(No Model.)

3 Sheets—Sheet 1.

W. S. HAMM.

SIGNAL LAMP.

No. 547,396. Patented Oct. 1, 1895.

Fig. 2.

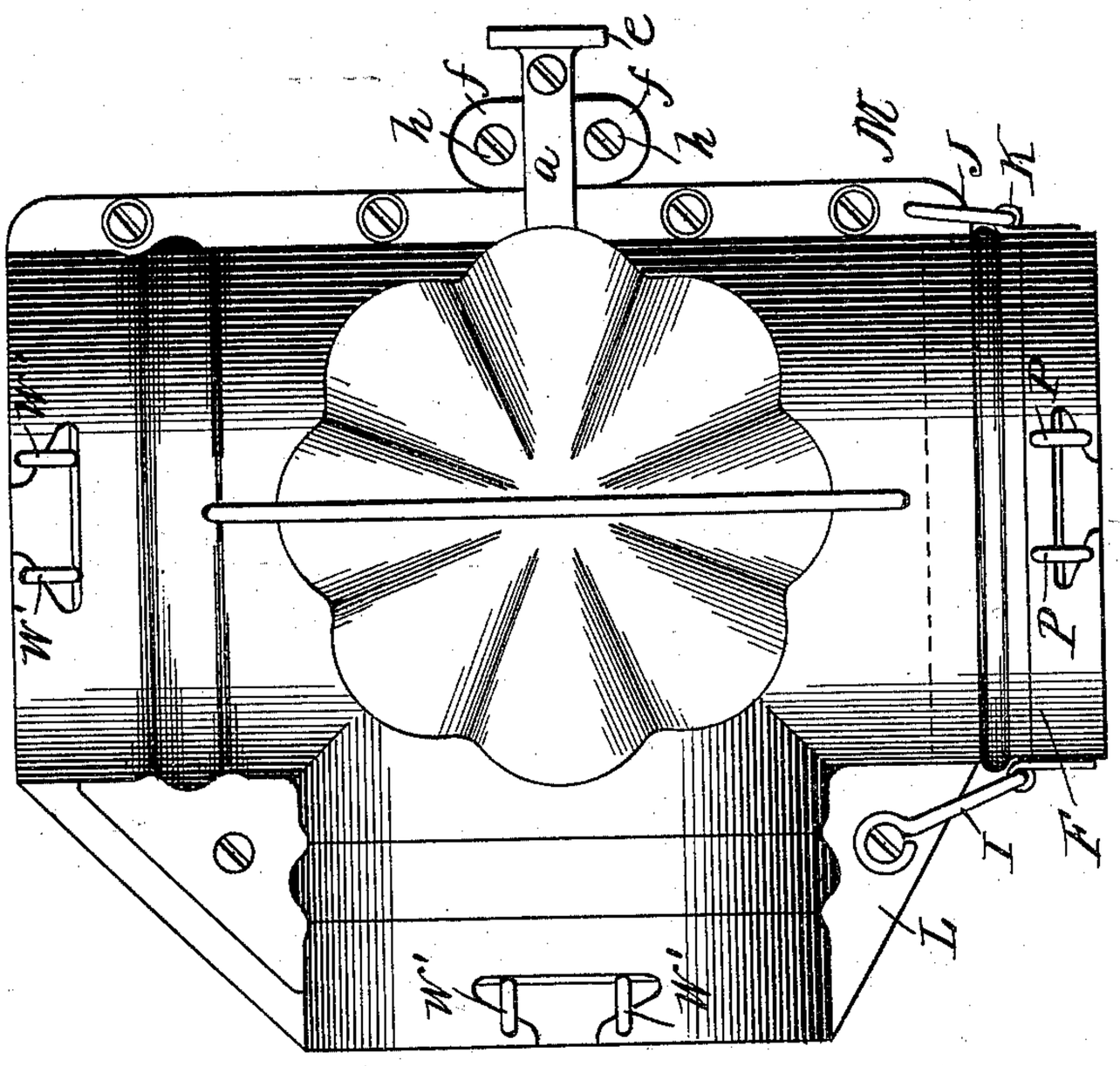
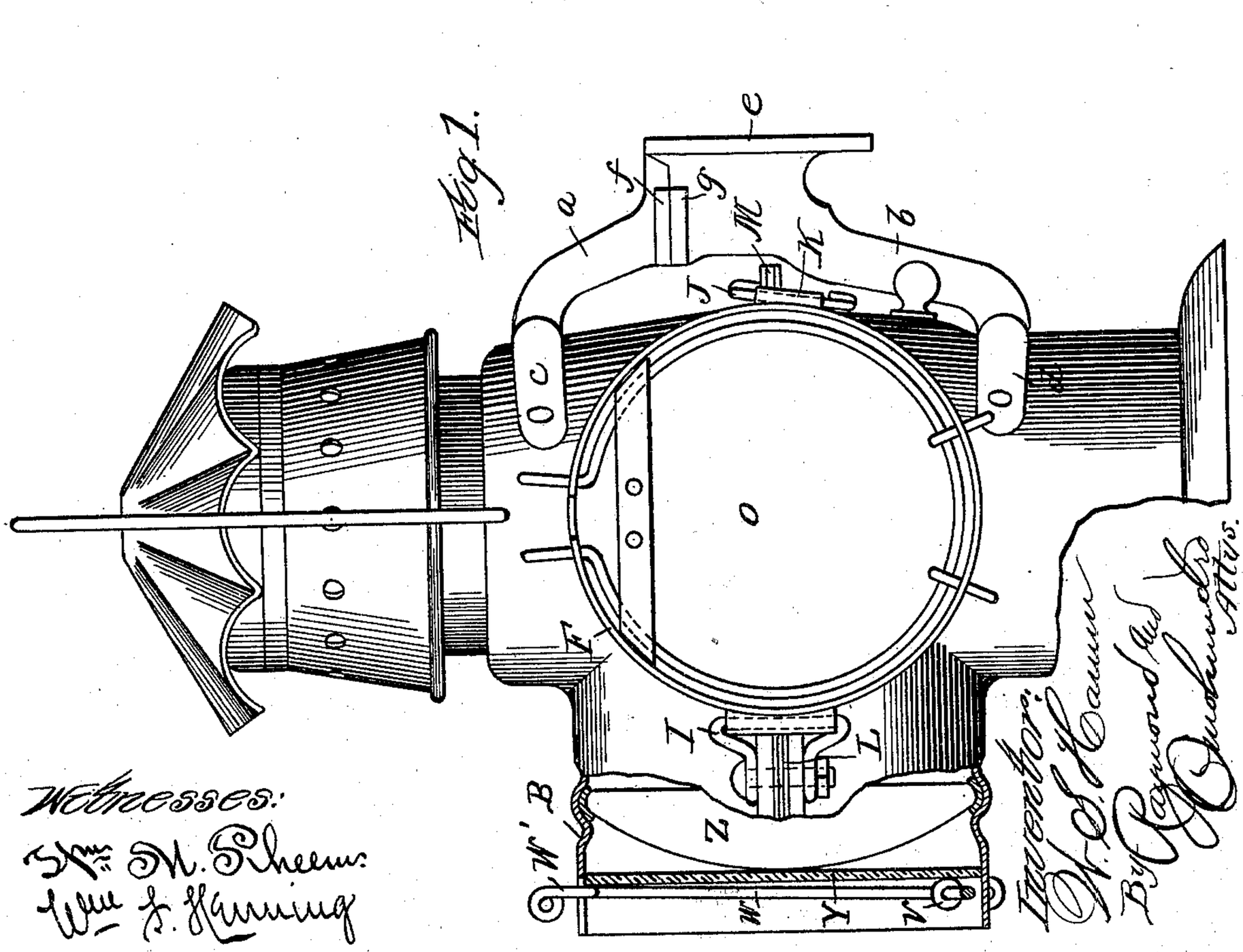


Fig. 1.



Witnesses:
Wm. N. Sheem.
Wm. F. Fleming

Inventor:
W. S. Hamm
By Raymond & Quackenbush
Attys.

(No Model.) 3 Sheets—Sheet 2.

W. S. HAMM.

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Fig. 3.

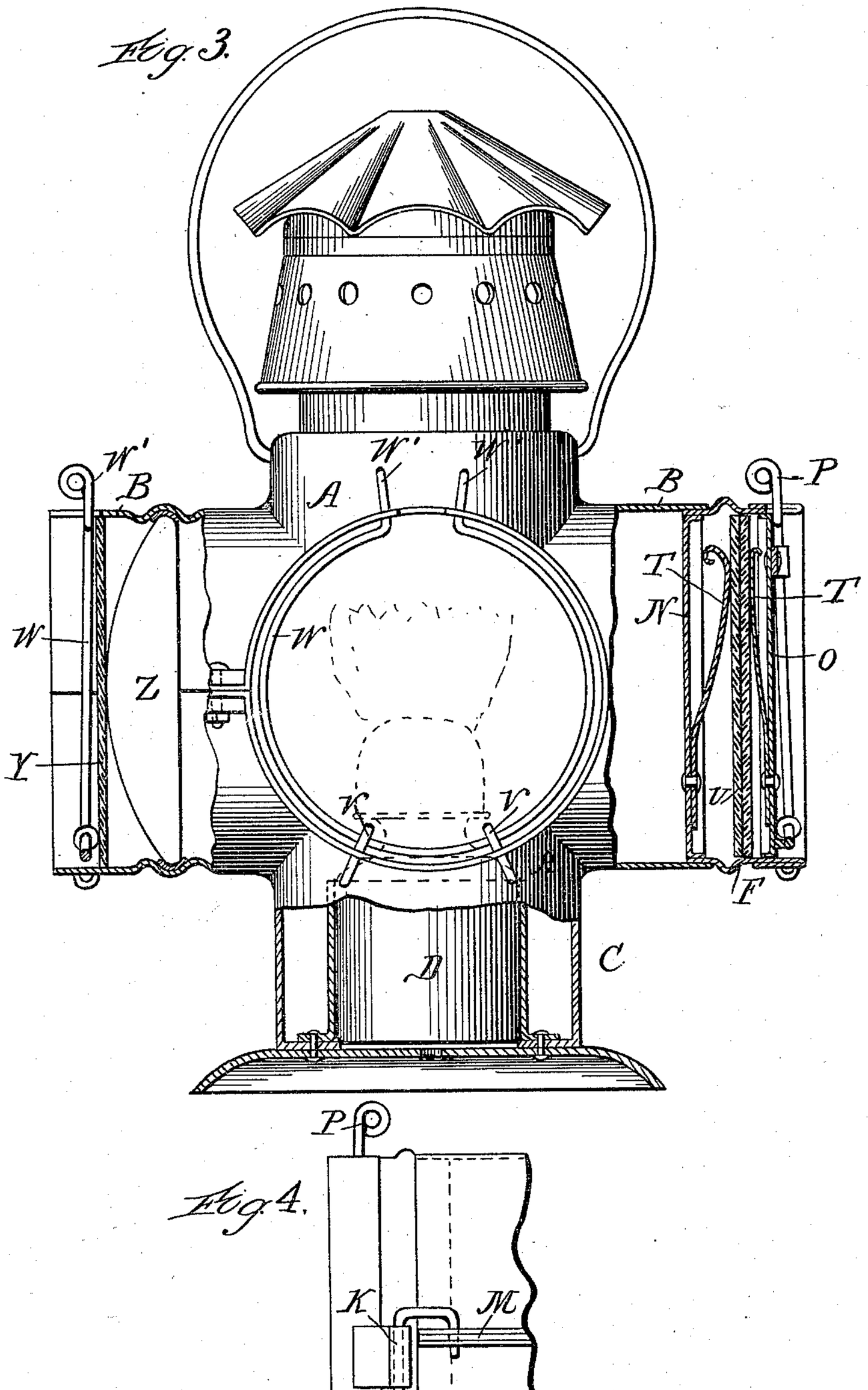

Fig. 4.

Witnesses:
Wm. M. Rheem.
Wm. F. Fleming.

Inventor:
W. S. Hamm
By, Cojmore & Owen
Attys

(No Model.)

3 Sheets—Sheet 3.

W. S. HAMM.

SIGNAL LAMP.

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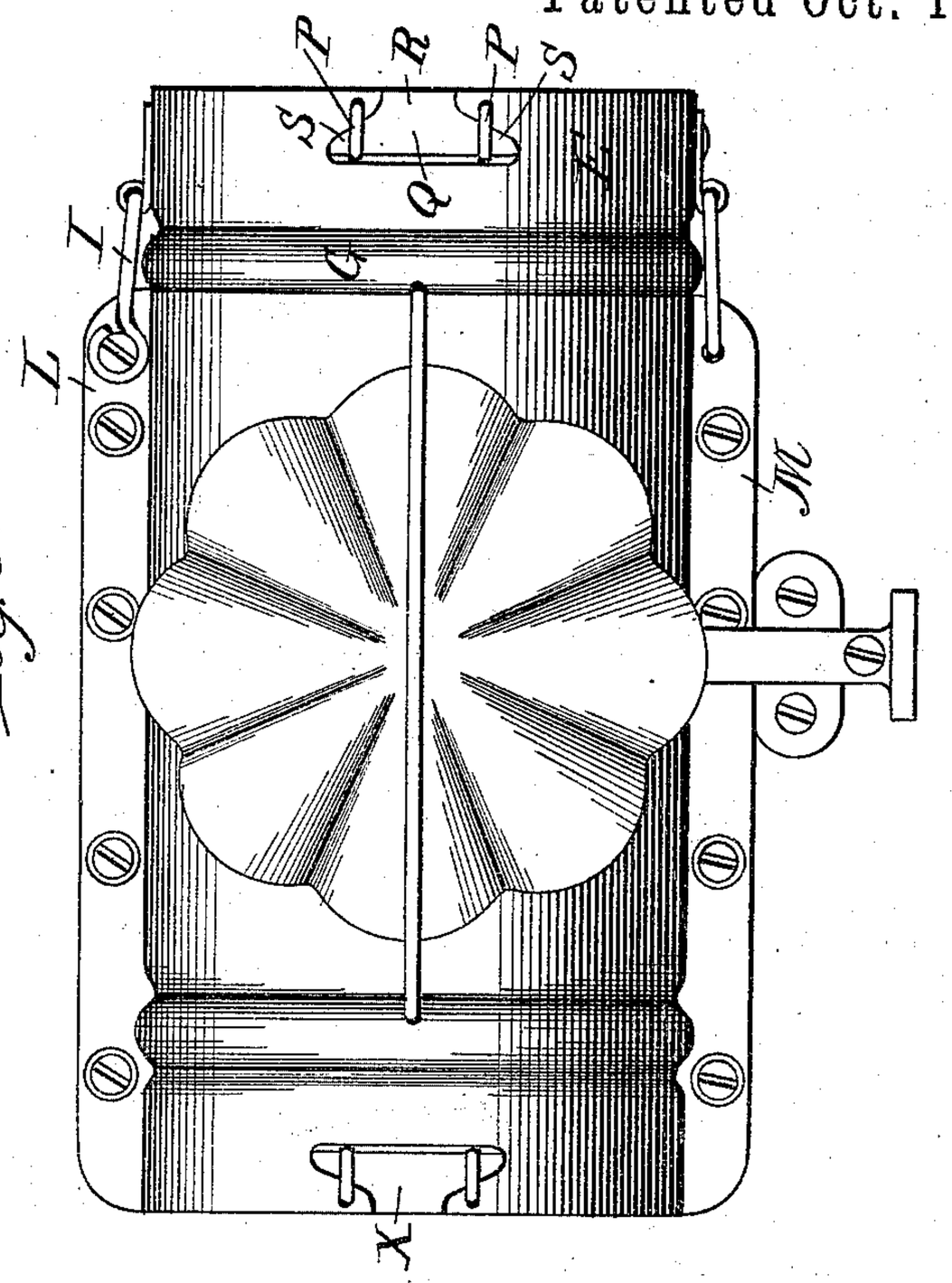

Fig. 6.

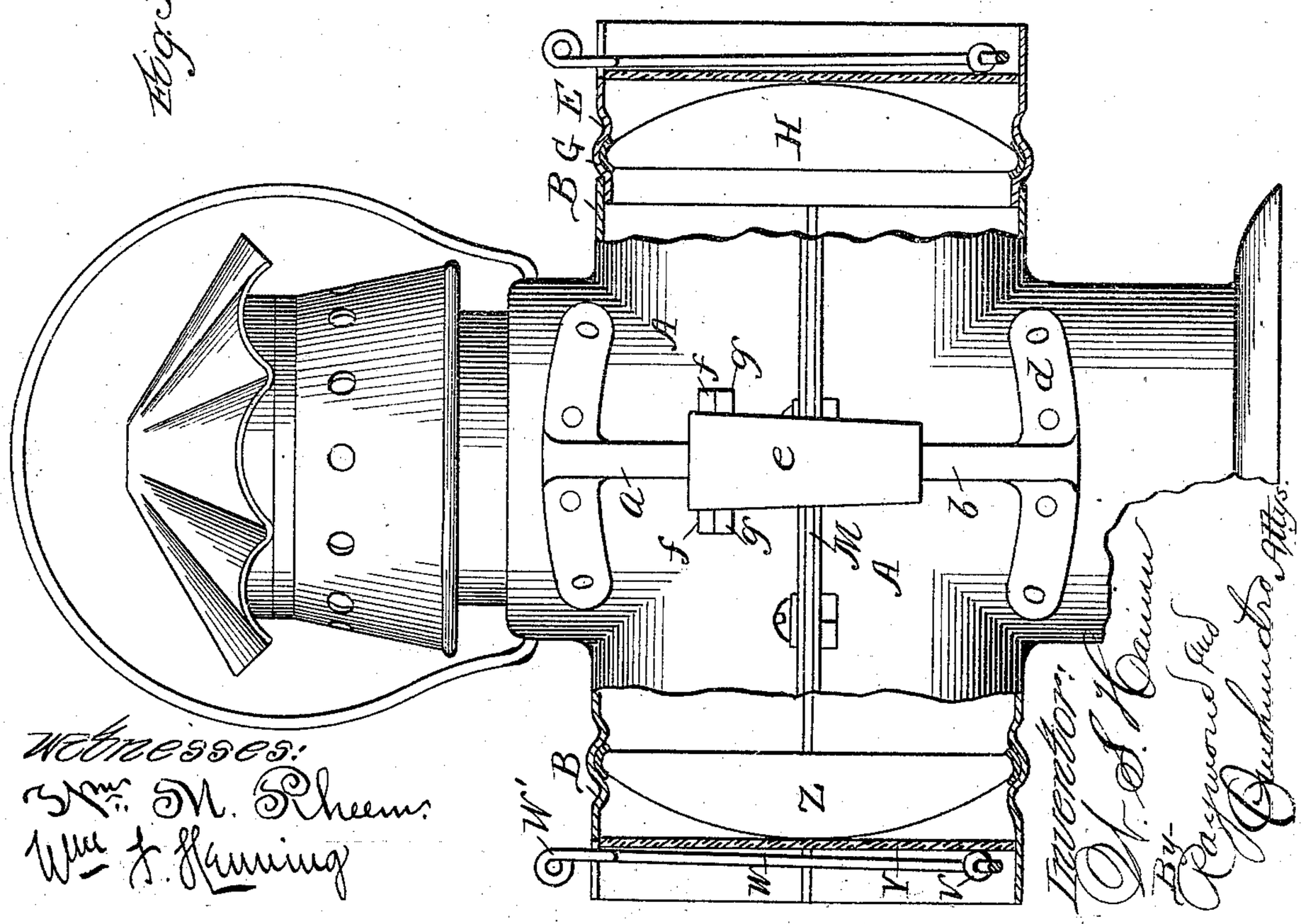

Fig. 5.

Witnesses:
Wm. M. Rheem
Wm. F. Fleming

UNITED STATES PATENT OFFICE.

WILLIAM S. HAMM, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE ADAMS & WESTLAKE COMPANY, OF SAME PLACE.

SIGNAL-LAMP.

SPECIFICATION forming part of Letters Patent No. 547,396, dated October 1, 1895.

Application filed November 24, 1894. Serial No. 529,871. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. HAMM, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Signal-Lamps, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of the specification.

This invention relates to improvements in that class of signal-lamps especially designed for use upon railway-cars, and has for its prime object ready removability of the oil-pot through a lens-opening, ready change of the color of the lights, and safe and convenient carriage of the color-plates both in use and in storage.

Other objects are to enable the ready separation of the sections of the lamp-body without disconnection from such sections of the supporting-bracket and novel means for holding both the color-plates in service and in storage firmly in place, so as to prevent the rattling and breaking thereof, which at the same time allows of the quick and ready removal and changing of the color-plates.

These and other objects that will appear farther on are attained by the devices illustrated in the accompanying drawings, in which—

Figure 1 represents a side elevation, partly in section, of a signal-lamp embodying my invention; Fig. 2, a plan view thereof; Fig. 3 a front elevation with the lens-holder and color-plate storage-compartment in section; Fig. 4, a detail elevation of the fastening device for the swinging lens-holder; and Figs. 5 and 6, an elevation and plan view, respectively, of a modified form of lamp.

Similar letters of reference indicate the same parts in the several figures of the drawings.

Referring by letter to the accompanying drawings, A indicates the main body of the lamp, and B radial lens-openings, of which there may be two, three, or four, according to the requirements of the service.

The lamp-body is preferably composed of sheet metal and horizontally divided into two main sections upon a line through the axes of the lens-openings, the meeting edges of the two sections being bent out at right angles and united so as to form horizontal flanges, which extend partly around the lamp in the spaces intervening between the lens-openings.

As shown in Fig. 3, the base C of the lamp-body is permanently closed at the bottom, and the oil-pot D is inserted and removed through one of the lens-openings B, which is provided with a swinging or hinged lens-holder E, as illustrated in Figs. 5 and 6, or where a storage-compartment F for the color-plates is provided, as illustrated in Figs. 1, 2, and 3. This storage-compartment is made swinging or hinged to the lamp-body and closes one of the lens-openings.

The swinging lens-holder is an annular ring adapted to fit snugly into the lens-opening and is provided with an annular seat G for the lens H, which is, of course, not detachable therefrom, such seat forming a rib upon the exterior of the ring when made of sheet metal, which serves as a stop for the holder when swung into position in the lens-opening. This ring is hinged in any suitable manner at one side to a horizontal flange L, formed by the meeting edges of the sections of the lamp-body, it being preferable that a bail I be employed rigidly secured at its ends, respectively, to the flange and pivotally supporting the ring between its ends. At the opposite side of the ring is pivotally secured a C-shaped hook J, (more clearly shown in Fig. 4,) the center of the body of which is straight, so that the hook may move vertically through its pivoting-eye K, secured to the ring, and the ends of which terminate in the same plane and of a distance apart equal to the width of the flange M on the side of the lamp. This flange is provided with a perforation with which the ends of the hook are adapted to register, so that when the hook is lowered the upper end thereof will enter the perforation in the flange and prevent the accidental opening of the lens-holder; but when lifted out of engagement with the perforation in the flange it may be swung out over the flange and the lens-holder be swung out upon its hinge. It will be understood that the particular configuration or point of termination of the lower end of the hook is immaterial, as it has no service to perform

other than to prevent the disengagement of the hook from its pivoting-eye, and when the said hook is herein referred to as "C-shaped" it is to be understood that such shape, or the shape shown in the drawings, is not essential, and that the lower end of the hook might terminate in a bend or head of any kind.

The devices for hinging and fastening the swinging color-plate holder are the same as those employed for the swinging lens-holder, and the description and reference-letters will therefore apply thereto. The difference between the swinging lens-holder and this color-plate holder is that the color-plate holder is a compartment and the ends of the annular ring are closed at the inner end by a permanently-attached plate N and at its outer end by a plate O, which is hinged at its lower edge to the inner periphery of the ring F and is held in place by some suitable spring-catch device engaging the ring, preferably at the upper edge thereof, such as by means of the twin curved springs P, secured to the plate, preferably near the lower edge thereof, and terminating in upwardly-turned ends which constitute knobs or thumb-pieces for compressing the springs—that is, for moving them toward each other, as the springs have a normal outward tendency. The upper free ends of these springs are designed to engage a notch Q in the upper edge of the ring F, said notch being provided with a contracted throat R, through which the ends of the springs pass when pressed together, and which spring out and seat against the walls of the notch when released, such walls being preferably inclined at their outer edges, as shown at S, in opposite directions, so as to force the springs inwardly toward the inner end of the ring when passed through the throat of the notch and released. Both the plates N and O carry spring-tongues T, rigidly secured at one end thereto, and the thin glass color-plates U are inserted between these springs and are held or clamped thereby as against rattling or movement that would result in breakage when the door or plate O of the storage-compartment or magazine is closed.

In lamps of this kind both white and various-colored lights are necessarily employed, the colors varying with the practice of the railroads upon which the lamps are used in different parts of the country, and it is desirable that the colors of the light should be readily exchangeable or made white, according to the exigencies of the occasion or according to the use and practice of the railroad purchasing the lamp. To this end with my lamp I have all of the lenses white, which gives the most brilliant light obtainable, and secure the different colors by means of thin glass color-plates placed in front of the lenses. These color-plates are held in place in the outer ends of the lens-openings by a spring device substantially the same as that described for the door of the color-plate magazine, except that in this case no plate is used, but simply spring-wire bent on the arc of a circle and pivoted at the lower side thereof, as more clearly shown in Fig. 3, in which two pivoting-eyes V are provided, rigidly secured to the annular ring constituting the lens-holder. This circular pivoted spring W, like the springs P, before referred to, is upturned at its ends, respectively, to project beyond the ring forming the lens-opening, and, like said springs, such upturned ends W′ are intended to engage a notch X in said ring, having a contracted throat and inclined walls adjacent to the contracted throat, which causes the spring W to press the color-plate Y firmly against the lens Z.

Where a swinging lens-holder is employed, as shown in Figs. 4 and 5, the spring W will be applied to the annular hinged or swinging ring, instead of to the fixed ring constituting the lens-opening, and in both cases this circular spring can be swung out upon its pivots, like a door, and the color-plates be readily and quickly removed or inserted.

It is customary to rivet the supporting-bracket to the lamp-body, as in practice this bracket is and should be permanently secured to the lamp-body, and is provided with a tongue to engage a socket-piece rigidly secured to the car. In the case of a horizontally-divided sectional lamp-body the old form of bracket would not be desirable or practicable, because the two sections of the lamp could not be readily separated for repair, and it is doubtful whether they could be separated at all without irreparable injury to the lamp. I therefore propose to employ a sectional bracket, the parts of which shall be rigidly secured, respectively, to the two sections of the lamp and detachably secured to each other. To this end the upper and lower sections *a b* are provided with semicircular ends *c d*, which are riveted to the lamp-body, as more clearly shown in Fig. 1, and the lower section *b* is provided with a right-angled tongue *e*, designed to fit in the usual socket upon the side of the car, with which socket it has the usual dovetail or other sliding and readily detachable connection. At the meeting faces of the sections *a* and *b* each of said sections is provided on the opposite sides thereof with lateral ears *f g*, respectively, having registering perforations through which screws *h* work, so as to firmly unite the sections to each other. By this arrangement each section of the bracket is permanently secured to the respective sections of the lamp-body, and yet may be detached from each other when it is desirable to detach the sections of the lamp-body from each other.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a signal lamp, the combination with the sectional horizontally divided body, of a sectional bracket, the two members of which are rigidly secured respectively to the sections of the lamp-body, and are detachably

secured to each other, substantially as described.

2. In a signal lamp, the combination with the upper and lower sections of the lamp body, of the upper and lower sections of the securing bracket, said sections of bracket being permanently secured to upper and lower sections of the lamp-body, the opposing portions of said bracket sections being detachably connected, substantially as shown and described.

3. In a signal lamp, the combination with the upper and lower sections of the lamp body united by lateral flanges, a swinging lens-holder hinged to the flanges of said body, a pivoting eye firmly secured to the lens-holder at right angles to the body, and a C-shaped catch carried by said eye and having a straight body portion which permits the catch to move vertically through said eye, the end portions of said catch being adapted to engage a perforation in the flange of the body, substantially as shown and described.

4. In a signal lamp, the combination with the lamp body, of a color plate-holder, said holder comprising an annular ring or band, an inner fixed plate, an outer hinged plate and means for locking the same, said plates having inwardly projecting spring-tongues adapted to hold the color plates within the holder against rattling, substantially as shown and described.

5. In a signal lamp, the combination with a lamp-body having a closed bottom, and one or more lens-holders, and an oil pot fitting in said bottom, of a color-plate magazine hinged to the lamp-body and fitting an opening in the side thereof, said magazine comprising an annular ring having a fixed plate in one end thereof, a hinged plate in the other end thereof, opposing spring tongues secured respectively to said plates and a lock-device for the hinged plate, substantially as described.

6. In a signal lamp, the combination with a lamp-body having a closed bottom, and one or more lens-holders, and an oil pot fitting in said bottom, of a color-plate magazine hinged to said body and closing an opening therein, said magazine comprising an annular ring, a fixed plate closing one end thereof, a hinged plate closing the other end thereof, a pair of opposing spring tongues secured to said plates respectively, and oppositely disposed springs, the ends of which are adapted to be sprung into a notch in said annular ring, substantially as described.

WILLIAM S. HAMM.

Witnesses:
CHAS. B. BOWEN,
V. HUGO.