

No. 689,621.

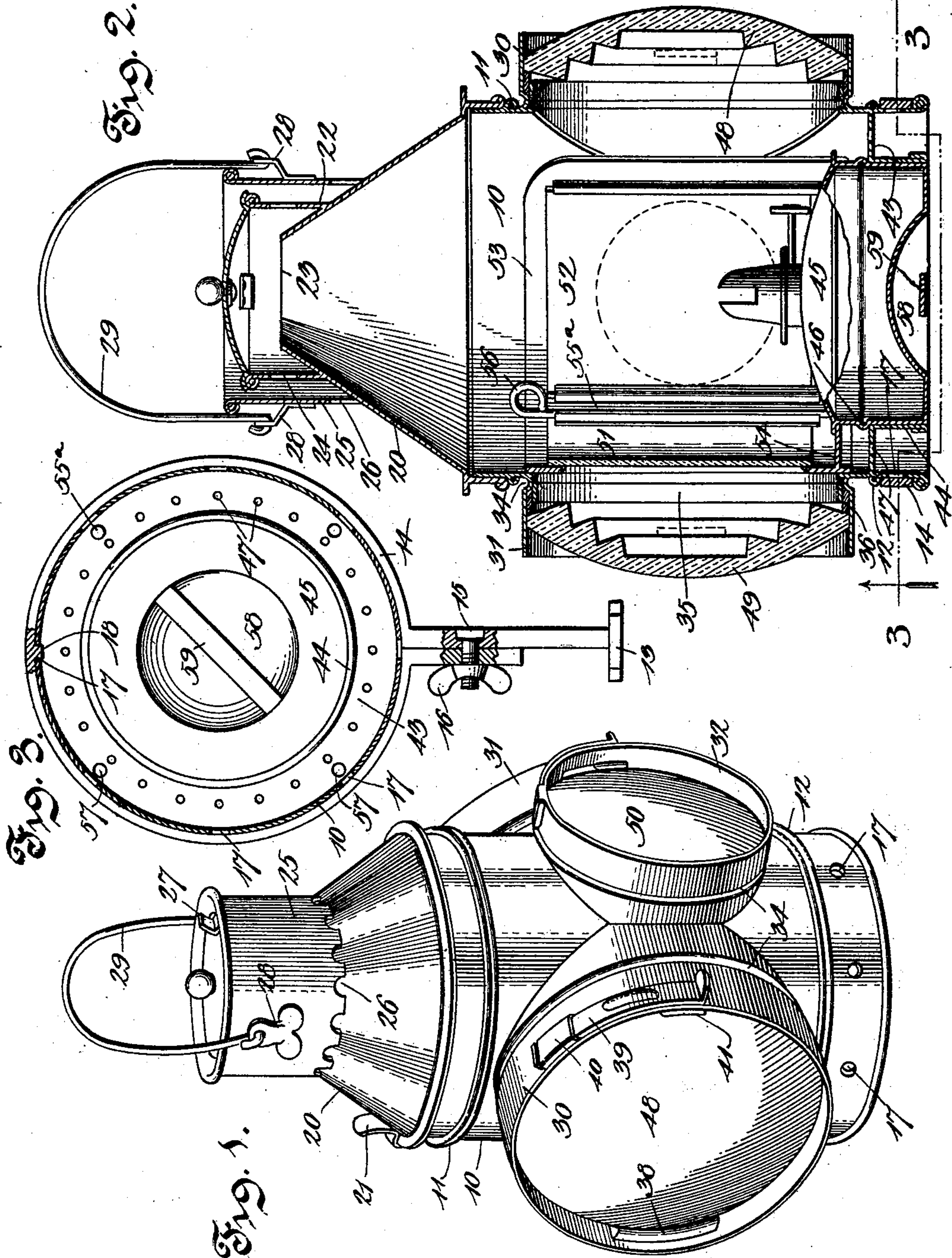
Patented Dec. 24, 1901.

E. E. NOBLE.  
SIGNAL LANTERN.

(Application filed Feb. 7, 1901.)

(No Model.)

2 Sheets—Sheet 1



Witnesses  
*J. H. K. K. K. K. K.*  
*G. C. C. C. C.*

*Ernest E. Noble,* Inventor.  
By *C. A. Snow & Co.*  
Attorneys

No. 689,621.

Patented Dec. 24, 1901.

E. E. NOBLE.  
SIGNAL LANTERN.

(Application filed Feb. 7, 1901.)

(No Model.)

2 Sheets—Sheet 2.

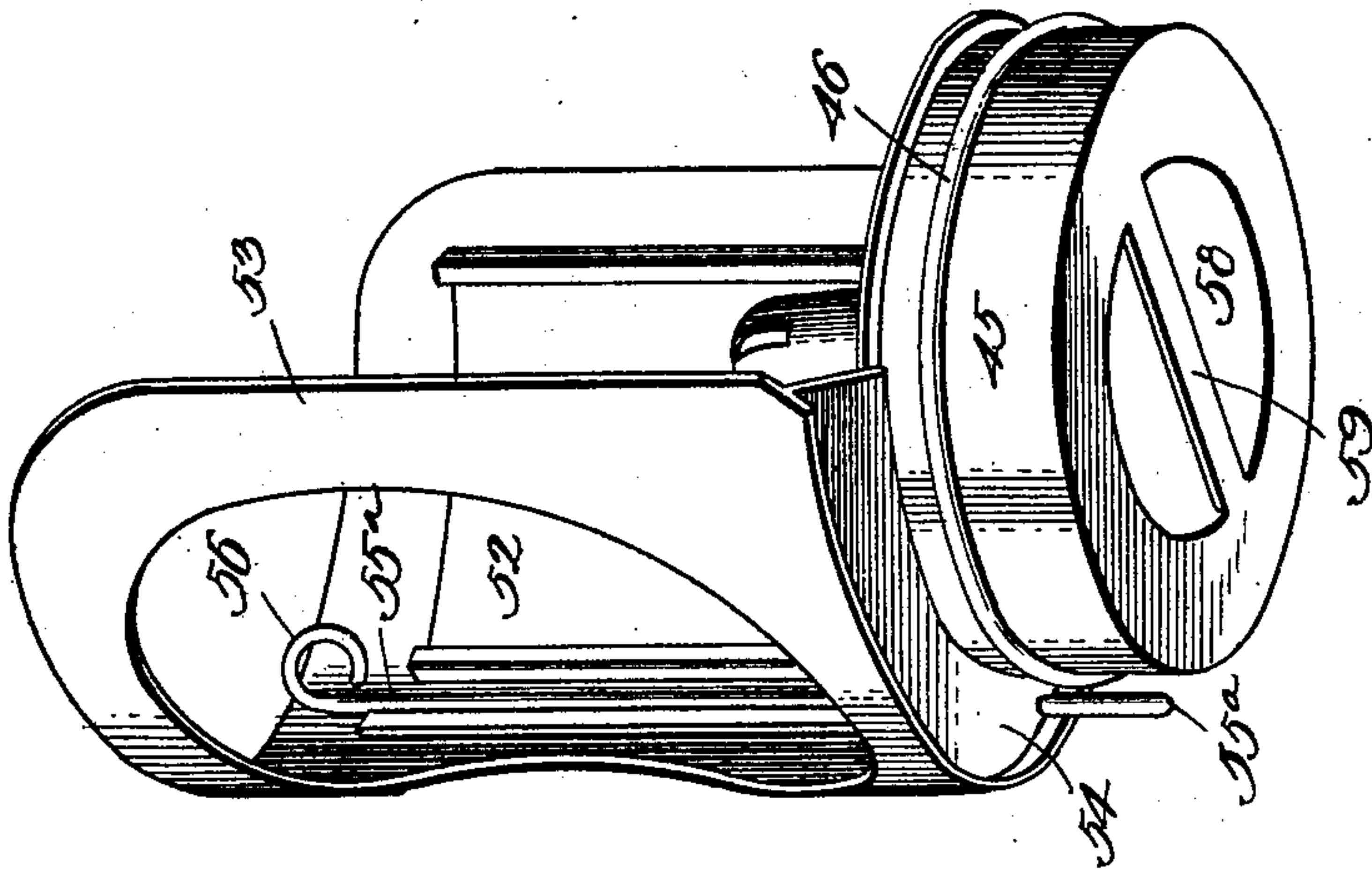


Fig. 5.

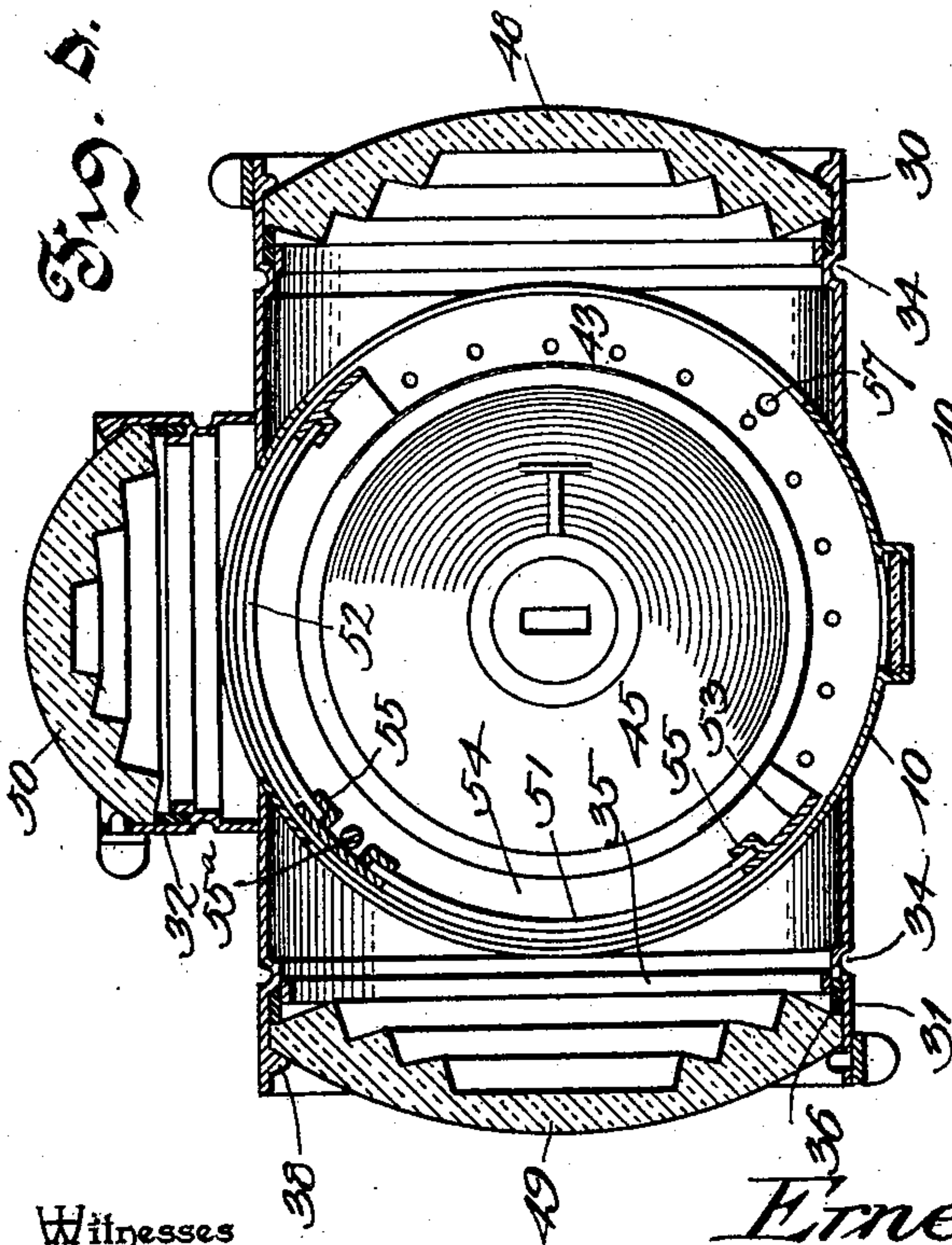


Fig. 4.

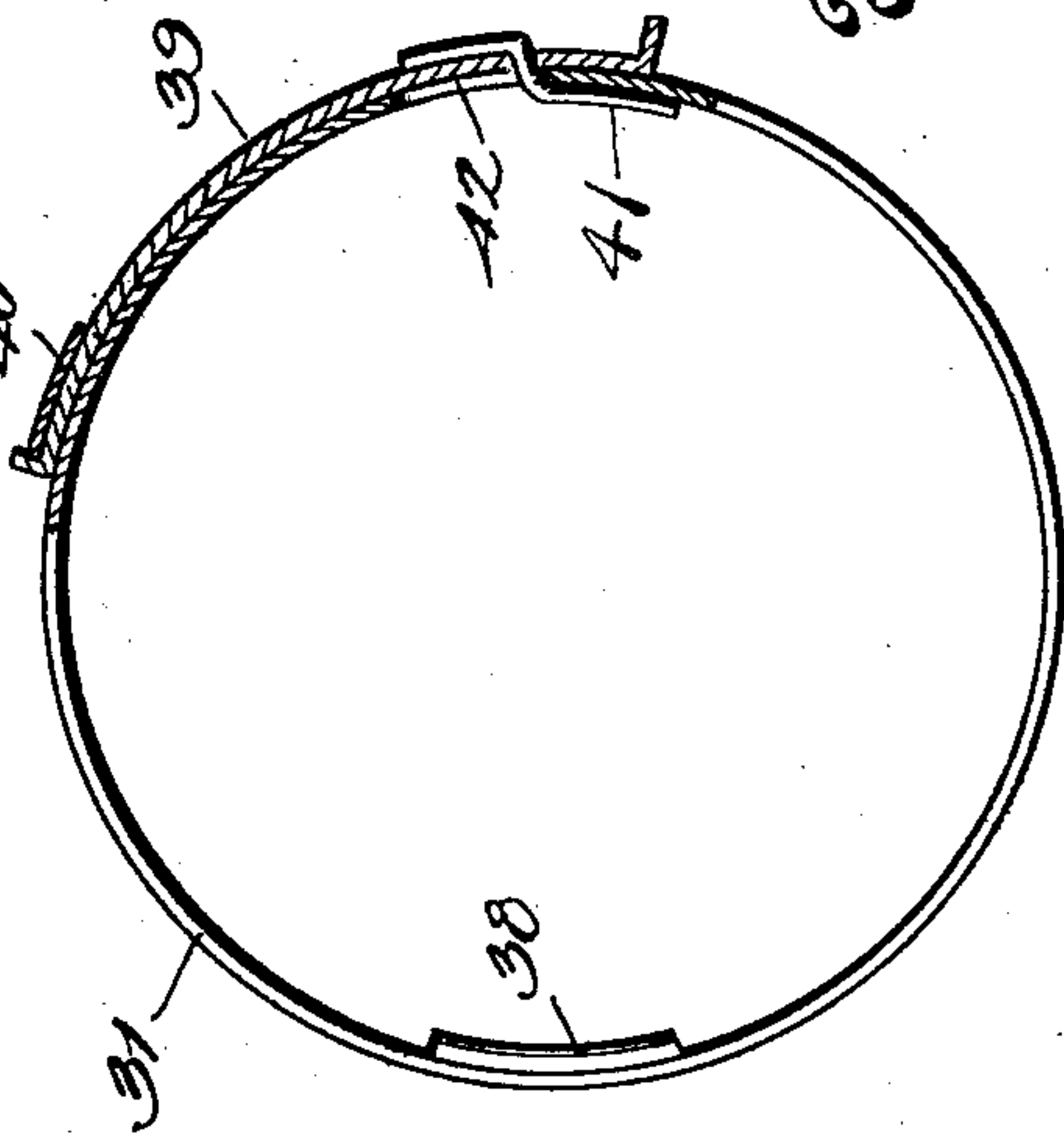


Fig. 6.

Witnesses

*J. Frankland Lowell.*  
*Geoff. Chandler.*

*Ernest E. Noble,* Inventor.

By *C. A. Snow & Co.*  
Attorneys



# UNITED STATES PATENT OFFICE.

ERNEST EVERETT NOBLE, OF PRINCETON, INDIANA.

## SIGNAL-LANTERN.

SPECIFICATION forming part of Letters Patent No. 689,621, dated December 24, 1901.

Application filed February 7, 1901. Serial No. 46,380. (No model.)

*To all whom it may concern:*

Be it known that I, ERNEST EVERETT NOBLE, a citizen of the United States, residing at Princeton, in the county of Gibson and State of Indiana, have invented a new and useful Signal-Lantern, of which the following is a specification.

This invention relates to signal-lanterns; and it has for its object to provide a lantern for use upon trains and such as are attached thereto to indicate signals to the engineer of the train carrying the lanterns or to following trains or to stations along the railway, although it will be understood from the following description that the principles involved may be embodied in a lantern for use upon switch-stands, towers, and in other places from which signals are given.

The invention has for its object specifically to provide a lantern wherein by rotating the oil-font the colors of the lenses may be changed to give different signals, or a lens may be darkened, as desired, and, furthermore, to provide for adjusting the font from the bottom of the lantern and without opening the body of the lantern, and also to provide a simple and efficient means for holding the font in its adjusted positions.

A further object of the invention is to provide a construction of chimney wherein an efficient draft will be assured and into which rain cannot beat.

Additional objects of the invention are to provide a simple and efficient supporting-bracket which may be adjusted to permit of rotation of the lantern or to hold it firmly against rotation and to provide such a mounting of the lenses as will permit them to be easily removed, while air-currents are prevented from forcing their way into the lantern.

In the drawings forming a portion of this specification, and in which like numerals of reference indicate similar parts in the several views, Figure 1 is a perspective view showing the complete lantern as designed for attachment to a car. Fig. 2 is a vertical central section through the lantern, a portion of the font being shown in elevation. Fig. 3 is a transverse section through the base of the lantern on line 3 3 of Fig. 2 and showing the bottom of the font. Fig. 4 is a transverse section of the lantern, taken in the plane of

the horizontal diameters of the lenses. Fig. 5 is a perspective view of the font and the glass frame carried thereby and showing the under side of the font with the latching and lifting pin. Fig. 6 is a sectional view through a lens-frame and showing the arrangement of the latch for holding the lens therein.

Referring now to the drawings, the present lantern includes a cylindrical body portion 10, at the upper and lower portions of which are formed circumscribing-beads 11 and 12, the body of the lantern below the bead 12 being adapted to engage a supporting-arm for holding the lantern to its support. This supporting-arm includes a stem portion having a wedge-shaped block 13 at one end for engagement with a tapered keeper-plate upon a car or locomotive, while the opposite end of the stem is bent to form a split ring 14, the free end of which overlaps and lies against the side of the stem and is held thereagainst by a bolt 15, having a thumb-nut 16. This split ring is of spring metal, and when the thumb-nut is operated the ring is clamped upon the base of the lantern or released therefrom. To hold the base of the lantern most securely within the split ring, perforations 17 are formed in said base, and which perforations are adapted for interchangeable engagement by a lug 18 upon the inner face of the ring, this lug preventing rotation of the lantern in the ring, as also upward displacement of the lantern from the ring without first releasing the end of the ring to permit of expansion of the latter. The perforations in the body of the lantern are so positioned as to permit of adjustment of the lantern to its various operative positions hereinafter described.

At the upper end of the body of the lantern is hinged the frusto-conical top 20, which is adapted to rest with its lower edge upon the upper bead 11 when in closed position and is held in such position by means of a spring-clip 21. The upper minor end of the lantern-top is open, and disposed against the outer face of the top at a point below the edge of the opening at the top of the latter is a cylindrical cap 22, which reaches above the edge of said opening and the upper end of which is closed. In the sides of this cylindrical cap and in a horizontal plane above the edge of the opening 23 in the top, above referred to,



are formed perforations 24, which permit the draft that rises in the body of the lantern and passes outwardly through opening 23 to pass outwardly of the lantern and at the same  
 5 time to give thereto an upward direction from the opening 23. To assist the draft through the openings 24 when high winds prevail, a wall 25 is fixed upon the top 20 of the lantern, concentric with the cap and spaced outwardly  
 10 therefrom, and this wall extends to a point above the wall of the cap 22. In the lower edge of the wall are formed arcuate openings 26, so that wind in striking against the sloping top of the lantern will pass inwardly  
 15 through the openings 26 and will move upwardly between the cap and wall and in passing the openings in the wall of the cap will assist the draft therethrough. The top of the cap is hinged to the wall of the cap, so  
 20 that it may be raised when desired, and it is held normally lowered by means of a spring-catch 27. Ears 28 are formed upon or secured to the wall 25 at diametrically opposite points thereof and are perforated to receive  
 25 the ends of a bail 29.

In the present construction fore and aft lens tubes 30 and 31 are fixed to the body of the lantern to lie horizontally, said tubes being alternately fore and aft as the lantern  
 30 may be changed from one side to the other of a car, as will be understood, and projecting at right angles to the common axis of these tubes is a third lens-tube 32 to display a side light. While the tube 32 is of lesser diameter than the tubes 30 and 31, the construction thereof and the means for holding a lens therein are the same, so that a description of one lens-tube will suffice for them all. The tube comprises an outer member of cylindrical form and which is provided with an inwardly-projected bead 34 at a proper distance from the outer end thereof, and against the inner face of this bead is secured a ring 35, which projects forwardly beyond the bead to  
 35 form an annular seat for a gasket 36, and against this gasket the lens is seated and is held so tightly as to form an air-tight joint to prevent wind blowing into the body of the lamp around the edges of the lens.

To hold the lens firmly against its gasket, a lug 38 is formed upon the inner face of the lens-tube and spaced forwardly from the gasket, so that the edge of the lens, which is tapered, may be wedged behind the lug. To  
 50 hold the diametrically opposite edge of the lens, a bolt is provided, and consists of a spring-metal strap 39, which is slidably engaged with a keeper 40 upon the lens-tube and which has a hook-finger 41 attached thereto. A slot 42 is formed in the lens-tube of sufficient size to permit of movement of the hook laterally therethrough, and when in such position said hook lies against the outer face of the lens and prevents outward movement  
 60 thereof. By moving the strap 39 longitudinally after passing the hook through the slot said hook is engaged with the inner face of

the lens-tube and is held thereby against outward movement. To release the hook from the lens, the strap is slid through its keeper  
 70 until the hook aligns with the slot, after which the strap may be raised to carry the hook through the slot and out of contact with the lens, which latter may be then removed, as will be understood. To facilitate operation  
 75 of the spring-strap, it is provided with a terminal finger-piece, as shown.

To provide a font-rest, an inwardly-directed shoulder 43 is formed interiorly of the lantern-body and adjacent to the lower end thereof, 80 this shoulder being in the form of a flange, and at the inner edge of the shoulder is a depending flange 44 concentric with the lantern-body. The font 45, which is cylindrical in form, is adapted to fit within the flange 44  
 85 and to rest with its outwardly-directed bead 46 upon the shoulder 43, and through the shoulder beyond the bead of the font are formed ventilating-openings 47.

The lantern herein shown is rigged for use 90 upon the rear car of a train and at the right-hand side thereof, and for this reason the lens 48 in the tube 30 is a white lens, while the lens 49 in the tube 31 is a green lens, and the lens 50 in the tube 32 is a green side light. 95 As is well known, the lantern on the rear car must show a green light forward to indicate to the engine-men that the train is intact, while when running it must show a red light aft, which must be changed green or darkened  
 100 when the train has entered a siding to signal a following train. For this reason the lens 48 must cast green rays at times and at other times must cast red rays or be darkened in the place of casting green rays. In order that  
 105 this change in the coloring of the lens 48 may be made without necessitating removing the lantern from its support, glasses 51 and 52 are carried by the lantern-font for movement therewith to lie interchangeably between the  
 110 lens and the burner of the lantern to correspondingly color the lens. These glasses are mounted in two frames formed by an arcuate metallic plate 53, attached to an outwardly-directed flange 54 at the upper edge of the  
 115 font and which plate extends half-way around the font and has two windows therein provided with vertical channel-beads 55 at their sides, and in these channel-beads are received the edges of the glasses, so that they may be  
 120 raised and lowered, as may be desired, to displace or place them. By rotating the lantern-font in its seat either glass may be brought to lie between the burner and lens. When the signal system of a road requires that the rear  
 125 light be darkened when the train is on a siding, a metal plate may be substituted for the green glass in the frame on the font.

To lift the font from the body of the lantern and also to provide for locking it in its  
 130 adjusted positions, a rod 55<sup>a</sup> is secured to the inner face of the plate 53, one end thereof extending above the plate and having a ring or handle 56 formed thereon, while the opposite



end of the rod extends through the flange 54 and is tapered for engagement interchangeably with openings 57 in the shoulder 43. The handle is used when it is desired to raise the font from the body of the lantern; but when the lantern is in operative position to provide for shifting it rotatably the bottom of the font is recessed, as shown at 58, and transversely thereof is secured a strip 59, forming a handle that may be grasped to first raise the font to disengage the rod from a perforation and then to turn the font to properly position the glasses carried thereby. In this way the rear light may be changed at will.

With this construction it will be seen that the lantern may be used either on the right or left of the car by simply reversing the positions of the two lenses 48 and 49 and that for use upon a locomotive, where a forward light and a side light are shown, it is only necessary to omit either tube 30 or 31, depending upon the side of the locomotive at which the lantern is to be used, and to place the proper colored lenses in the remaining tubes.

What is claimed is—

1. A lantern having an opening therein for egress of light, a font rotatably mounted in the lantern, and a glass carried by the font and rotatable therewith into and out of position to cover the opening, said font being accessible through the bottom of the lantern for direct engagement thereof to permit of rotation of the font to rotate the glass.

2. In a lantern, the combination with a body portion having openings therein, of a supporting-bracket including a stem and a split spring-ring adapted to receive the body of the lantern, said ring having a lug on its inner face for engagement with the openings of the body and having means connected with its ends for clamping the ring upon the body.

3. A lantern having a lens therein, a rotatable font accessible through the bottom of the lantern to permit of direct engagement thereof to rotate it and provided with a burner,

and colored glasses carried by the font and rotatable therewith to lie between the burner and lens.

4. A lantern having a lens, a rotatable font accessible through the bottom of the lantern to permit of direct engagement thereof to rotate it and provided with a burner, colored glasses carried by the font and rotatable therewith to lie between the burner and lens, and means for holding the font in its adjusted positions.

5. A lantern having a lens, a rotatable font provided with a burner, a support for the font having perforations therein, glasses carried by the font and rotatable therewith to lie between the burner and lens to color the latter, and a pin carried by the font for engagement with the perforations interchangeably to hold the font in its adjusted positions.

6. A lantern having a lens, a rotatable font in the lantern, said font being accessible through the bottom of the lantern to permit of direct engagement thereof to rotate it, a frame carried by the font for rotation therewith to lie between the lens and the burner of the font, said frame being adapted to receive slides to affect the light through the lens.

7. The combination with a lens-tube having a seat therein, a lug in advance of the seat at one side of the tube and an opening in the tube at the opposite side thereof, of a plate slidably mounted upon the tube and having a hook-finger for engagement through the opening of the tube and adapted to engage behind the inner face of the tube when the plate is slid, to hold a lens in position against the seat and behind the lug.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ERNEST EVERETT NOBLE.

Witnesses:

PHILIP L. DRESCHER,  
F. J. MOORHEAD.