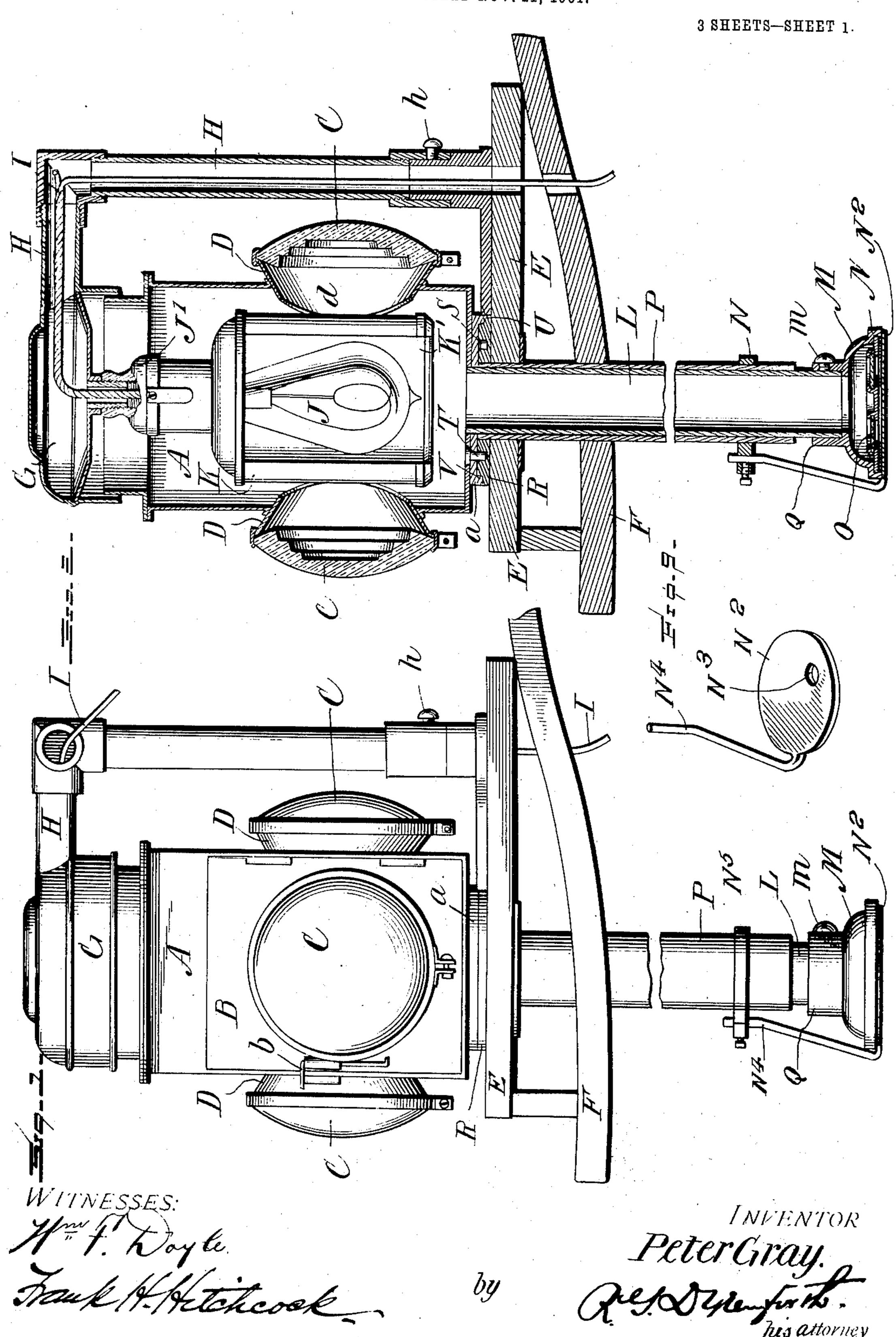
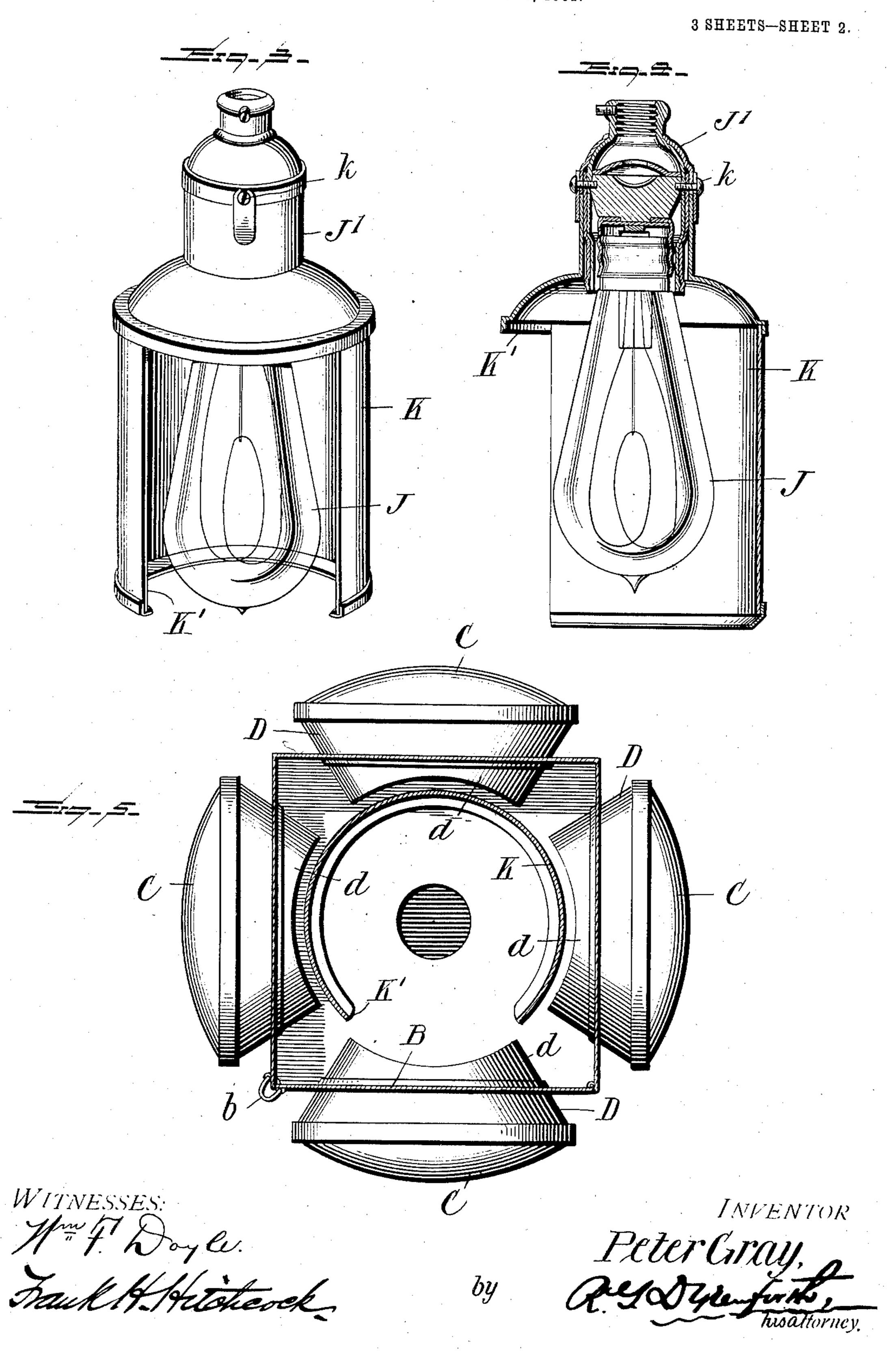
P. GRAY.

SIGNAL DEVICE.

APPLICATION FILED NOV. 21, 1901.

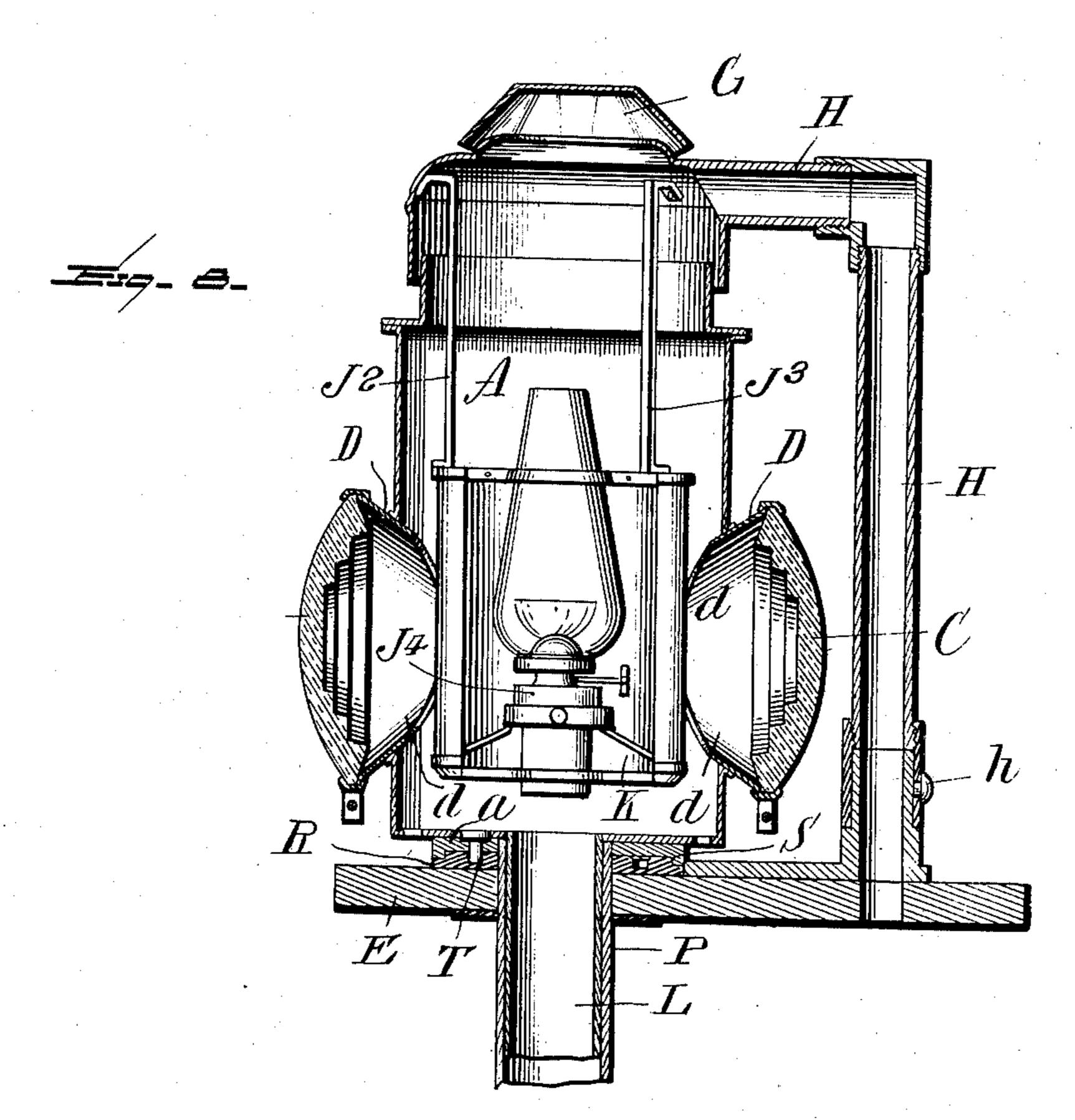


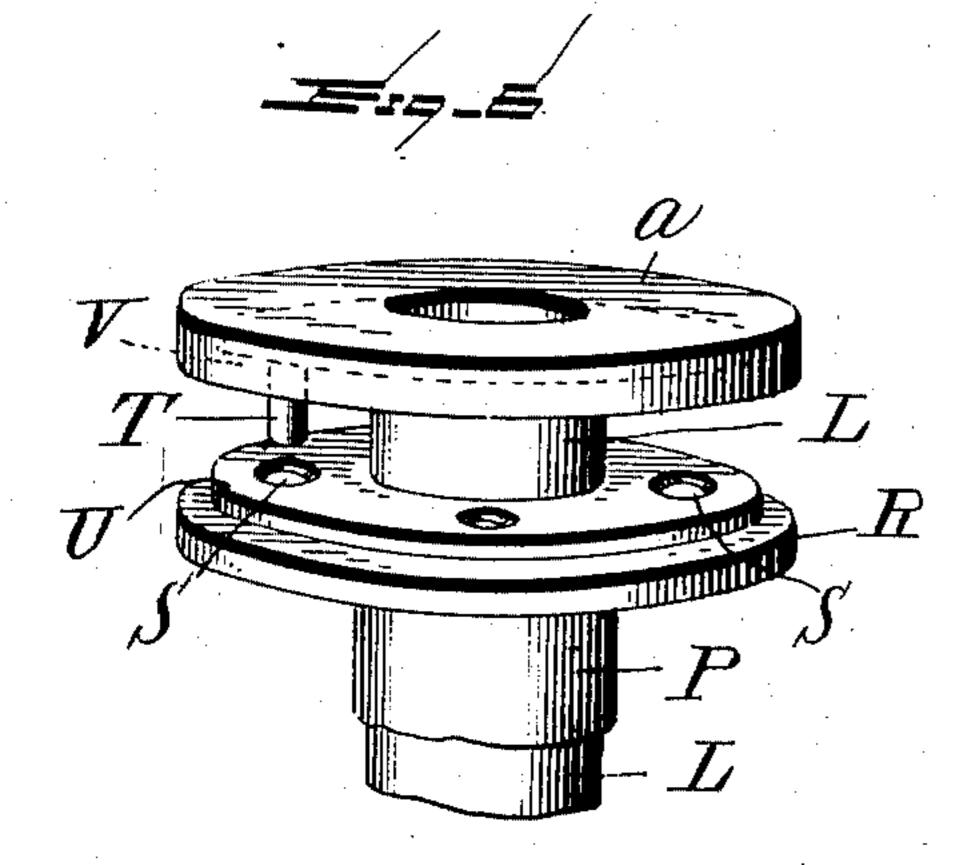
P. GRAY. SIGNAL DEVICE. APPLICATION FILED NOV. 21, 1901.

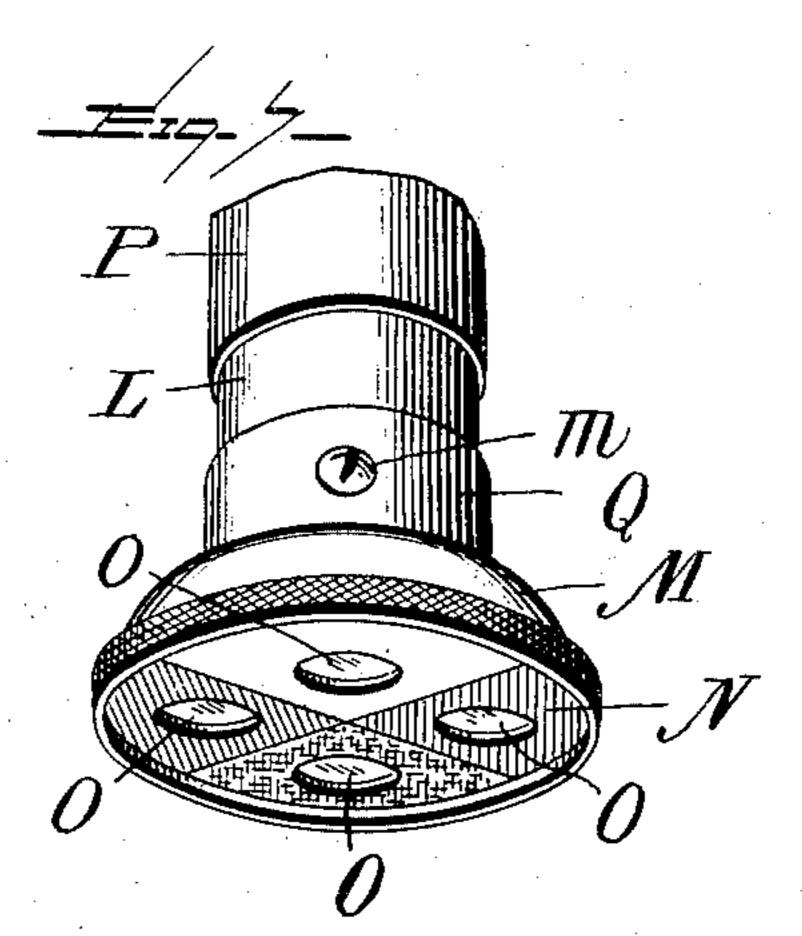


P. GRAY. SIGNAL DEVICE. APPLICATION FILED NOV. 21, 1901.

3 SHEETS-SHEET 3.







WITNESSES:

If the Royle

Sand Aftertalooch

Peter Gray,

Resolution of the forth,

hus attorney

04

UNITED STATES PATENT OFFICE.

PETER GRAY, OF CAMBRIDGE, MASSACHUSETTS.

SIGNAL DEVICE.

No. 868,546.

Specification of Letters Patent.

Patented Oct. 15, 1907.

Application filed November 21, 1901. Serial No. 83,039.

To all whom it may concern:

Be it known that I, Peter Gray, a citizen of the United States, residing at Cambridge, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Signal Devices; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

10 My invention relates to improvements in signal-devices and has special reference to signal-lanterns used in connection with railways, whether surface or elevated, where it is desired to display a given signal and to render it visible only in a particular direction or directions.

My invention has for a further object the attainment of means whereby the operator, conductor, motorman, or engineer, may, from his post, readily and certainly adjust the signal, as may be desired, and as readily as-20 certain the signal that is being displayed by his car or train; and, further, a signal-securing device that shall be positive in its action, simple and durable in construction, and practically incapable of getting out of order.

To attain these desired objects, my invention consists of a signal-device embodying certain novel features of construction and combination of parts, as are substantially disclosed herein; it being understood that I do not confine myself to the specific arrangement and application preferably used by me, as it is obvious that the same parts may be used in different ways and be variously modified, without departing from the spirit of my invention as described and claimed.

My invention is applicable to signal-devices, whether illuminated by oil, gas, electricity, or other means, and especially such signal-lanterns for railway-cars, signal-towers, switches, and the like, as are provided with a plurality of apertures carrying lenses of various colors arranged about a common light-source, the construction of the lantern permitting it to be revolved upon its vertical axis in such a manner as to display any one of several signals, at the will of the operator.

It is sometimes desired to mask a light from certain directions, or from all directions save one, in order that the observer may not be confused by a multiplicity of lights, even though they be of different colors. As, for instance, upon a railway-line having a curve or loop, or other lines crossing at an angle, signal-lanterns of the old type carried by trains on an intersecting track would disclose laterally signals which might readily be mistaken by the observer for signals carried by a train approaching him, and of entirely different import.

1 provide means by which the signal-lights may be displayed or masked, as desired, and the lantern secured in an operative position, and by means of which the operator may be able to adjust the signals at will

and ascertain with certainty the signal that is being displayed and know that the light is properly burning. All of which will be hereinafter more particularly set out. Preferably such means are embodied in a lantern 60 comprising a light inclosing body provided with a plurality of regions adapted to permit the passage of light rays from a source of light within, such regions forming signals, and a screen, the body and screen being relatively movable so as to permit the view of light 65 rays from such of the signal regions as may be desired. But by relatively movable I do not wish to imply that both the light inclosing body and screen are capable of motion; all that is necessary is that the two members shall not be stationary with reference to each other. 70 An indicator is also provided, having signals corresponding to those of the body; and means are furnished for selecting for observation such of these signals as correspond to the signals made visible in the body.

Considering the invention more specifically from the 75 same point of view, the preferred embodiment includes a rotatably supported lantern body having a plurality of signal regions, and a second member comprising a cap, a stationary screen, and a source of light, all independently supported with reference to the lantern 80 body and removable together from the open top thereof. These and numerous other complete combinations of parts will be pointed out broadly and then specifically in the claims.

In order that the details of construction and arrangement, and the operation and advantages, of my invention may be readily understood, I have illustrated in the accompanying drawings (in which similar letters refer to similar parts throughout), a prefered form of the same, as applied to a signal-lantern.

In these drawings: Figure 1 is a view in front elevation of a signal-lantern embodying my improved features of construction; Fig. 2 is a view in vertical section of a lantern-body, displaying in operative position a screen and incandescent lamp, also electrical con- 95 nection; Fig. 3 is a front view in perspective of my screen in coöperative relation with an incandescent lamp; Fig. 4 is a side view in vertical section, showing the relative arrangement of the upper portion of the hood and electrical connections of the ordinary incan- 100 descent bulb; Fig. 5 is a plan view, partly in horizontal section, showing the relative arrangement of the lightsource, the screen, and the signal-lenses or apertures of the lantern, with flanges; Fig. 6 is a perspective view of the stepped support or base, upon which the lantern 105 rests when in operative position, and shows the slots and a lug coöperating to secure the lantern against rotation; Fig. 7 is a perspective view of the cap affixed to the lower end of the depending, two-part, tubular stem (Figs. 1 and 2), serving as a hand-piece, by means of 110 which the lantern may be rotated, and carrying on its lower surface an indicator-disk provided with vari-

colored sectors and indicator-glasses corresponding in position and color to the signals carried by the lantern. Fig. 8 is a view showing my device as applied to a signal lantern using oil as an illuminant. Fig. 9 is a de-5 tail view of the indicator-screen or masking-device carried by the depending two-part tubular stem.

Referring more specifically to the construction as illustrated in the drawings, A is an open-topped lantern-body provided with a hinged door B, with its fas-10 tening b, and carrying a plurality of signal-apertures fitted with lenses C of different-colored glass. The lenscasings D extend inward, forming flanges d. The lantern is shown as rotatably mounted on the support E above the car-roof F and adapted to be operatively 15 rotated by means of a hollow stem extending below the roof and serving as a pivot, as will be more fully explained hereafter.

Above the lantern-body is the usual hood G, which may be ventilated, or not, according as the lantern is used with different illuminants. By reason of the fact that flange G1 loosely encircles the open top of the lantern body, hood or cap G may be readily removed from the body, and, when in position, permits the rotation and limited vertical movement of the lantern body. As shown, this hood and tubular support, together with their attending appurtenances, may be readily removed by loosening the screw h, thus affording ready access to the interior of the lantern-body. Cap G carries means for supporting a source of light within the 30 lantern body. Such means may consist in a socket J¹ for receiving an incandescent bulb J, as shown in Fig. 2, or, as illustrated in Fig. 8, may constitute suitable

supporting brackets J², J³ for bearing an oil lamp J⁴.

Bulb J is operatively connected with wires I and,

35 through them, to any suitable generating system. Also mounted upon the hood G and inclosing the lamp J is a screen K removably secured in position by means of the screws k, and so adjusted as to obstruct the passage of the light in all save desired directions. 40 Ordinarily, this casing would be constructed with the opening on but one side, as at K', and thus permit but one signal-lens to be illuminated at a time; but, in the event that it be desired to display two or more lights in combination, the casing can be made with a plurality 45 of openings in the directions desired, without departing from the spirit of my invention. The lamp J and screen K, being attached to the hood G, are readily removed with it from the lantern by loosening the screw h, as stated.

By means of the flanges d projecting inward from the lens-casing D and adapted to fit closely about the screen K, as shown in Fig. 5, the rays of light from the lamp J are effectually shut off from all lenses other than such as may be in front of the screen-opening.

Opening into the lantern-body A and depending from the bottom à thereof, through the roof F, and within easy reach of the operator, is a tubular stem L. Upon the end of the stem, or in any other position convenient. of access, is affixed, by means of the screw m, a cap M, 60 which serves as a hand-piece, by means of which the lantern may be rotated. This cap carries a disk N, with the sectors of its surface colored to correspond to the signal-lenses of the lantern, with which it rotates. The disk also carries the indicator-glasses O, corre-65 sponding in color and position to the signal lenses

This tubular stem is so disposed relative to the lamp that its bore coincides with the direction of light radiation, and the lamp thus serves to illuminate the indicator-glasses and enable them to be easily read; also, by means of the indicator-glasses, the operator may 70 assure himself that the light is properly burning. If desired, this indicator-cap may be so masked as to display but one color, that corresponding to the color displayed by the lantern, as, for instance, by an indicatorscreen or masking-device N2, provided with an opening 75 N³, and supported upon the stem for shutting off the light from all the apertures save one, said indicatorscreen being carried by a hanger N⁴ adjustably sustained by a ring N⁵ which encircles the stem P (hereinafter described), as shown in Figs. 1 and 2; or all the 80 colors may be simultaneously shown, their relative positions indicating to the operator which signal is being displayed. The cap M is fixed to the stem which depends from the lantern, and serves as a handle to be grasped by the operator when he desires to rotate the 85° lantern, in order to display a different signal.

Secured to and depending from the lantern-support is another tubular stem P, adapted to inclose the indicator-stem L and serve as a bearing or guide within which it may be rotated, and permitting, also, of a lon- 90 gitudinal movement limited in extent by the flange or stop Q formed by the cap M upon the end of the indicator-stem L. By means of the extended bearing afforded by this bearing or guide P, the vertical and revoluble movements of the lantern are rendered free from 95 lateral play and given greater precision. Carried by the upper end of this tubular guide is a plate or base R provided with slots S corresponding in number to the signal-lenses in the lantern and so arranged as to engage one or more lugs T depending from the bottom a 100 of the lantern-body. This plate R is also provided with a step U adapted to extend upward within a corresponding recess V (shown in dotted lines in Fig. 6) in the lantern-base a, and thereby serve as an additional security against accidental disengagement of the lugs 105 and slots.

It will be understood that lugs T serve to lock the lantern body against rotation at any one of a plurality of points, and, that during rotation of the body, they ride upon the surface of plate R, thus maintaining the 110 body in an elevated position.

It will be understood, of course, that the relative arrangement of the step and recess, and also of the slots and lugs, may be changed, and that other modifications of construction and application not involving inven- 115 tion, will readily suggest themselves to a skilled mechanic.

The lantern, as constructed, consists practically in two independently supported, separable members, one member comprising the lantern body, and the other 120 member including the cap, screen and source of light or the support therefor. Support E, base R, and bottom a of the lantern body may be considered as forming, in general, the supporting means for the lantern body; and bracket H, which may be regarded as con- 125 stituting the support for the other member of the lantern, is entirely separate from and independent of such supporting means and the lantern body. By this arrangement, the construction of the lantern is greatly simplified.

130

The operation of my improved signal-lantern is as follows: The lantern-body A carrying a plurality of lenses C and inclosing a lamp J and screen K, as applied to use upon a surface or elevated railway is ordi-5 narily affixed to the roof of the car. As stated, it is usually desired that the signal shall be displayed only to those to the front of the car. In case the operator desires to display a green light, for example, he, from his post on the platform or within the car, grasps the 10 hand-piece M and, pushing upward, lifts the lantern sufficiently to free the lug T from engagement with the slot S, which it is occupying. The lug being freed by lifting, he then gives a rotary movement to the handpiece and thus revolves the lantern-body and the sig-15 nal-lenses carried by it, and, the screen remaining stationary, another signal-lens is brought to a position in front of the screen-opening K', where it can receive and transmit the light-rays. By means of the relative position and colors of the indicator-glasses O and the 20 varicolored disk N, the operator is enabled intelligently to rotate the signal-lantern so as to quickly and with certainty bring any desired signal-lens into opcrative position, and having done so, as shown by the indicator, he allows the lug to drop into the correspond-25 ing slot, which may have the upper portion of its sides beveled to serve as a guide, thus securely locking the lantern in position to display that particular signal and none other until it may be desired to effect a change.

It is to be understood that, for day-time signaling, the construction illustrated may be employed without change beyond coloring the four exterior sides of the rotatable lantern-body with the usual differentiating signaling-colors (corresponding, respectively, to those 35 of the different-colored lenses C, as already described) in which employment of the device there would, of course, be no occasion to utilize the internal source of light. The depending indicator would, likewise be provided with different-colored indicating portions.

While my invention is also adapted to use on ships, light-houses, signal-towers, and switches, and to many other applications, it is particularly adapted to service upon elevated railways, where it is desired to display. certain signals in certain directions and none other. I 45 accomplish these objects by means of a lantern simple but durable in construction, positive in action, practically proof against accidental disarrangement, and so disposed as to be readily accessible to the operator for the purpose of ascertaining whether the light is burn-50 ing and the proper signal being displayed, and of such construction as to make it easy to change the signal at the proper time with certainty and despatch.

Wherefore, having fully described my invention, what I claim as new and desire to secure by Letters-55 Patent is:

1. In a signal device, the combination with an opentopped lantern body, and means for supporting the same; of a source of light within the body and removable through such open top, and a bracket supporting said source, being independent of the supporting means for the body and mounted at one side of the body and extending above the latter.

2. In a signal device, the combination with an opentopped lantern body, and means for supporting the same; 65 of a cap covering such open top, a source of light carried by said cap within the body, and a support for the cap and source separate from the supporting means for the

body and mounted exterior to and independently of the body, the cap and source being together removable from the open top of the body.

3. In a signal device, the combination with an opentopped lantern body, and means for supporting the same; of an upright bracket distinct from said supporting means removably mounted at one side of the lantern body and' having a laterally projecting arm, a cap secured to said 75 arm and removably covering the open top of the body, and a source of light within said body carried by said cap and removable therewith from the body.

4. In a signal device, the combination with a lantern body having an open top, and with means for supporting 80 the body; of a removable cap provided with a depending flange loosely inclosing the open top of the lantern body, a source of light within the body carried by said cap and removable therewith from the body, and a support separate from the supporting means for the body secured to said 85 cap and mounted exterior to and independently of the body.

5. In a signal device, the combination with an opentopped lantern body provided with a plurality of signal regions constructed to permit the passage of light rays 90 from within; of a removable cap covering the open top of the lantern body, a screen carried by said cap and movably arranged relatively to the body to temporarily obstruct the view of light rays from certain of the signal regions, and light supporting means also carried by the cap and 95 arranged to support a source of light within the lantern body, said cap, screen and supporting means being removable as one member from the body.

6. In a signal device, the combination with an opentopped lantern body provided with a plurality of signal 100 regions constructed to permit the passage of light rays from within; of a cap arranged to give access to the interior of the body, a screen carried by said cap and movably arranged relatively to the body to temporarily obstruct the view of light rays from certain of the signal regions, 105 and light supporting means also carried by the cap and arranged to support a source of light within the lantern body, said cap screen and supporting means being movable as one member with reference to the body.

7. In a signal device, the combination with a source of 110 light, a rotatable lantern body inclosing said source and provided with a plurality of differentiated signal regions, and a support upon which the body rotates; of a station: ary screen suspended within the lantern body and removable through the top thereof, and a support for said screen 115 extending above the body, said support being independent of the body and distinct from the support therefor.

8. In a signal device, the combination with a lantern body provided with a plurality of differentiated signal regions, and means for rotatably supporting said body; of 120 a stationary screen suspended within the lantern body, a source of light carried thereby, and a support for said screen and source extending above the body, said support being independent of the lantern body and distinct from the support therefor, and the screen and source being to- $125 ilde{ ilde{r}}$ gether removable through the top of the body.

9. In a signal device, the combination with a lantern body provided with a plurality of differentiated signal regions, and means for rotatably supporting said body; of a cap covering the top of the body, a stationary screen 130 suspended from said cap within the body, and a source of light also carried within the body by the cap, said cap, screen and source being removable as one member from the top of the lantern body; and of a support for said member independent from the body and distinct from the 135 supporting means therefor.

10. In a signal device, the combination, with a source of light, a rotatable lantern body inclosing said source and provided with a pharality of differentiated signal regions, a support upon which the body rotates, and means 140 for rotating the body secured to the lower portion thereof; of a stationary screen suspended within the lantern body and removable through the top thereof, and a bracket supporting said screen, being distinct from the support for said body and mounted at one side of the body and extend- 145 ing above the latter.

11. In a signal device, the combination with a rotatable

lantern body adapted to receive a source of light, a stationary base beneath said body, and a device constructed to lock the body to said base at any one of a plurality of points and arranged to maintain the body in an elevated 5 position during rotation; of a stationary cap covering the top of the body and spaced therefrom so as to permit the elevation and rotation of the lantern body, and means for supporting said cap independently of the body.

12. In a signal device, the combination with a base, and 10 a sleeve depending therefrom and having its lower end formed in a downwardly facing bearing surface; of a lantern body rotatable on the base, means for locking said body to the base constructed to maintain the body in an elevated position during rotation, an operating stem de-15 pending from the body within said sleeve and serving as a pivot, and a stop encircling said stem arranged to engage with the bearing surface on the lower end of the sleeve to limit the elevation of the lantern body.

13. In a signal device, the combination of a light-obstructing body provided with a plurality of differentiated regions for permitting the passage of light rays from a source of light, such regions constituting signals, means for temporarily obscuring the view of light rays from certain of the regions and permitting such view from other of the regions, an indicator having signals corresponding to those of the body, and means for suppressing only those signals of the indicator corresponding to the signals obscured simultaneously in the body and for exhibiting the remainder of the indicator signals.

14. In a signal device, the combination of a light-inclosing, body provided with a plurality of differentiated regions for permitting the passage of light rays from within, such regions constituting signals, means for temporarily obscuring the view of light rays from certain of the 35 regions and permitting such view from other of the regions. an indicator having signals corresponding to those of the body, and means for suppressing only those signals of the indicator corresponding to the regions obscured simultaneously in the body and for exhibiting the remainder of the indicator signals.

15. In a signal device, the combination of a light-inclosing body provided with a plurality of differentiated regions for permitting the passage of light rays from within, such regions constituting signals, a screen, the body 45 and screen being relatively movable for temporarily obsecuring the view of light rays from certain of the regions and permitting such view from other of the regions, an indicator having signals corresponding to those of the body, and means for suppressing only those signals of the indi-50 cator corresponding to the signals obscured simultaneously in the body and for exhibiting the remainder of the indicator signals.

16. In a signal device, the combination of a light-inclosing body provided with a plurality of differentiated re-55 gions for permitting the passage of light rays from within, such regions constituting signals, means for temporarily obscuring the view of light rays from certain of the regions and permitting such view from other of the regions, an indicator having signals corresponding to those 60 of the body, and an opaque masking-plate constructed and arranged relatively to the body to screen those signals of the indicator corresponding to those signals obscured simultaneously in the body and for exhibiting the remainder of the indicator signals.

17. In a signal device, the combination of a light-inclosing body provided with a plurality of differentiated regions for permitting the passage of light rays from within, such regions constituting signals, means for temporarily obscuring the view of light rays from certain of 70 the regions and permitting such view from other of the regions, an indicator having luminiferable signals corresponding to those of the body, and means for suppressing those signals of the indicator corresponding to the signals obscured simultaneously in the body and for exhibiting the remainder of the indicator signals.

18. In a signal device, the combination of a light-inclosing body provided with a plurality of signals, an indicator provided with corresponding signals, a common source of light constructed and arranged to illuminate said several signals, and means constructed simultaneously to screen 80 similar signals of said light-inclosing body and indicator.

19. In a signal device, the combination of a revoluble light-inclosing body provided with a plurality of signals, an indicator provided with corresponding signals, a common source of light constructed and arranged to illumi- 85 nate said several signals, and means constructed upon revolution of the light-inclosing body simultaneously to screen similar signals of said light-inclosing body and indicator.

20. In a signal device, the combination with a light-inclosing body provided with a plurality of differentiated re- 90 gions for permitting the passage of light rays from within, such regions constituting signals, and a screen constructed. and movably arranged relatively to the body to obscure the view of light rays temporarily from other than a given region; of an indicator illuminated by light rays from 95 within the body and provided with corresponding signals, and means constructed to screen only the indicator signals similar to those screened simultaneously in the body.

21. In a signal device, the combination with a light-inclosing body provided with a plurality of differentiated re- 100 gions for permitting the passage of light rays from within, such regions constituting signals, and a screen constructed and movably arranged relatively to the body to temporarily obscure the view of light rays from certain regions and permit such view from other of the regions; of an in- 105 dicator illuminated from within the body and carrying the same signals, and means for masking only the same signals of the indicator as those screened simultaneously in the body.

22. In a signal device, the combination with a light-in- 110 closing body provided with a plurality of differentiated regions for permitting the passage of light rays from within. such regions constituting signals, and a screen constructed and movably arranged relatively to the body to temporarily obscure the view of light rays from certain of the 115 regions and permit such view from other of the regions; of a tube communicating with the light-inclosing body and arranged to be in line with the source of light therein, and carrying the same signals as the body, and means for masking only the same indicating signals as those screened 120 simultaneously in the body.

23. In a signal device, the combination with a light-inclosing body provided with a plurality of differentiated regions constructed to permit the passage of light rays from within, such regions constituting signals, and a screen con- 125 structed and movably arranged relatively to the body to temporarily obscure the view of light rays from certain of the regions and permit such view from other of the regions: of a tube communicating with the light-inclosing body and arranged to be in line with a source of light 130 therein, and carrying indicating signals corresponding to those of the body, and a masking plate supported to cut off light rays only from the indicating signals corresponding to those being screened in the body.

24. In a signal device, the combination with a rotatable 135 light-inclosing body provided with a plurality of differentiated regions for permitting the passage of light rays from within, such regions constituting signals, and a hollow open-bottomed screen stationarily supported within the body and provided with an aperture constructed to 140 register with any one of the signal regions; of a source of light within the screen, a tube communicating with the interior of the body, an indicator carried by the tube in position to be illuminated by the source of light and provided with light-transmitting signals corresponding to 145 those of the body, and means constructed to screen only the indicator signals corresponding to those being screened in the body.

25. In a signal device, the combination with a light-inclosing body provided with a plurality of differentiated re- 150 gions for permitting the passage of light rays from within, such regions constituting signals, and a screen constructed and movably arranged relatively to the body to temporarily obscure the view of light rays from certain of the regions and permit such view from other of the regions: 155 of a tube communicating with the light-inclosing body and arranged to be in line with a source of light therein, said tube carrying on its end indicating signals corresponding

to those of the body, and a masking plate supported adjacent said end of the tube and arranged to mask only the indicating signals corresponding to those being screened in the body.

26. In a signal device, the combination with a rotatable light-inclosing body provided with a plurality of differentiated regions constructed to permit the passage of light rays from within, such regions constituting signals, a hollow open-bottomed screen stationarily supported within 10 the body and provided with an aperture positioned to register with any one of the signal regions, and a source of light supported within the screen; of a tube communicating with the interior of the body, an indicator carried by the tube in position to be illuminated by said 15 source and provided with signals corresponding to those of the body, means constructed to screen only the indicator signals corresponding to those screened in the body, and means constructed to lock the body in position with any one of its several signal regions in registry with the 20 aperture in the screen.

27. In a signal device, the combination with a tubular rotatable body having a plurality of differentiated signal regions disposed around its sides; of an indicator having signals corresponding to those of the body, and means for 25 suppressing certain of the indicator signals and exhibiting the remainder thereof, said indicator signals otherwise being simultaneously visible from one view point.

28. In a signal device, the combination with a tubular rotatable body having a plurality of differentiated signal 30 regions disposed around its sides; of an indicator having signals corresponding to those of the body, and a device operating during the rotation of the body to suppress different groups of the indicator signals, said indicator signals being otherwise simultaneously visible from one 35 view point.

29. In a signal device, the combination with a tubular rotatable body having a plurality of differentiated signal regions disposed around its sides; of an indicator rotatable with the body and having signals corresponding to those of the body, and a stationary device operating during the rotation of the body to suppress different groups of the indicator signals, said indicator signals otherwise being simultaneously visible from one view point.

30. In a signal device, the combination with a tubular rotatable light inclosing body having disposed around its 45 sides a plurality of differentiated regions for permitting the passage of light rays from within, such regions constituting signals; of an indicator having signals corresponding to those of the body, and a device operating during the rotation of the body to suppress different 50 groups of the indicator signals, said indicator signals otherwise being simultaneously visible from one view point.

31. In a signal device, the combination with a rotatable body having a plurality of differentiated signal regions 55 disposed around its sides, of an indicator depending from below said rotatable body and having signals corresponding to those of the body, and means, separate one from the other, for suppressing certain of the signals carried, respectively, by said rotatable body and indicator, and 60 exhibiting the remainder thereof, said indicator signals otherwise being simultaneously visible from one viewpoint.

32. In a signal device, the combination with a tubular rotatable body having a plurality of differentiated signal 65 regions disposed around its sides, of an indicator depending from below said rotatable body and having signals corresponding to those of the body, and means, separate one from the other, for suppressing certain of the signals carried, respectively, by said rotatable body and indicator, 70 and exhibiting the remainder thereof, said indicator signals otherwise being simultaneously visible from one viewpoint, and means for rotating said rotatable body to bring its differentiated signal regions into register with those of the indicator.

In testimony whereof, I affix my signature, in the presence of two subscribing witnesses.

PETER GRAY.

75

Witnesses:

CLARENCE P. WESTON. FRANK K. LINSEALT.