

(No Model.)

2 Sheets—Sheet 1.

W. S. HAMM.
SIGNAL LANTERN.

No. 553,462.

Patented Jan. 21, 1896.

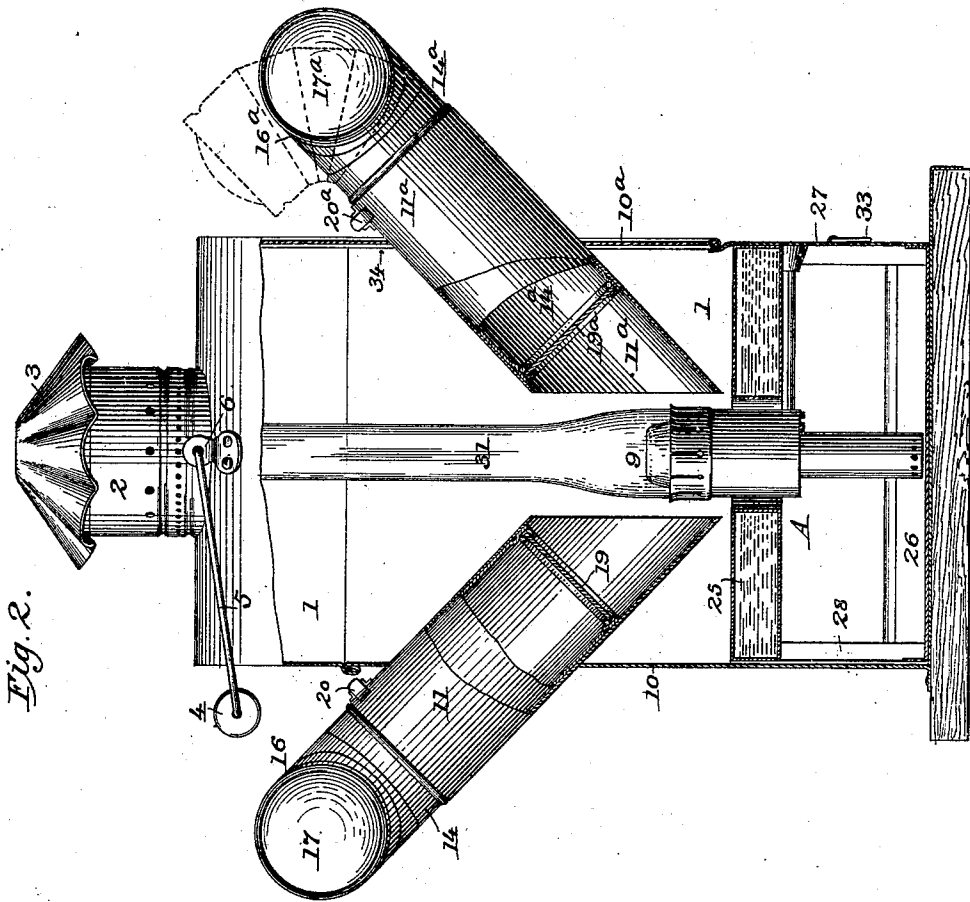


Fig. 2.

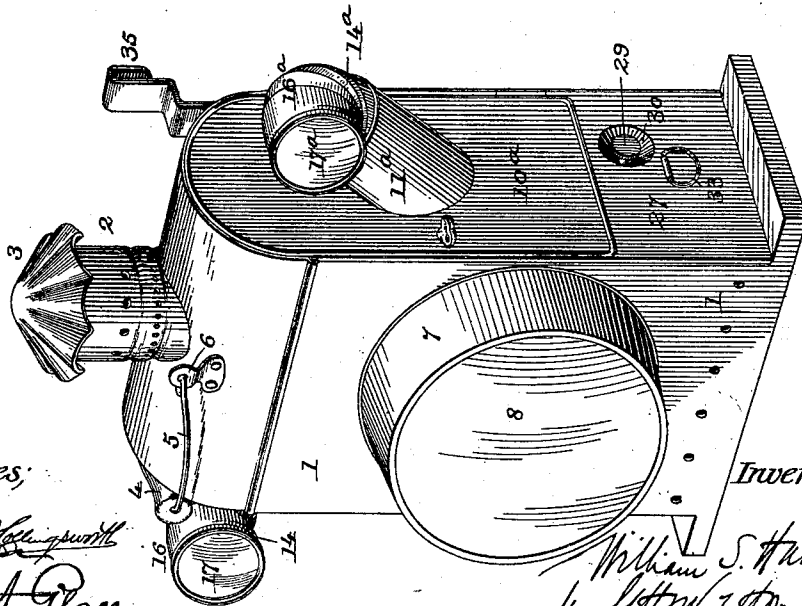


Fig. 1.

Witnesses;

Samuel P. Hildesworth
Chas. A. Grace

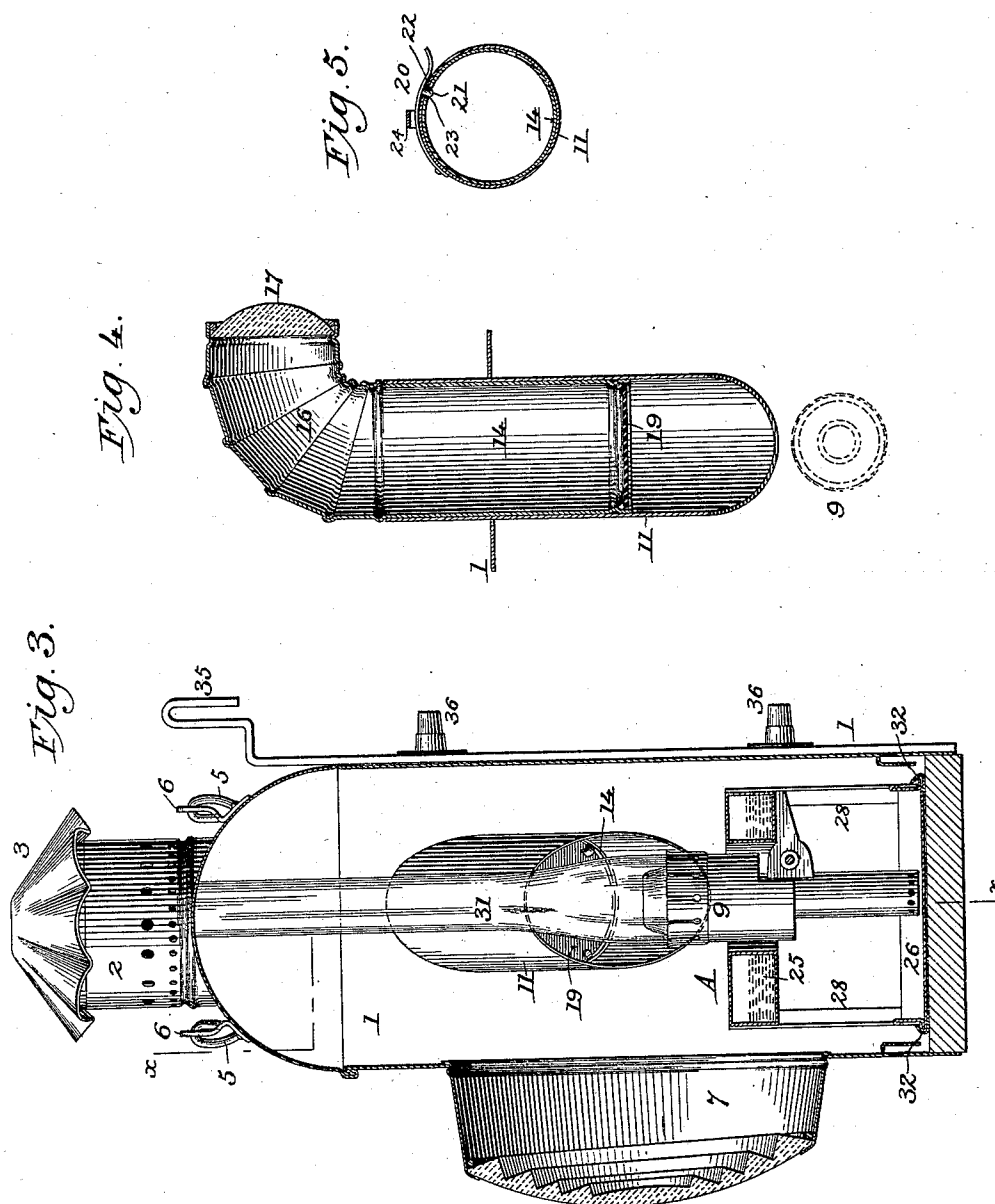
Inventor,

William S. Hamm,
by Wm. T. McLaughlin atty

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Witnesses;
Sidney P. Clingworth
Chas. J. Place.

Inventor,
William S. Hamm,
by W. T. Howard Atty.

UNITED STATES PATENT OFFICE.

WILLIAM S. HAMM, OF CHICAGO, ILLINOIS.

SIGNAL-LANTERN.

SPECIFICATION forming part of Letters Patent No. 553,462, dated January 21, 1896.

Application filed November 27, 1894. Serial No. 530,173. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. HAMM, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful
5 Improvements in Signal-Lanterns, of which the following is a full, clear, and exact description.

This invention is intended more particularly for use on electric, cable, and other motor cars, but may be otherwise employed, and to constitute a combined danger and classification
10 signal.

It is usual to provide a signal-light to indicate the approach of the car, and also separate means whereby the classification of the
15 train of which the car forms a part as to route, street, number, or otherwise is designated; and the purpose of the present invention is to furnish a single device capable of
20 performing these functions.

In the accompanying drawings, Figure 1 is a perspective view of my improved lantern. Fig. 2 is a vertical longitudinal section thereof. Fig. 3 is a vertical transverse section.
25 Figs. 4 and 5 are details hereinafter described.

Similar letters and figures of reference indicate similar parts in the respective figures.

1 is the case of the lantern, which may be of any suitable construction, having a perforated ventilator-tube 2 and a hood 3. A
30 handle 4 is attached to a bail 5, secured to lugs 6 on the case. The front of the case 1 is perforated and provided with a rim 7 having a lens or plain glass 8, (herein shown as an eight-inch smooth-faced semaphore,) which is
35 adapted to the correct focusing-point with respect to the burner. (Indicated by 9.) The sides of the case 1 are represented by 10 10^a, the latter being hinged to the case as a door.
40 Each side is perforated, and has a tube or tubes extending toward the burner 9. These tubes are represented by 11 11^a, each tube extending at an angle inward through a side of the case 1, and also outside thereof to form a
45 socket.

It will be seen that the inner end of each tube 11 or 11^a is cut off so as to offer to the burner or flame an elongated or elliptical opening, the edges of which stand in a vertical
50 line or plane parallel to the vertical center line or axis of the lamp and chimney, thus presenting an increased area of light-receiv-

ing surface, for, as the inner surfaces of the tubes are bright or burnished, an effective reflecting-surface is the result of this construction. The openings at the ends of the tubes
55 11 11^a are arranged so that they shall be substantially opposite and in close proximity to the flame, and by their elongation they receive light from the entire length or height
60 of the flame, the light thus collected, concentrated, and directed by reflecting-surfaces of such extended area exerting greatly-improved results in the nature of the illumination produced and thrown outside the case from the
65 lenses. By the arrangement of tubes shown the signal-lenses are brought above the horizontal axis of the front glass, and the signals exhibited by said lenses are more effective
70 and more easily distinguishable than would be the case if the signal-lenses were in or near the plane of the horizontal axis of the front glass. By the presentation of the long
75 axes of the open ends of the tubes to the vertical line of the flame the illuminating effect of the full length of the flame is received within the tube, whereas if the short axes of the openings were so presented the result would obviously be different, and less light
80 would be projected from the signal-lenses.

I am aware of street-car lamps in which side signals are displayed in substantially the plane of the horizontal axis of the front glass, the signal-tubes extending within the case in such horizontal plane and presenting
85 at their inner ends the short axes of elongated openings to the vertical line of the flame of the lamp, and to such a construction I make no claim, my invention differing therefrom in that the display of the front signals is in
90 a plane above or away from that of the horizontal axis of the front glass, thus making such display more vivid, easily seen and more readily distinguishable than it would be were it given at or near the plane of the horizontal
95 axis of the front glass. Besides this, in such constructions heretofore known the long axis of the elongated opening is not presented to the vertical center line of the flame, and therefore the illuminative effect of the full
100 length of the flame is not utilized.

In addition to the advantages above mentioned as attending my invention the arrangement of the tubes within the case at an

angle produces greater compactness in construction in preventing unnecessary length of projection of the tubes from the casing.

Within each tube 11 11^a is placed, tele-
 5 scopically, a tube, the pair being shown by 14
 14^a, each having a bend or elbow 16 or 16^a at
 its outer end, in which is inserted a bull's-
 eye or other lens, preferably of white glass.
 (For this construction see more particularly
 10 Fig. 4.) The two bull's-eyes or lenses are
 shown by 17 17^a. In the lower end of either
 tube 14 or 14^a is placed a piece of glass of any
 desired color, the said glasses being shown by
 19 19^a. The tubes 14 14^a are held so that
 15 their elbows 16 16^a shall extend at the proper
 angle, preferably so that the axes of the bull's-
 eyes or lenses shall stand in a horizontal
 plane by means of spring-catches 20 20^a se-
 20 cured to the outer surfaces of the sockets,
 the spring-catches having each a pin 21
 which passes through holes 22 and 23 in the
 sockets and inner tubes, respectively. The
 outward movement of each spring-catch is
 limited by means of a yoke 24. This feature
 25 is shown in Fig. 5.

The lamp proper (shown as a whole by A)
 used within the lantern may be of any suit-
 able construction, and is here shown as em-
 bracing an oil-receptacle 25, raised above the
 30 base 26 and supported by the plate 27 and feet
 28, and as having an ordinary Argand burner,
 the wick of which is adapted to be raised by
 means of the usual wick-raising wheel oper-
 ated through the medium of a head or button
 35 29, situated within a depression 30 in the
 plate 27. The burner 9 is provided with an
 ordinary glass chimney 31. The lamp A, as
 a whole, is adapted to slide in ways 32 within
 the case 1 of the lantern and to be withdrawn
 40 therefrom through the medium of a hinged
 ring 33. When the lamp A is in place, the
 plate 27 which constitutes the end of the
 lamp fits against the flanged ends 34 of the
 case, the lower edge of the door lapping over
 said plate, so as to secure the lamp within
 45 the case, said plate 27 and the door closing
 up one entire end thereof.

The lantern is furnished with hooks 35, by
 means of which it is secured to the car, and
 50 also with elastic buffers 36, which serve to
 hold it against the car in a manner reducing
 shock and jar.

The construction and arrangement of the
 front lens or semaphore 8 and the side tubes
 55 with their respective glasses and bull's-eyes
 or lenses afford a direct signal given ahead
 through the medium of the front lens or

semaphore, as also classification signals, of
 the required colors, through the medium of
 the bull's-eyes or lenses, the bright interior 60
 surfaces of the tubes 11 11^a reflecting the
 rays through the colored glasses to and
 through the tubes 14 14^a, and the bright in-
 terior surfaces of said tubes 14 14^a reflecting
 the rays to and through the white bull's-eyes 65
 or lenses 17 17^a at the outer ends of said
 tubes.

I do not limit myself to the character of the
 front lens or semaphore, or to the telescopic
 arrangement of the tubes 11 11^a and 14 14^a, 70
 being evident that the tubular arrangement
 at each side of the case may be solid and lack-
 ing the telescopic character herein shown.
 It is evident that the glasses 19 19^a within
 the tubes 14 14^a may be omitted, and the 75
 bull's-eyes or lenses 17 17^a made of glass of
 the requisite color, although the construc-
 tion herein described is preferred. These
 and other details of construction may be de-
 parted from without affecting the general na- 80
 ture of my invention; but

What I claim is—

1. In a lantern of the character described,
 the combination of a case, a lamp within the
 same and tubes extending downwardly from 85
 the exterior of said case within the same at
 an angle, the inner ends of said tubes being
 cut off in vertical planes parallel to the ver-
 tical center or axial line of the lamp and
 burner, and the elongated openings at said 90
 inner ends of the tubes being situated at op-
 posite sides of the burner, said tubes being
 each provided with a lens at its outer end;
 substantially as set forth.

2. In a lantern of the character described, 95
 the combination of a case, a lamp within the
 same and tubes extending downwardly from
 the exterior of said case within the same at
 an angle, the inner ends of said tubes being
 cut off in vertical planes parallel to the ver- 100
 tical center or axial line of the lamp and
 burner, and the elongated openings at said
 inner ends of the tubes being situated at op-
 posite sides of the burner, said tubes being
 each provided with a signal glass near its 105
 lower end and a lens at its outer end; sub-
 stantially as set forth.

In testimony whereof I hereto set my hand
 and seal.

WILLIAM S. HAMM. [L. S.]

Witnesses:

ALFRED POWERS,
 F. W. GEO. PHILLIPS.