of these frame-arms the same are provided with cam ends 2 3, and $d' e'$ represent color-glasses in said frame-arms, the red glass being located in the frame-arm d and the green glass in the frame-arm e . The pivotal openings of these frame-arms are preferably square, although they may be of any other configuration except circular, and it will be noticed that the opening in the arm d is larger than the opening in the arm e .

f is a sleeve provided with a circular knurled disk f' , the major portion of the sleeve f being square or of other configuration to fit the opening in the arm d .

g is a shaft, on one end of which is a thumb-piece g' . This shaft g passes through the sleeve f , and so much thereof as passes through the sleeve is circular and so much as projects beyond the sleeve is formed square or of other configuration to fit the opening in the frame-arm e . (See Figs. 8 and 9.) From this it will be apparent that the sleeve f

passes through the frame-arm *d*, and the shaft *g* passes through the sleeve *f* and through the frame-arm *e*. The sleeve *f* passes through an opening in the casing *c*, built on the side of the lantern-body. Consequently the frame-arm *d*, carrying the red glass *d'*, comes next in a vertical plane to the lens-glass, the shaft *g* passing through the sleeve *f* and through an aperture in the lantern-body where a bearing 4 is provided for said shaft, a pin 5 being employed in said shaft to secure the same in position and prevent accidental removal. In this box-casing *c* are placed springs *h h* of flat spring metal and of the loop form shown in Figs. 2 and 3, the opposite ends of the springs being brought together beneath clips *h*², secured to the inner surface of the casing, the central portion of each spring being provided with a hump. (See Fig. 2.) Fig. 2 illustrates the frame-arms with their color-glasses, the one in its operative and the other in its inoperative position—that is, the lower frame-arm *e* is in its operative position and the upper frame-arm *d* in its inoperative position—and in either position the cam ends 2 3 are held in position by the peculiar form of said cam ends taking at opposite sides of the hump of the spring.

In the operation of the device the fingers grasp either the knurled disk *f'* to turn the frame-arm *d* and its red glass or the thumb-piece *g'* to turn the shaft *g* and its frame-arm *e* and green glass the one into the operative position and the other into the inoperative position, and from a knowledge of the construction of the lamp the operator always knows which color-glass is being brought into the operative position, because the knurled disk *f'* is associated with the red glass and the thumb-piece *g'* with the green glass, and when the parts are turned in one direction they are turned down and in the other direction turned up, and it is always necessary in operating the glasses to turn one down and the other up. It would therefore seem that an error of the employee is almost impossible in operating this device.

Few parts are employed, there are no loose parts to get misplaced or out of order, the parts are in close relation to one another, and only require the hand of the attendant to operate them.

I claim as my invention—

1. In a signal-lantern, the combination with the body and lens-glass and a box-casing built on the side of the body and open to the interior thereof, of a pair of frame-arms and their color-glasses, a two-part revoluble support therefor and separate and independent means for operating the same.

2. In a signal-lantern the combination with the body and lens-glass and a box-casing built on the side of the body and open to the interior thereof, of a pair of frame-arms and

their color-glasses, a two-part revoluble support therefor, separate and independent means for operating the same, and similar separate means for maintaining the said frame-arms in their operative and inoperative positions.

3. In a signal-lantern, the combination with the body and lens-glass and the box-casing built on the side of the body and open to the interior thereof, of a pair of frame-arms and their color-glasses, a sleeve connected to one frame-arm and passing through the casing, a shaft passing through said sleeve and through the other frame-arm and having a bearing in the body of the lantern, and means for independently actuating the said frame-arms, and other means for maintaining them in their operative and inoperative positions.

4. In a signal-lantern, the combination with the body and lens-glass and the box-casing built on the side of the body and open to the interior thereof, of a pair of frame-arms and their color-glasses, a sleeve connected to one frame-arm and passing through the casing, a shaft passing through said sleeve and through the other frame-arm and having a bearing in the body of the lantern, a knurled disk on said sleeve outside the casing for turning the same and the color-glass connected therewith, a thumb-piece on the shaft outside the casing and beyond said knurled disk for turning the same and the frame-arm connected with said shaft, and means for maintaining said frame-arms in their operative and inoperative positions.

5. In a signal-lantern, the combination with the body and the lens-glass and the casing built on the side of the body and open to the interior thereof, of a pair of frame-arms and their color-glasses, a sleeve connected to one frame-arm and passing through the casing, a shaft passing through said sleeve and through the other frame-arm and having a bearing in the body of the lantern, a knurled disk on said sleeve outside the casing for turning the same and the color-glass connected therewith, a thumb-piece on the shaft outside the casing and beyond said knurled disk for turning the same and the frame-arm connected with said shaft, and means for maintaining said frame-arms in their operative or inoperative positions.

6. In a signal-lantern, the combination with the body and lens-glass, of a pair of frame-arms and their color-glasses, a sleeve connected to one frame-arm and a bearing-support therefor, a shaft passing through said sleeve and through the other frame-arm and having a bearing in the body of the lantern, a knurled disk on said sleeve outside the casing for turning the same and the color-glass connected therewith, a thumb-piece on the shaft outside the casing and beyond said knurled disk for turning the same and the

frame-arm connected with said shaft, and means for maintaining said frame-arms in their operative and inoperative positions.

7. In a signal-lantern, a frame-arm, a color-glass held thereby, a cam end to said frame-arm, a pivot for the frame-arm, means for operating the said arm and a double end or loop spring having a central hump and adjacent depressions adapted to engage the cam end of the frame-arm and hold the same in either its operative or inoperative position.

8. In a signal-lantern, a frame-arm and a color-glass received thereby, said frame-arm having an opening other than circular, a sleeve having a surface configuration adapted to fit said opening and constructed so as to be turned by hand, a shaft passing through said sleeve, a second frame-arm and a color-glass held thereby having a smaller opening other than circular and adapted to receive a portion of said shaft having a corresponding surface configuration, substantially as described.

9. In a signal-lantern, a frame-arm and a

color-glass received thereby, said frame-arm having an opening other than circular, a sleeve having a surface configuration adapted to fit said opening and constructed so as to be turned by hand, a shaft passing through said sleeve, a second frame-arm and a color-glass held thereby having a smaller opening other than circular and adapted to receive a portion of said shaft having a corresponding surface configuration, and each arm provided adjacent to its opening, with a rounded or cam end, and springs each adapted to bear upon said cam end and having a hump coming at either one side or the other of said cam ends so as to hold said arms in their operative and inoperative positions.

Signed by me this 15th day of September, 1905.

CHARLES H. DRESSEL.

Witnesses:

GEO. T. PINCKNEY,
S. T. HAVILAND.