

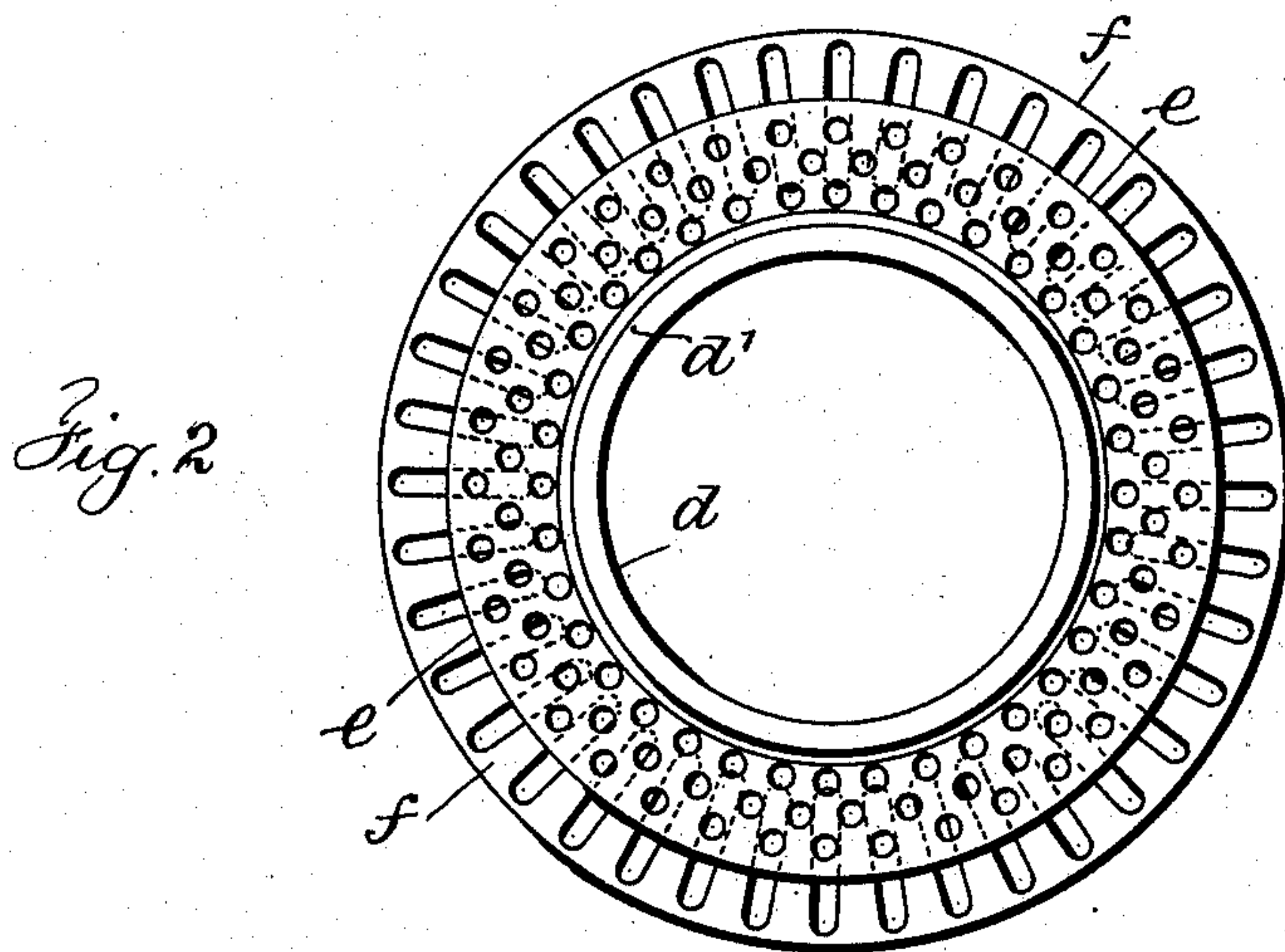
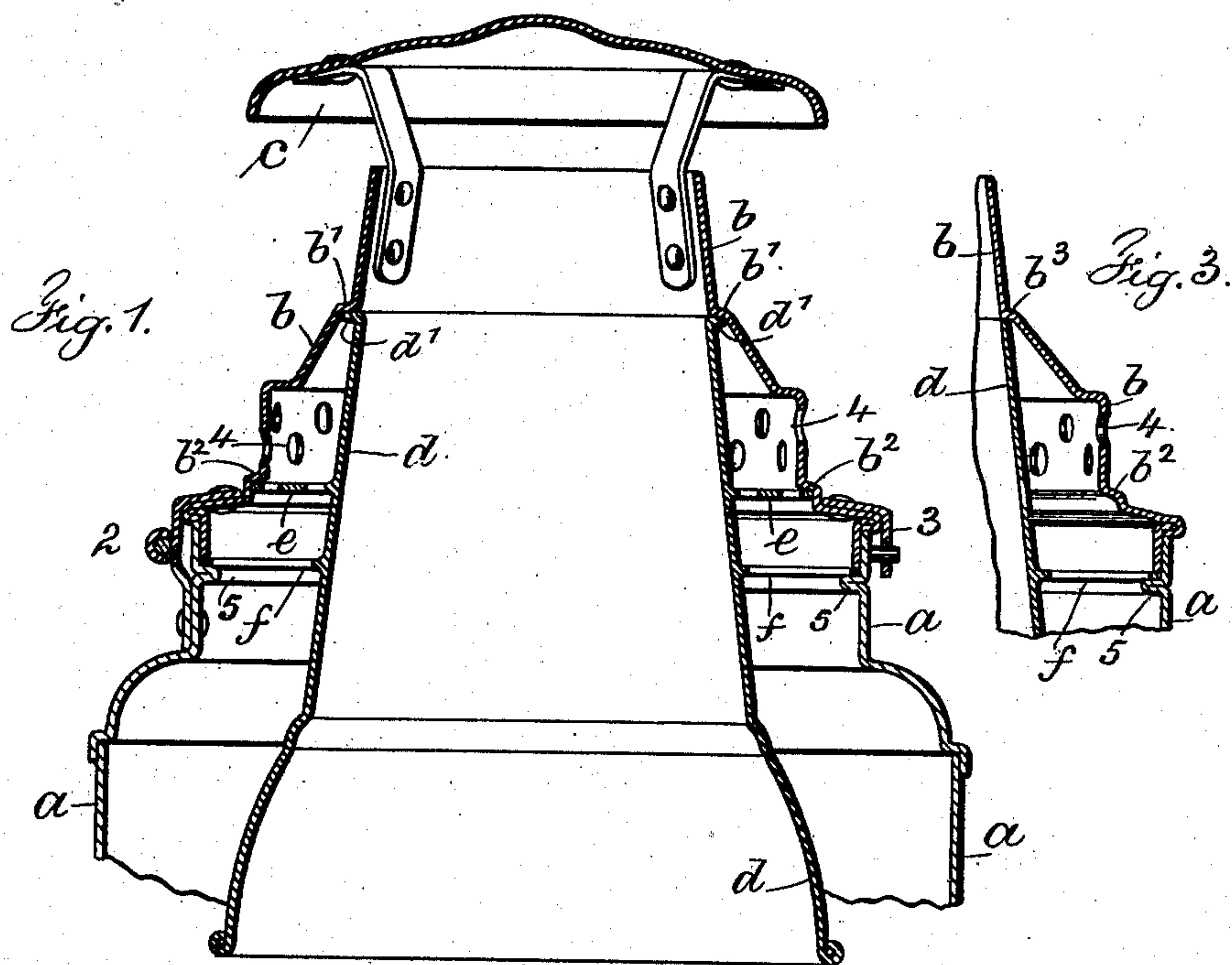
No. 757,183.

PATENTED APR. 12, 1904.

F. W. DRESSEL.  
SIGNAL LANTERN.

APPLICATION FILED JAN. 23, 1904.

NO MODEL.



Witnesses

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# UNITED STATES PATENT OFFICE.

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## SIGNAL-LANTERN.

SPECIFICATION forming part of Letters Patent No. 757,183, dated April 12, 1904.

Application filed January 23, 1904. Serial No. 190,274. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERICK W. DRESSEL, a citizen of the United States, residing in the borough of Manhattan, city, county, and State of New York, have invented an Improvement in Signal-Lanterns, of which the following is a specification.

My invention is designed as an improvement upon the signal-lantern shown and described in Letters Patent granted to me November 24, 1903, No. 745,164, with the object of providing a simpler and more easily separable structure. In my present improvement the air-entrance apertures are in the hinged swinging top, and the cap is connected to and raised above said top. The auxiliary chimney or tubular septum is cylindrical or tapering, and connected to the outer surface thereof and horizontally disposed is at least one perforated annulus-plate suitably placed. The open upper end of the lantern-body is adapted when the top is raised to receive the auxiliary chimney and the annulus-plate, there being a rim forming a seat within the upper end of the body upon which the said annulus-plate rests for the support of the entire auxiliary chimney and said plate. The hinged swinging top is formed with at least one shoulder, making contact with the upper end of the auxiliary chimney, thereby forming an annular air-chamber, there being in the top a series of circularly-arranged apertures for the entrance of the air to be burned which is obliged to pass down around the auxiliary chimney and through the annulus-plate, which latter serves to break the force of external air-currents distant from the burner. Where two perforated annulus-plates are employed, they are spaced apart horizontally, and the second plate is also secured to the outer surface of the auxiliary chimney and is placed above the first aforesaid plate, and a second shoulder is formed in the hinged swinging top, making contact with the periphery of said second plate. This second plate comes below the circularly-arranged series of apertures for air, and it forms the base of the annular air-chamber surrounding the auxiliary chimney. The

products of combustion escape by the auxiliary chimney and through the space formed between the upper end of the tapering lantern-top and the cap raised above the same.

In the drawings, Figure 1 is a vertical section at the upper end of a signal-lantern representing the preferred form of my improvement. Fig. 2 is a plan of the auxiliary chimney or tubular septum and the perforated annulus-plates connected thereto, showing said parts separate from the lantern-body; and Fig. 3 is a vertical section at one side through the top of the lantern and the auxiliary chimney, showing a slight modification.

In the preferred form of my invention, *a* represents the upper portion of the body of a signal-lantern. *b* represents the top, which is of offset form gradually tapering to the open upper end and at its offset portions provided with shoulders *b'* *b''* and with air-entrance apertures 4. The cap *c* is connected to and raised above the open end of the tapering top *b*, and the top is connected by a hinge 2 with the upper end of the lantern-body at one side and with a catch 3 at the other side. The apertures 4 are circularly arranged, as usual.

*d* is an auxiliary chimney or tubular septum, which is cylindrical and tapering. The same extends down into the upper portion of the lantern-body and up into the hinged top. Annulus-plates *e* and *f* are secured to the outer surface of the said auxiliary chimney at predetermined spaced-apart intervals. These plates are perforated, and the perforations are preferably different in the respective plates. For instance, the plate *e* is shown with a series of round perforations, while the plate *f* is shown with radially-disposed long narrow perforations or slots.

A rim 5 is provided within the upper end of the body of the lantern adjacent to the upper edge, and upon this the lower and larger annulus-plate *f* rests for the support of the entire auxiliary chimney and said plates, the said annulus-plate *f* being only slightly smaller in extreme diameter than the inner diameter of the body of the lantern at the upper end. The hinge 2 and the catch 3 may be of any de-



sired character, and when the top *b* is swung over upon the hinge 2 the same passes clear and freely over the auxiliary chimney *d*, thus making it possible to lift out the auxiliary chimney, with the plates *e* and *f*, bodily from the top of the lantern-body for the purpose of thorough cleaning not only of said auxiliary chimney and plates, but of the hinged lantern-top, so as to remove soot, oil, and dirt, and not only make the lantern portion clear without smoking, but prevent the same catching afire.

I have shown in Fig. 1 the upper end of the auxiliary chimney as turned over or flanged at *d'*, and when the top of the lantern is closed down and caught the shoulder *b'* comes against the flange *d'* and forms a tight joint, and the shoulder *b''* of the top comes against the smaller annulus-plate *e* when the top is closed down and caught and also forms a snug joint. There is, therefore, within the top of the lantern between the wall thereof and the auxiliary chimney *d* and annulus-plate *e* a chamber into which external air is received through the openings 4, the same to pass down through the openings in the annulus-plates *e* and *f* distant from the burner and around the outside of the lantern to the burner to assist the combustion, the products of combustion escaping by the auxiliary chimney *d* and between the top *b* and the cap *c*.

The modified structure shown in Fig. 3 differs from the structure Fig. 1 in doing away with the flange *d'* at the upper end of the auxiliary chimney *d*, the end of said auxiliary chimney coming directly against a shoulder *b''* of the top to form a tight joint. While this may be employed, it is hardly as desirable as the flanged upper end *d'* on account of the minimum bearing-surface that the end of the auxiliary chimney presents. The modification also differs from the structure Fig. 1 in dispensing with the annulus-plate *e* and establishing the annular air-chamber within the hinged swinging top between the same and the auxiliary chimney and annulus-plate *f*, as shown in Fig. 3. I do not limit myself to the annulus-plate *e*, but prefer to use the same, as the two annulus-plates together are more effective in comminuting the entering air and breaking up forceful currents.

The rim 5 in the upper end of the lantern-body, forming a seat for the annulus-plate *f* and a support for the annulus-plates and the auxiliary chimney, may be formed, as shown in Fig. 1, as an integral part of the top by bending in the sheet metal, or the same may be formed in any other well-known or desirable manner.

I claim as my invention—

1. In a signal-lantern, the combination with the lantern-body and tapering metal top hinged thereto and having a series of air-entrance apertures circularly arranged, of an auxiliary chimney or tubular septum, perfo-

rated annulus-plates connected to the outer surface thereof at spaced-apart intervals and arranged to be received in the upper open end of the lantern-body when the hinged top is swung to one side, and a rim in the upper open end of the body forming a seat to receive the lowermost annulus-plate and to support the same and the auxiliary chimney.

2. In a signal-lantern, the combination with the body of the lantern having an open top of appreciable area and a rim therein forming a seat, of a tapering top hinged thereto and having offset portions forming shoulders, and a series of air-entrance apertures therein circularly arranged, an auxiliary chimney or tubular septum cylindrical and tapering, perforated annulus-plates horizontally arranged with reference to the axis of said auxiliary chimney at suitable spaced-apart intervals and secured to the outer surface of said auxiliary chimney, the lower plate resting upon said rim and supporting said plates and auxiliary chimney, and the other annulus-plate and the upper end of the chimney coming against the shoulders of the top and thereby forming contact therewith, the said chimney and plates being bodily removable from the upper end of the lantern when the hinged top is swung over out of the way.

3. In a signal-lantern, the combination with the lantern-body having an open upper end of appreciable area and a rim 5 within the upper open end forming a seat, of a tapering top hinged to the lantern-body at one side and provided with a catch at the opposite side, said tapering top having offset portions forming shoulders appreciably distant from one another, and a series of circularly-arranged air-entrance apertures between said shoulders, a cylindrical and tapering auxiliary chimney, perforated annulus-plates spaced apart and secured to the outer surface of said auxiliary chimney in planes parallel with one another and at right angles to the imaginary axis of said chimney, said parts being bodily removable from the lantern-body when the top is swung over on the hinge, the said chimney and plates being supported by the lower annulus-plate resting upon the rim 5 which forms a seat to support the entire chimney and plates, the upper annulus-plate when the top is closed coming against the lowermost shoulder forming contact therewith, and the upper end of the auxiliary chimney coming against and forming contact with the uppermost shoulder so as to complete the continuity of the auxiliary chimney with the upper tapering end of the top and to form an air-chimney between the parts of the top and the auxiliary chimney for the entrance of external air to pass down through the perforated annulus-plates, substantially as set forth.

4. In a signal-lantern, the combination with the lantern-body and tapering metal top hinged thereto and having a circularly-ar-



5 ranged series of air-entrance apertures, of an  
auxiliary chimney or tubular septum, a per-  
forated annulus-plate connected to the outer  
surface thereof and arranged to be received  
10 in the upper open end of the lantern-body  
when the hinged top is swung over, and a rim  
in the open upper end of the lantern-body  
forming a seat to receive the annulus-plate  
and to support the same and the auxiliary  
chimney.

5. In a signal-lantern, the combination with  
the lantern-body and tapering metal top  
hinged thereto, of an auxiliary chimney or  
tubular septum separate from the body and

hinged top, and whose maximum diameter is 15  
smaller than the open upper end of the body,  
and of sufficient length when in place to ex-  
tend down into the lantern-body and up into  
the hinged top, and means for supporting the  
said auxiliary chimney at the upper end of 20  
the lantern-body and about midway of its  
length.

Signed by me this 20th day of January, 1904.

FREDERICK W. DRESSEL.

Witnesses:

GEO. T. PINCKNEY,  
S. T. HAVILAND.