

(No Model.)

2 Sheets—Sheet 1.

E. W. BEGBIE.
SIGNALING LANTERN.

No. 254,791.

Patented Mar. 14, 1882.

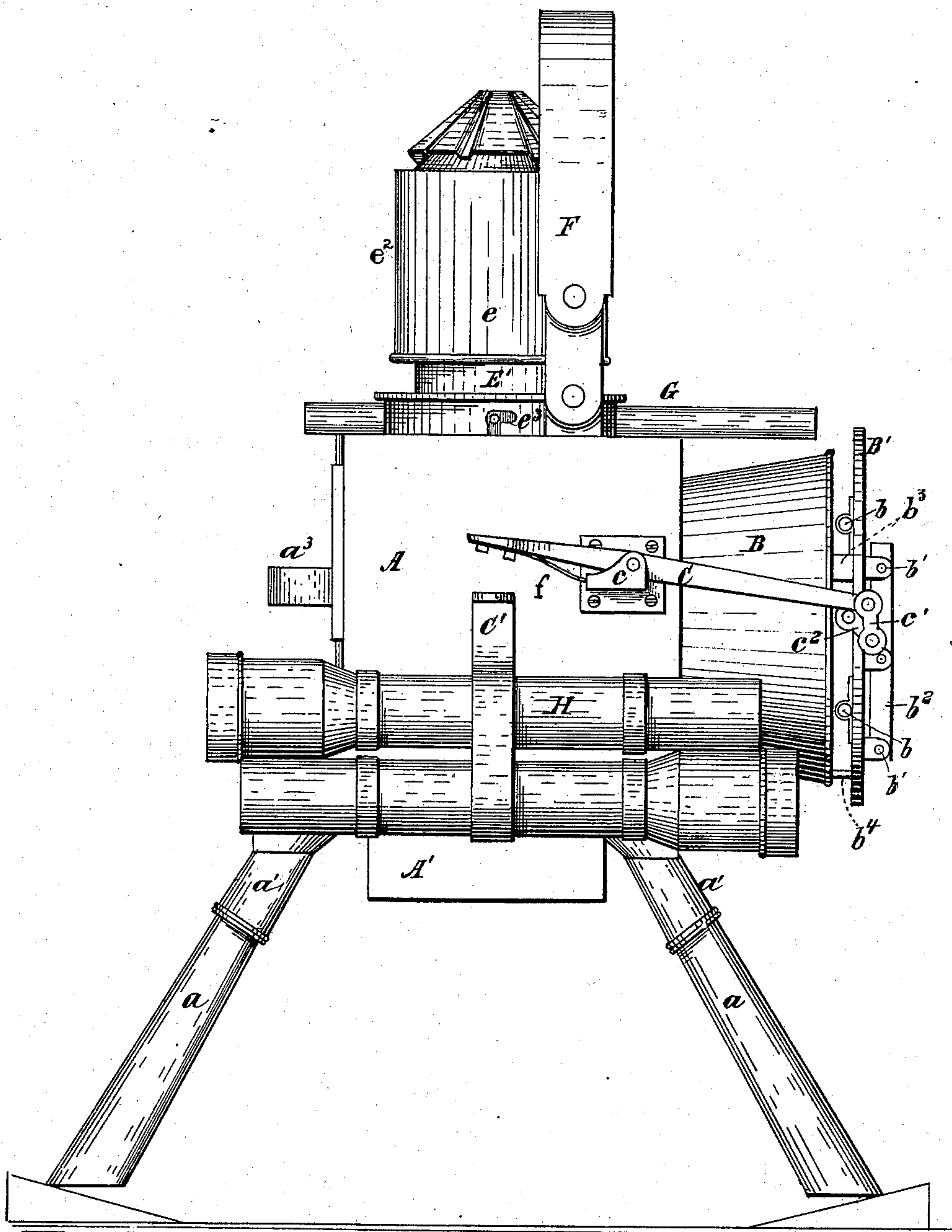


Fig 1

Witnesses

W. C. Coulters
James L. Baird.

Inventor

Elphinstone Begbie

By George P. Barton
Attorney.

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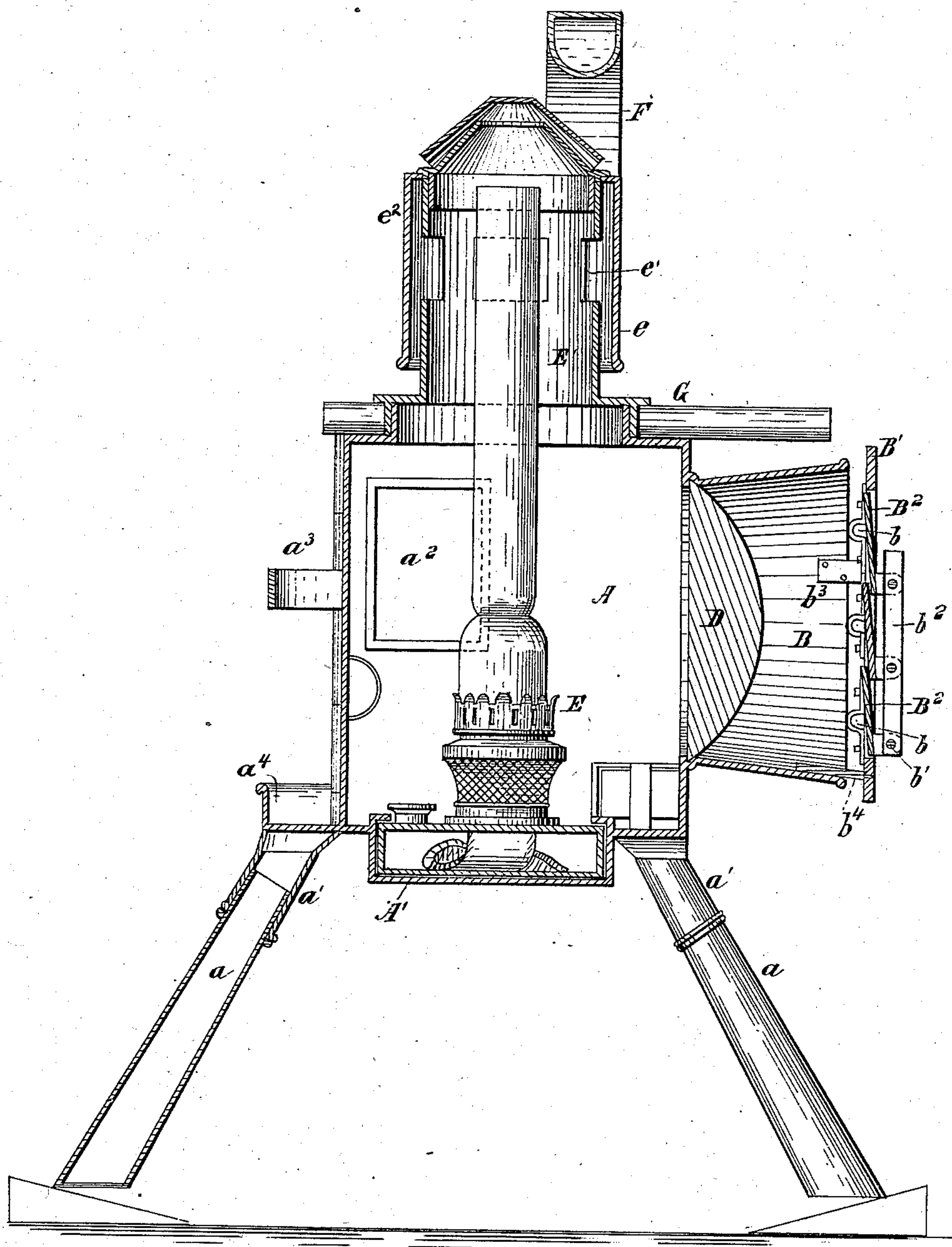


Fig 2

Witnesses

W. C. Corlies
James L. Baird.

Inventor

Elphinstone Begbie

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UNITED STATES PATENT OFFICE.

ELPHINSTONE W. BEGBIE, OF BANGALORE, INDIA.

SIGNALING-LANTERN.

SPECIFICATION forming part of Letters Patent No. 254,791, dated March 14, 1882.

Application filed January 4, 1881. (No model.)

To all whom it may concern:

Be it known that I, ELPHINSTONE WATERS BEGBIE, of Bangalore, India, have discovered certain new and useful Improvements in Signaling-Lanterns, of which the following is such a full, clear, concise, and exact description as will enable those skilled in the art to which my invention appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to signaling-lanterns; and it consists in the combinations hereinafter set forth, whereby the rays of light may be obscured and displayed at intervals, thus giving signals which may be read at great distances.

In the drawings, Figure 1 represents a side view of my lantern. Fig. 2 is a vertical longitudinal section thereof.

Like letters of reference indicate like parts.

The body A of the lantern may be of tin, and is supported preferably by three legs, a , which are easily removed from the sockets a' . One or more windows, a^2 , should be provided. I find that a side and rear window are sufficient for all practical purposes of obtaining light to write by in signaling. When the legs are not in use they are placed within a metallic band or loop, a^3 , fastened to the back of the lantern. The smaller ends of the legs rest upon projection a^4 . The rays are directed in a cylinder of parallel rays in the required direction by a plano-convex lens, D, or by a silvered copper parabolic reflector, if the lamp is required for longer distances. The projection B is attached to the body of the lantern, as shown.

The ring B' is held firmly in place by lugs b^3 and b^4 , attached to projection B, provided with shutters B², severally pivoted, as shown, by pivots b . An uneven number of shutters should be used, as the pressure on all the bearings is then equal and the strain is equally distributed above and below the center. As a consequence, the working parts of the shutters last longer and are less liable to get out of order.

The pivots b' attach the cross-piece b^2 to each of the shutters, so that they all move when one is moved.

The lever C, with the fulcrum c , is attached to the piece c' , whereby the crank c^2 may be turned, and thereby the shutters closed, as shown. The burner E is preferably that known

as the "Kosmos," carrying a choked chimney, as I find that this is best suited for the requirements of signaling. The flues are at E' and above the part e . F is the handle, and G is a tube fixed parallel to the axis of the lens or parabolic reflector, and it is used for aligning one's lamp on the distant station.

The reservoir of the burner is made so as to contain sufficient oil to last continuously throughout the night.

The lamp should be trimmed and lighted in the usual manner. It is then placed in position and aligned accurately by the operator looking through the sighting-tube G and moving the lamp until he sees the light at the distant station. Inequalities in the surface of the ground are adjusted by placing wooden quoins or wedges under the legs of the lamp, and when not in use they may be placed within a metallic band or loop, similar to loop a^3 , fastened to the back of the lantern.

The operator places his forefinger under support C' and his thumb upon the end of the lever above, and by pressing down with his thumb turns the shutters so that the rays of light go forth unobstructed. On removing the pressure, the spring, attached preferably as shown, brings the lever back to its normal position, and thus the shutters are closed and the rays of light cut off. Thus the rays of light from the lantern may be obscured at will by placing an opaque body across their path. As thus constructed, by means of a code—such as the Morse alphabet—I am enabled to send signals which may be read on a clear night at twelve miles from the lamp fitted with the plano-convex lens and at twenty-five miles from the lamp fitted with the parabolic reflector. Under favorable circumstances these distances may be doubled by using a telescope.

The parts lettered H are cases for lamp-chimneys, and are securely fastened to the outside of the lantern in any well-known way.

The dome or ventilator, as shown in Fig. 2, is composed of metal the same as that of the body of the lantern, and is provided with an outer and inner wall. The inner wall has within its circumference a row of apertures, e' . The air passes under the edge of the outer wall, thence through the space between the walls, and to the inside of the lamp through the open-

ings in the inner wall. The lamp is thus supplied with air sufficient for combustion. Draft is obtained through the double conical roof or covering. The dome or ventilator e^2 is held in place by two pins fastened to a flange, said flange projecting above the top of the lantern. The lower portion of the dome is provided with a rim of sufficient diameter to allow it to slip over the flange on the lantern. After the dome is slipped on, by turning it the pins pass into slots e^3 , provided in the outer rim, and prevent its coming off. The spring f acts against the lever C with sufficient force to hold the shutters closed.

I claim as my invention and desire to secure by Letters Patent the combinations set forth in the following summary of claims, viz:

1. The combination, in a signaling-lantern, of an uneven number of shutters connected by a cross-piece, b^2 , and operated by means of lever C, substantially as and for the purpose specified.

2. The combination, in a signaling-lantern, of shutters, as described, with cross-piece b^2 , attached thereto, and the lever C, whereby the shutters are operated, substantially as and for the purpose specified.

3. The combination of an uneven number of shutters with the lens D, lamp E, lever C, pivoted at c , connecting-piece c' , and crank c^2 , said crank being attached to the central shutter, as and for the purpose set forth.

In witness whereof I hereunto sign my name in the presence of two subscribing witnesses.

ELPHINSTONE WATERS BEGBIE.

Witnesses:

CHARLES ALEXANDER SIM,
Lt. Colonel, Commandant Sappers and Miners,
Bangalore.

CHARLES BOYD WILKIESON,
Lieutenant Royal Engineers, Bangalore.