

(No Model.)

J. A. CARTER & C. A. WILLIAMS.
SIGNAL LIGHT.

No. 554,861.

Patented Feb. 18, 1896.

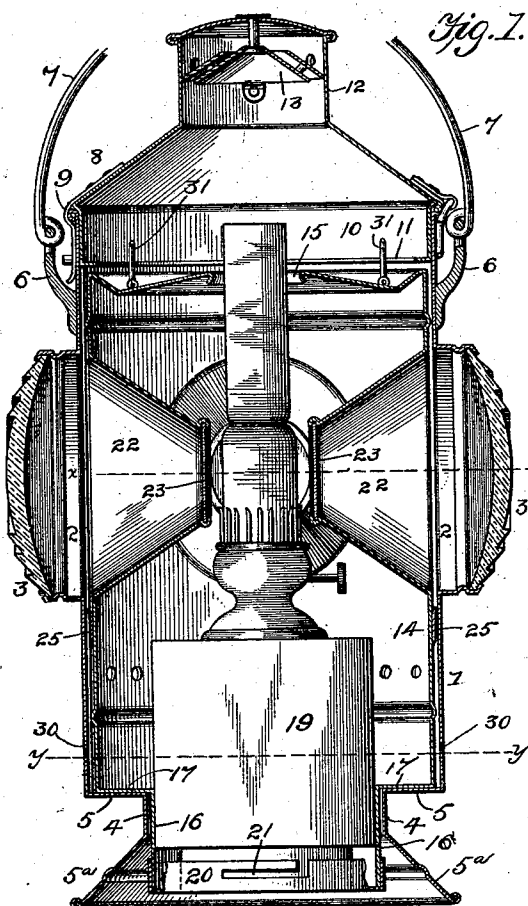


Fig. 1.

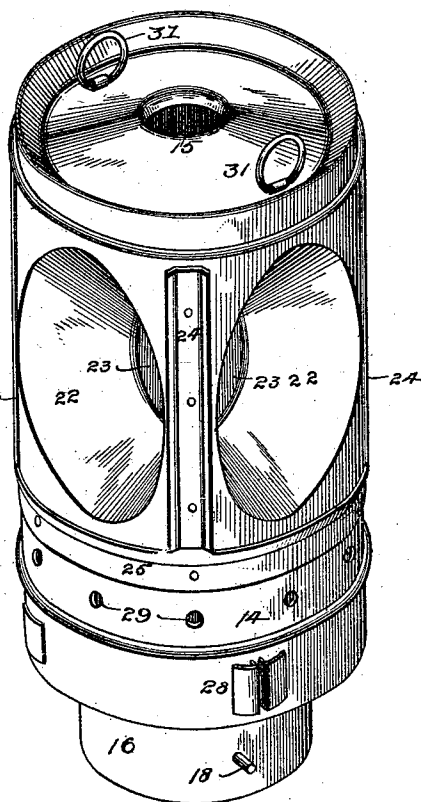


Fig. 2.

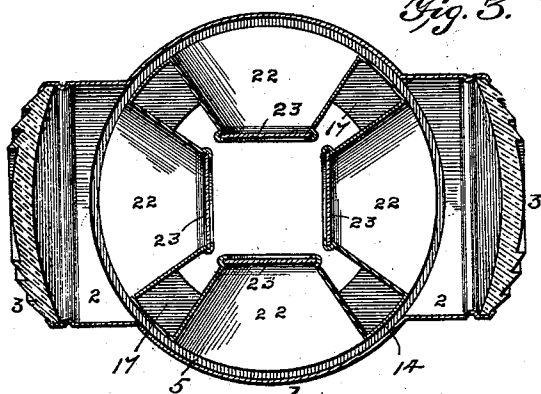


Fig. 3.

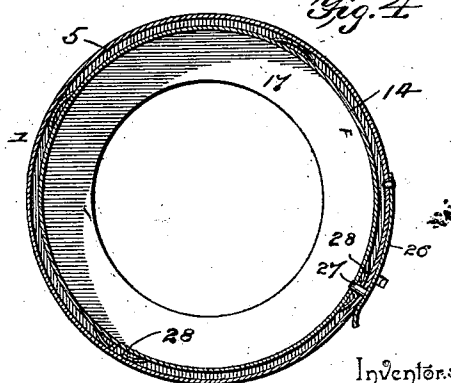


Fig. 4.

Witnesses

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UNITED STATES PATENT OFFICE.

JOHN A. CARTER AND CHARLES A. WILLIAMS, OF BELLEVILLE, KANSAS.

SIGNAL-LIGHT.

SPECIFICATION forming part of Letters Patent No. 554,861, dated February 18, 1896.

Application filed September 7, 1895. Serial No. 561,832. (No model.)

To all whom it may concern:

Be it known that we, JOHN A. CARTER and CHARLES A. WILLIAMS, citizens of the United States, residing at Belleville, in the county of
5 Republic and State of Kansas, have invented a new and useful Signal-Light, of which the following is a specification.

This invention relates to an improvement in signal-lanterns, being designed especially
10 as a tail-end light for use upon cabooses.

The object of the present invention is to provide a simple, inexpensive, and efficient signal-lantern which shall comprise an outer cylinder or jacket forming the main body of
15 the lantern and an inner cylindrical case having a series of reflectors of peculiar form and arrangement provided with different-colored glasses, said inner cylindrical case being capable of being revolved for bringing a glass of
20 the desired color into operation, and of being held at the desired adjustment.

Other objects and advantages of the invention will appear in the course of the subjoined description.

25 The invention consists in the combination, with an outer metallic cylinder or jacket in which is mounted a pair of lenses, located diametrically opposite to each other, of an inner cylindrical case provided with a series of
30 radial inwardly projecting and converging conical reflectors carrying glasses of different colors, said inner case being capable of being revolved within the outer cylinder or jacket for the purpose of bringing glasses of
35 the desired colors into the range of the lenses, and means for holding the inner cylinder or case at a fixed point.

The invention also consists in certain novel features and details of construction and arrangement of parts whereby certain advantages in point of simplicity and efficiency are attained, as hereinafter fully described, illustrated in the drawings, and finally pointed out
40 in the claims.

45 In the accompanying drawings, Figure 1 is vertical section through a complete signal-lantern constructed in accordance with this invention. Fig. 2 is a perspective view of the inner revolvable cylindrical case. Fig. 3 is a
50 horizontal section through the complete lantern, taken on the line *xx* of Fig. 1. Fig. 4 is

also a horizontal section taken on the line *yy* of Fig. 1.

Similar numerals of reference designate corresponding parts in the several figures of the
55 drawings.

Referring to the accompanying drawings, 1 designates the outer cylinder or jacket of the lantern, which is formed of sheet metal and provided upon opposite sides with laterally-
60 projecting annular flanges 2, forming tubular seats, in which are placed and secured lenses of any preferred character and power, as shown at 3. At or near its base said cylinder or jacket is reduced in diameter, as at 4, which forms
65 a horizontal annular shoulder 5, adapted to receive and support the inner cylinder or case, hereinafter described. Below such reduced portion the cylindrical jacket is provided with a flaring or conical base 5^a, by which the lan-
70 tern may be supported in an upright position. At or near its upper end the outer cylinder or jacket is provided with suitable perforated ears 6, which receive a carrying-bail 7.

8 designates a conical top or cover, which
75 fits snugly within the upper end of the jacket 1, and is hinged thereto, as shown, being held closed by means of a spring-catch 9, which snaps over a stud or pin just beneath the upper edge of the jacket. The top or cap 8 is
80 provided with a depending flange 10 of reduced diameter, which extends downward within the jacket 1 into close proximity to the upper edge of the inner cylindrical case, where it is provided with an inwardly-projecting
85 annular lip or stop 11, the object of which is to hold the inner case in place and prevent upward movement thereof. The top or cap 8 is provided at its apex with a hollow dome
90 12, which is perforated, as shown, to afford an exit for the heat and smoke from the lamp, and within such dome is arranged a ventilating-deflector 13, for preventing a draft of air from entering the body of the lantern and extinguishing the light, while permitting the
95 free egress of heat and smoke and affording the proper circulation of air for producing the proper combustion in the lamp.

The inner case (designated by the numeral 14) is also made from sheet metal, is cylindrical in form and of slightly-less diameter than
100 the internal diameter of the outer cylinder or

jacket. This inner case is provided with a closed top, with the exception of a small central aperture 15, which is adapted to receive and permit the passage of the lamp-chimney. At its base the inner case is reduced in diameter, as indicated at 16, thus forming a horizontal shoulder 17, which rests upon the corresponding horizontal annular shoulder 5 of the outer jacket. The reduced base of the inner case projects downwardly through the reduced base 4 of the outer jacket, and is provided with a pair of pins 18, which are adapted to engage the base-flange of a lamp, (indicated at 20.) This is accomplished by reducing the diameter of the body of the lamp 19 at the base thereof and securing thereto a disk or circular plate of slightly-larger diameter than the body of the lamp and forming said plate with an upwardly-projecting annular flange 20, adapted to embrace and surround the reduced base 16 of the inner case or cylinder 14. The upwardly-projecting flange 20 is provided upon each side with bayonet-slots 21, which are adapted to receive the pins 18 and support the lamp within the inner case or cylinder in a manner that will be readily understood.

22 designates a series of four reflectors, which are arranged in the same horizontal plane and disposed at equal intervals around the inner revoluble case or cylinder. These reflectors are made in the conical form shown or with inwardly-converging side walls, and may be formed integrally with or secured to said inner case. At their rear or inner and adjacent ends said reflectors are provided with small circular panes of glass 23 or other suitable translucent material of different colors. Under the preferred arrangement three of the glasses are green, while the fourth one is red. In addition to these colored glasses curved sheets of glass or pieces of flexible translucent material may be placed over the outer ends of the reflectors by engaging the edges thereof beneath the flaring or outwardly-projecting edges of vertically-extending cleats or guides 24 and the upwardly-projecting flaring edge of a horizontally-extending ring or guide 25, extending around the case beneath the reflectors. It is preferred, however, to use simply the colored glasses 23 at the inner or contracted ends of the reflector.

The inner case or cylinder may be turned or revolved within the outer jacket and is adapted to be held in the desired position by means of a spring 26, secured to the outer surface of the jacket 1 and carrying at its free end an inwardly-projecting pin or stud 27, which passes through a perforation in said jacket and is adapted to engage between the adjacent faces of a pair of inclined ribs or projections 28, secured to the inner case near the bottom thereof. Two or more sets of inclined projections 28 may be employed for holding the inner and outer cylindrical cases at the desired relative positions. By providing the

projections 28 with inclined outer faces the pin 27 is adapted to ride over the same and drop into the space between their adjacent edges. Air is supplied to the interior of the inner case by means of suitable perforations 29 therein and other perforations, 30, disposed near the base of the outer jacket.

31 designates lifting rings or loops secured to the upper wall or top of the inner case, whereby the latter may be lifted and removed from the outer jacket.

From the foregoing description it will be apparent that the inner cylindrical case may be revolved within the outer jacket so as to bring two green glasses between the interior light and the diametrically-opposite lenses, or a green glass on one side and a red on the other. When at the desired adjustment, the inner case is held from turning farther by means of the pin 27, as hereinabove described. By means of this construction the proper lights and signals may be displayed, and this with the use of a single lantern only.

While especially designed as a caboose-lamp, it will be apparent that the device hereinabove described may be used for signaling purposes in other places.

It will also be apparent that changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. A signal-lantern, comprising an outer cylindrical jacket, a plurality of lenses disposed diametrically around and carried by said jacket, an inner revoluble case of cylindrical form fitting snugly within the outer case and provided with a series of reflectors disposed circumferentially around the same and extending radially inward, said reflectors being provided at their contracted inner ends with sheets or panes of translucent material of different colors, and a lamp detachably seated in the inner case and removable through the bottom thereof, all substantially as and for the purpose described.

2. In a signal-lantern, an outer cylindrical jacket formed with a lens-opening, and a lens arranged therein, in combination with an inner revoluble cylindrical case provided with a series of reflectors and different-colored glasses carried thereby, the base of said inner case having a reduced diameter adapting it to pass through the corresponding reduced base of the outer jacket, and a lamp provided at its base with an upwardly-extending annular flange having formed therein bayonet-slots adapted to engage with pins or studs carried by the reduced base of the inner case, substantially as and for the purpose specified.

3. In a signal-lamp, an outer cylindrical jacket formed with a lens-opening and a lens arranged therein, in combination with an inner revoluble cylindrical case, a series of

conical reflectors carried thereby and projecting radially inward, a pair of lugs or projections carried by said inner case and having reversely-inclined faces, and a spring-catch
 5 carried by said outer jacket and having a pin or stud adapted to ride over and engage between said inclined projections or lugs, substantially as and for the purpose described.

4. In a signal-lantern, an outer cylindrical
 10 jacket having a lens-opening and a lens mounted therein, in combination with an inner revoluble cylindrical case provided with a series of conical reflectors disposed at regular intervals around said inner case and project-
 15 ing radially inward, and a series of strips or guide-plates secured to the outer surface of the inner case and provided with outwardly flaring or projecting edges adapted to receive translucent sheets or panes of different colors,
 20 substantially in the manner and for the purpose described.

5. In a signal-lantern, an outer cylindrical jacket having a lens-opening, and a lens mounted therein, in combination with an in-

ner revoluble cylindrical case having a series
 25 of conical reflectors disposed horizontally around the same and projecting radially inward, and a hinged top or cap connected with the outer jacket and formed with a depending
 30 annular flange adapted to be disposed within the upper end of said jacket and formed with a horizontal annular lip or stop arranged
 35 above and in close proximity to the upper edge or top of the inner case, for limiting the upward movement of the latter, substantially as set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of witnesses.

JOHN A. CARTER.

CHARLES A. WILLIAMS.

Witnesses to signature of John A. Carter:

W. G. SPRAGUE,

ULRICH W. SPRAGUE.

Witnesses to signature of Charles A. Williams:

W. G. HARRING,

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