

(No Model.)

T. W. EMERY & W. SPENCE.

CHIMNEY CAP.

No. 372,017.

Patented Oct. 25, 1887.

FIG. 1.

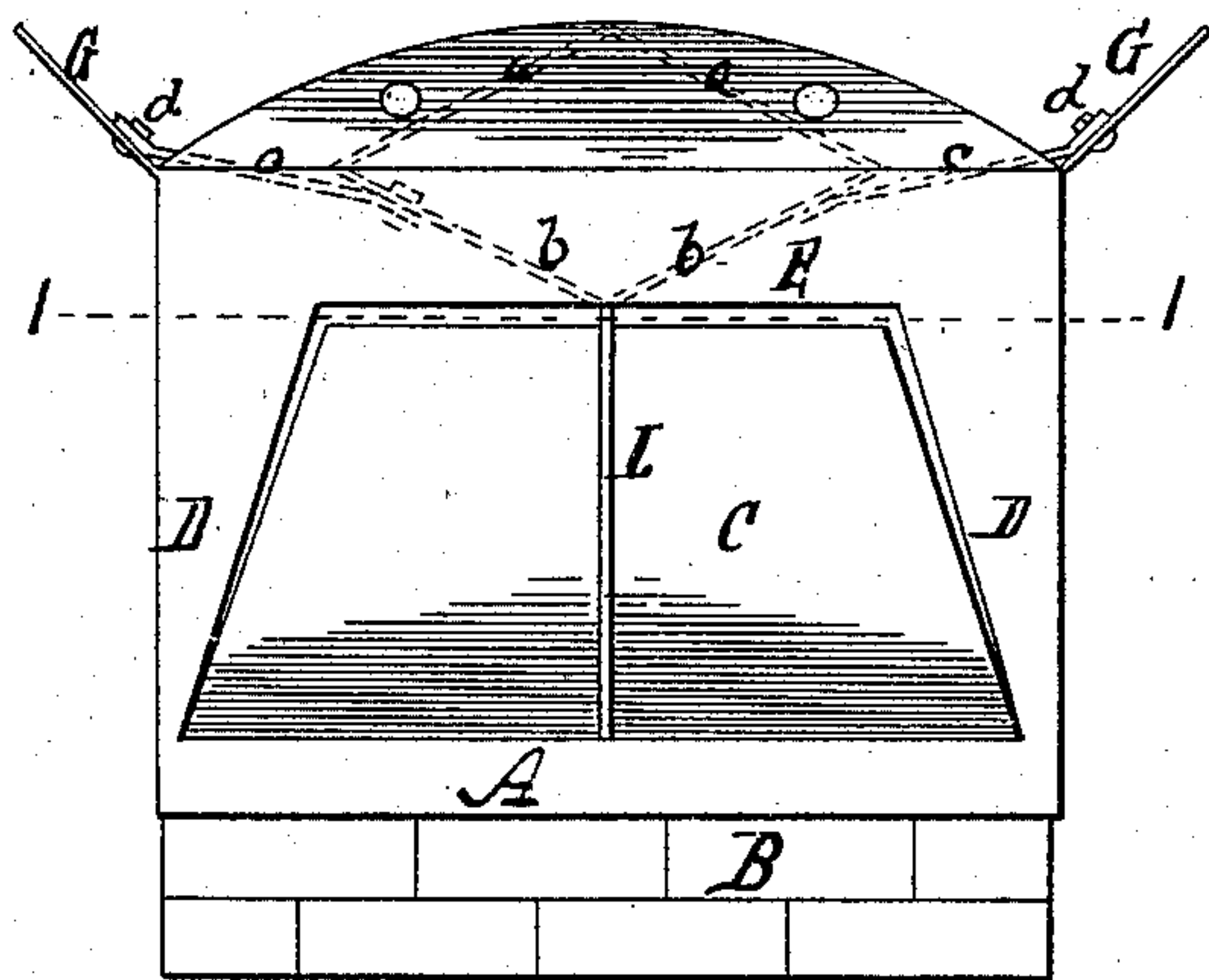


FIG. 2.

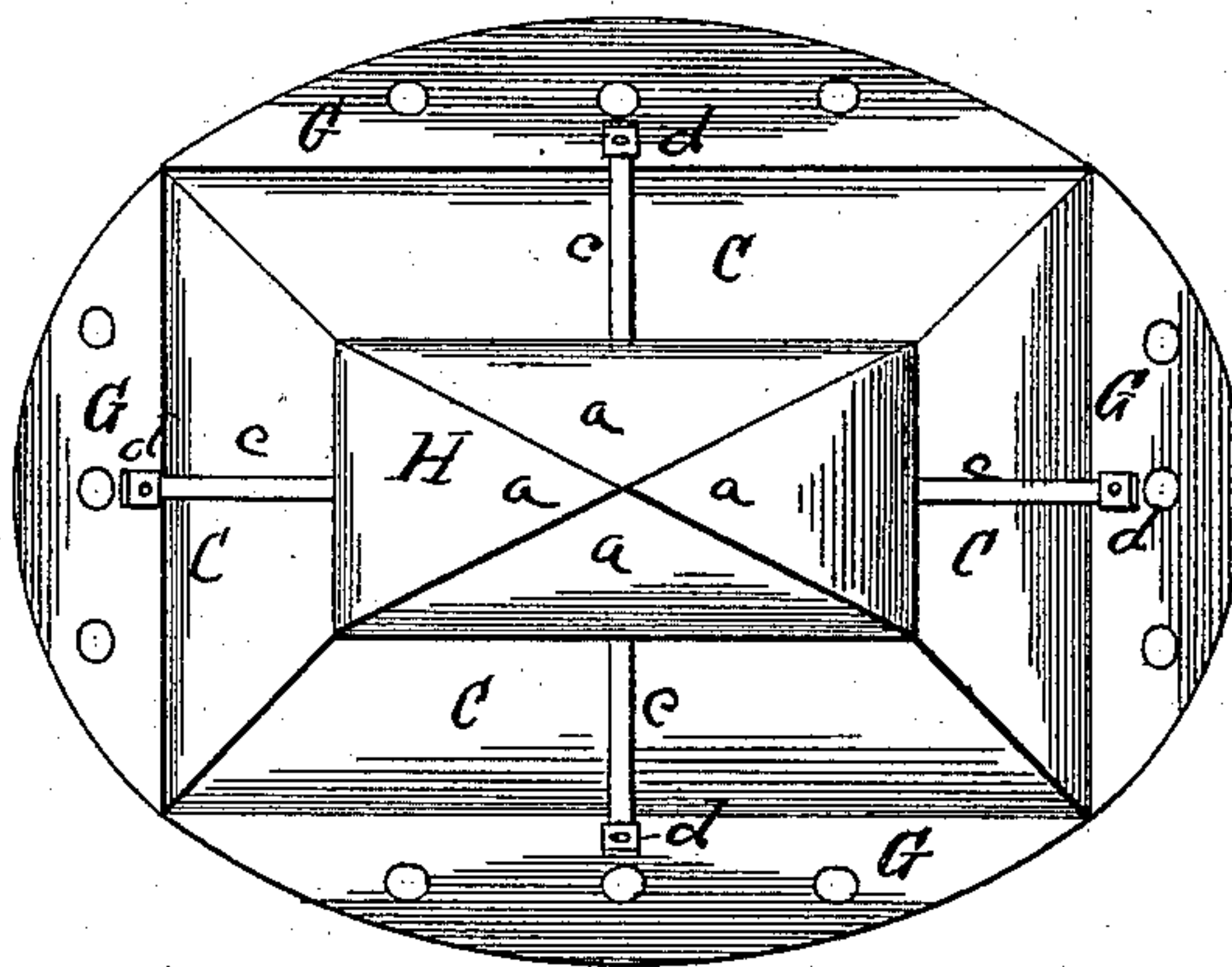


FIG. 3.

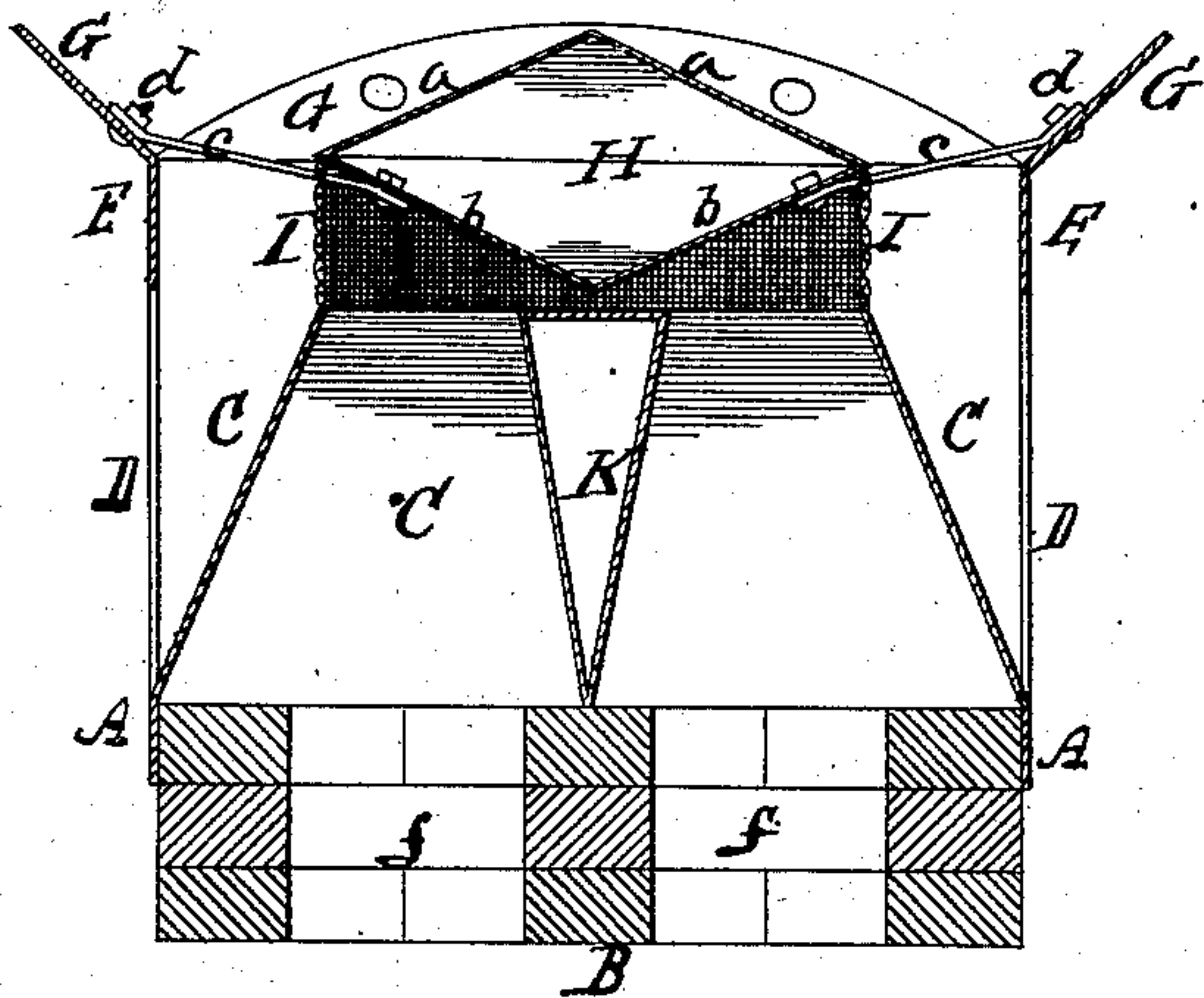
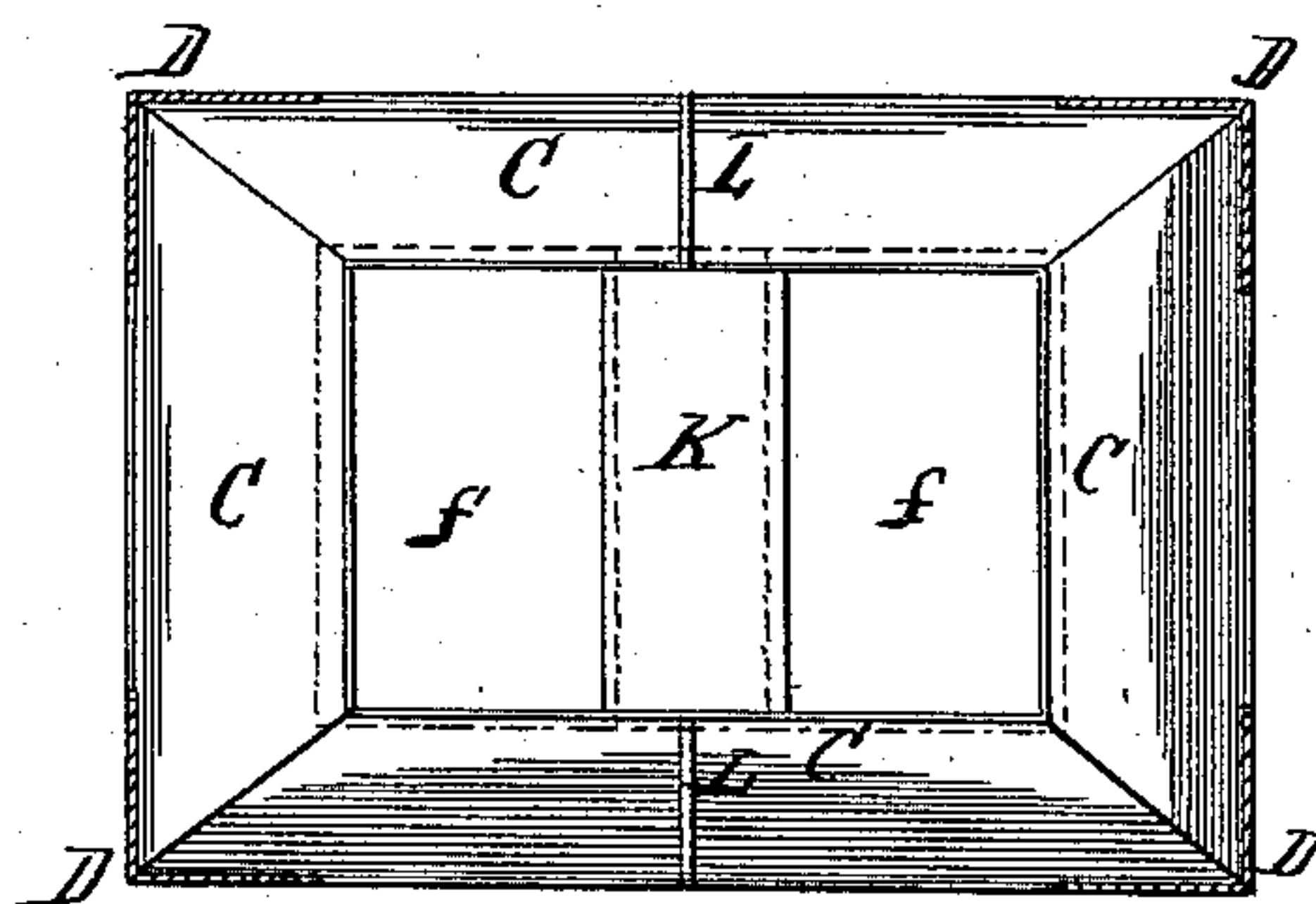


FIG. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

THOMAS WILLIAM EMERY AND WILLIAM SPENCE, OF MINNEAPOLIS,
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CHIMNEY-CAP.

SPECIFICATION forming part of Letters Patent No. 372,017, dated October 25, 1887.

Application filed March 15, 1886. Serial No. 195,232. (No model.)

To all whom it may concern:

Be it known that we, THOMAS WILLIAM EMERY and WILLIAM SPENCE, citizens of the United States, residing in Minneapolis, in the
5 county of Hennepin and State of Minnesota, have invented an Improved Ventilating and Draft-Accelerating Cap for Chimneys, Ventilating-Shafts, and other Uses; and we do hereby declare that the following is a full and
10 exact description of the same, reference being had to the accompanying drawings, making part of this specification.

Figure 1 of the drawings represents a side view of the cap as applied to the top of a chimney; Fig. 2, a top view of the same; Fig. 3, a
15 horizontal section looking downward in a plane indicated by the line 1 1, Fig. 1; Fig. 4, a central vertical section thereof.

Like letters designate corresponding parts
20 in all of the figures.

The form of the base of this cap, as shown in the drawings, is rectangular, and this is the form adapted to most chimneys; but a round or some other form may be best adapted to
25 some other places, and the invention is equally well adapted to such other forms.

The entire body of the cap is easily, cheaply, and preferably made of a simple piece of sheet metal cut in blank to the proper form and then
30 bent into the required shape, and the meeting edges of the sheet metal soldered or otherwise joined, preferably at one vertical corner.

The base A of the cap forms a band, which in the present case fits around the entire top
35 of the chimney B, and is secured there by a simple frictional pressure, or with the assistance of bolts or other means of attachment. Just above the top of the chimney, or at the upper edge of the band on each side, a section,
40 C, is cut from the sheet metal, separated therefrom at three edges, all except where it is connected with the band A below, and these sections are narrowed from bottom to top, as shown, so that they may be all bent inward
45 toward one another, and together form a case in the shape of the frustum of a pyramid when the cap is of rectangular form, but vary from the form of a simple frustum when the form of the cap differs from a rectangular form. The
50 edges where these sections meet are suitably

united by solder or otherwise to give strength and stability to the form. The aperture at the upper edge of the frustum is equal to or sufficient for the size of the flue or flues of the chimney below.

The sections cut away to form the frustum-case, as above set forth, leave the corners of the cap connected with the base-band below, and these corners compose the standards D D, which support the upper parts of the cap. If
55 the cap is round, then, instead of there being corner standards, there are simply integral portions of the sheet metal alternating between the frustum-sections to form the standards. To the upper ends of these stand-
60 ards is joined an upper band, E, extending around the cap, and at the upper edges of the respective faces of this upper band are outwardly-turned and obliquely-situated flanges or wings G G, of curved or any other
65 ornamental form, as shown, or otherwise. This upper band serves to stop the progress of the wind or air-current which strikes the cap, except what passes through the openings formed by cutting out the frustum-sections, and all
70 the air that impinges upon the inclined surfaces of the frustum within is thereby directed upward and out through the open top of the cap, thereby producing or greatly increasing
75 an upward draft from the chimney-flues or ventilating-shaft under and within the cap by the frictional contact of the two joined currents of air. The outwardly-inclined wings G G direct downward and through the side
80 openings in the cap additional portions of the air-current, and on the lee side they assist in directing the draft upward and outward.

In connection with this cap and main ventilator we add a shield-cap, H, which is placed
85 in the open top of the main cap, and is held directly over the opening in the top of the frustum, and covers the same, being of proper form to fulfill this purpose. The upper surface, a, is convex, or has inclined sides, the
90 form for a cap of the shape shown in the drawings being that of a broad low pyramid. This form serves to shed the rain and snow and to direct the same outward, so as not to fall inside of the main cap. The under surface, b, of the shield-cap is also convex, and may be
100

of the same shape as the upper surface and lowest in the center. Having this form, it not only does not impede the upper discharge of the commingled air and draft currents, but
 5 assists in directing them upward and outward, and by contracting the space over the frustum of the cap increases the force of the draft from the chimney or ventilator. This shield-cap is held in place by narrow metallic strips or rods
 10 *c c*, which are secured to the upper band, *E*, or its wings *G G*, as shown in the drawings, or may be attached to the sides of the frustum. By using bolts and nuts *d d* for the attachment, or other equivalent means, the shield-cap may
 15 be readily removed for cleaning chimney-flues without removing the whole cap to gain entrance to the flues.

In addition to the shield cap, as above set forth, we in some cases, where sparks are
 20 to be kept from escaping from flues below, place wire-gauze screens *I I* over the spaces between the shield-cap and the frustum or contracted cone beneath it, as shown in Fig. 1.

It is to be understood that this ventilating
 25 and draft-producing cap is applicable to many uses, as for chimneys, smoke-stacks, ventilators of all kinds, as for houses, cars, steamboats, sailing-vessels, vaults, basements, &c.

In case two or more chimney or ventilator
 30 flues open into the same case or frustum, as shown at *f f* in Figs. 3 and 4, in order that the draft in either flue may not overpower that in the other or others, and to equalize the same, we place a partition or partitions, *K*, between
 35 the flues, inside of the frustum, reaching from the top of the chimney or ventilator to the top of the frustum or thereabout, and in order to secure the best effect, and even to increase the draft of each flue, this portion is preferably
 40 inclined correspondingly to the opposite sides of the frustum, as shown in Fig. 4; and to still further render the action on the draft of one flue independent of that of the other, we pref-

erably place wing-partitions *L L* outside of the frustum, opposite to the partition *K* with- 45 in, as shown in Figs. 1 and 4.

We are aware that a chimney-cap contracted in size from the top of the chimney upward, having a larger band or case around its upper end extending downward considerably below 50 the upper edge of the said cap, and a shield-cap over the said cap, with an open space between the caps, is not new.

We claim as our invention—

1. A ventilating or draft-producing cap con- 55 structed with upwardly-contracted case, side openings opposite to the same, band above the openings supported by standards between the openings, and outwardly-turned wings at the upper edge of the top band, substantially as 60 and for the purpose herein specified.

2. The combination of a chimney or ventilator having two or more flues, cap over the chimney formed with upwardly-contracted case or frustum, shield-cap over the open 65 mouth of the same, and partition or partitions within the frustum between the flues, substantially as and for the purpose herein specified.

3. The combination of a chimney or ventilator having two or more flues, cap over the 70 chimney or ventilator formed with an upwardly-contracted case or frustum, shield-cap over the open mouth of the same, partition or partitions within the frustum between the flues, and wing-partitions outside of the frustum and 75 opposite to the interior partition or partitions, substantially as and for the purpose herein set forth.

In testimony whereof we have hereunto set our hands in presence of two subscribing wit- 80 nesses.

THOMAS WILLIAM EMERY.
 WILLIAM SPENCE.

Witnesses:

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 LOUIS FEESER, Jr.