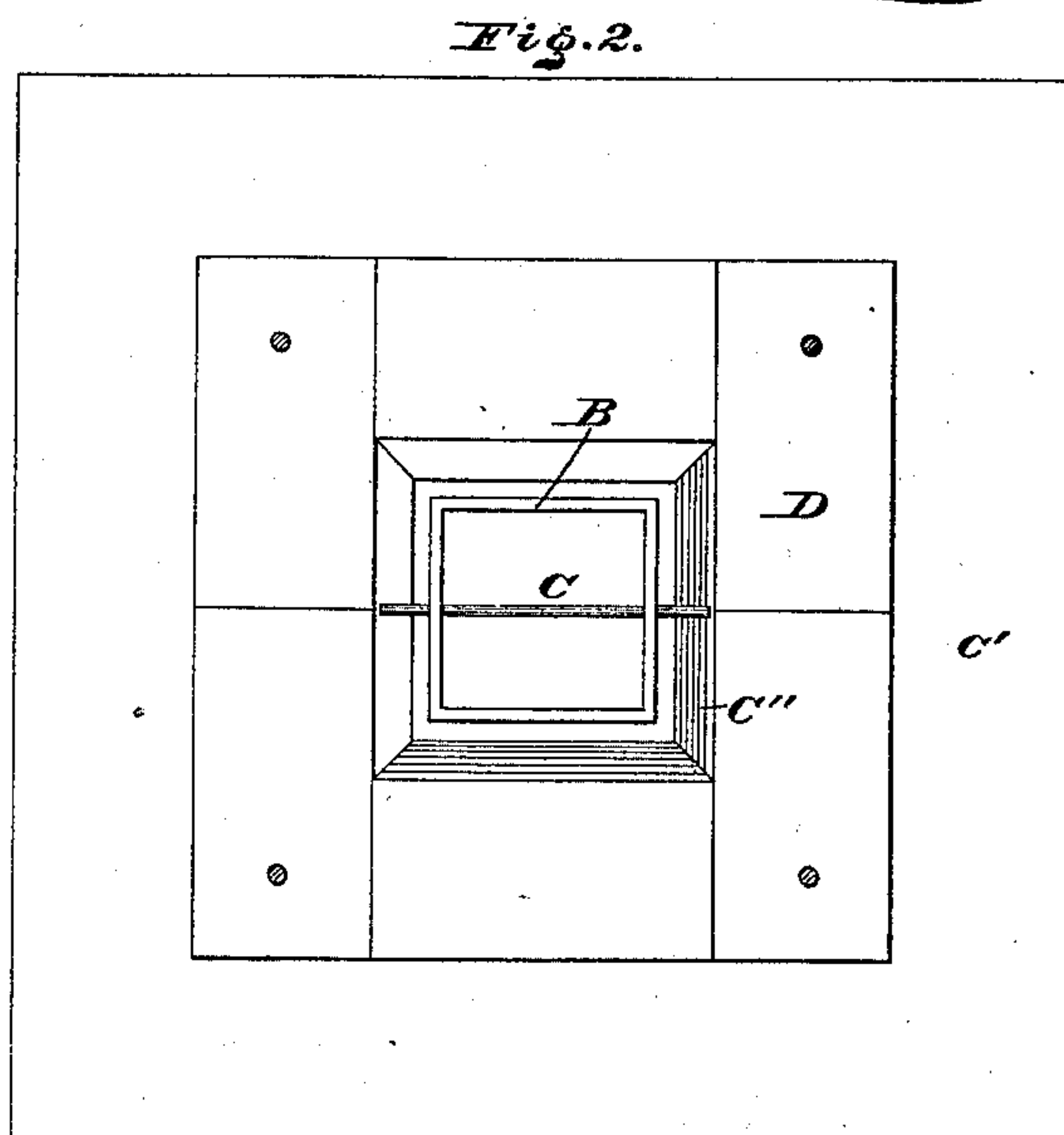
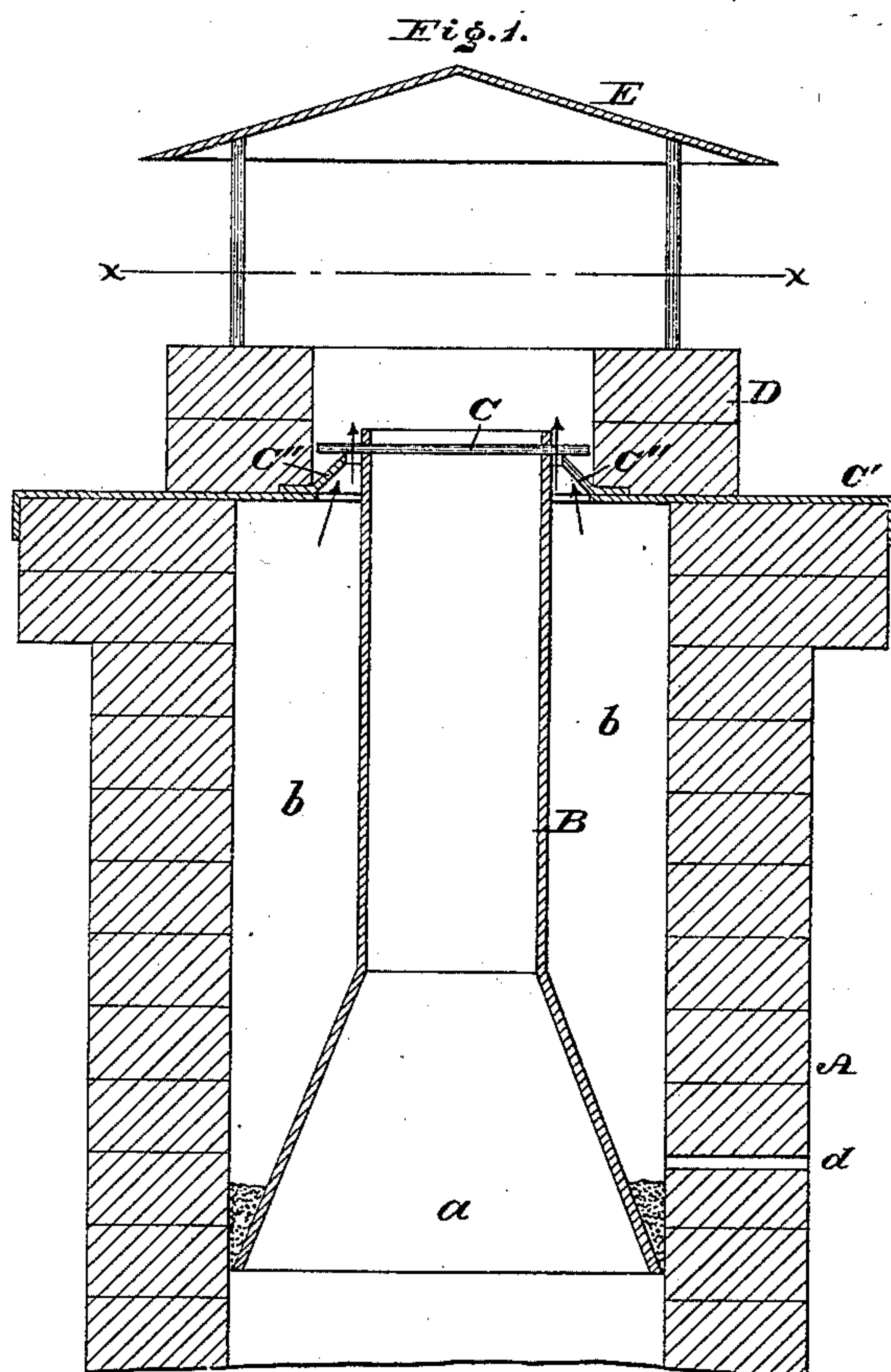


(No Model.)

J. M. PATTERSON.
CHIMNEY.

No. 256,919.

Patented Apr. 25, 1882.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JACOB M. PATTERSON, OF WOODBURY, NEW JERSEY.

CHIMNEY.

SPECIFICATION forming part of Letters Patent No. 256,919; dated April 25, 1882.

Application filed December 22, 1881. (No model.)

To all whom it may concern:

Be it known that I, JACOB M. PATTERSON, a citizen of the United States, residing at Woodbury, in the county of Gloucester, State of New Jersey, have invented a new and useful Improvement in Chimneys, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a vertical section of the chimney embodying my invention. Fig. 2 is a horizontal section in line *x x*, Fig. 1.

Similar letters of reference indicate corresponding parts in the two figures.

My invention consists of a chimney provided with means whereby the draft is increased, substantially in the manner hereinafter fully described, said means being also applicable to chimneys already built without specially constructing or altering the same, excepting the formation of a simple draft-opening when required.

Referring to the drawings, A represents a chimney, which may be formed of brick, terra-cotta, or other suitable material.

B represents a vertically-arranged metallic tube, open at top and bottom, suspended within the chimney, its main length being narrower than the bottom *a*, which is flaring or widened and closely fitted to the sides of the chimney, the joint between said bottom and the chimney being cemented or otherwise sealed, so that the products of combustion enter the tube and so reach the atmosphere, it being noticed that the space between the tube and chimney forms a chamber, *b*, which is closed at bottom and open at top to the atmosphere. Through the top of the tube there is passed a horizontally-extending rod, C, which is of such length that its ends rest on the top plate, C', or top edge of the chimney, whereby the tube is held in position and its weight sustained; or the top of the tube may have sections of flanges or flanges at intervals, which rest on the top or top plate of the chimney.

D represents a wind or weather guard, and E a cap above the chimney, which, however,

do not constitute part of the present invention.

It will be seen that when the products of combustion reach the tube B they enter and heat the same, thus heating the air in the chamber *b*. The ascending hot air from said chamber encircles the top of the tube B and rises above the same, thus serving to create in the tube a vacuum, which is supplied by the products of combustion, and thus the draft of the chimney is increased. When the wind strikes the top of the chimney it creates a vacuum in the chamber *b*, as well as in the tube, and the heated air in said chamber is forcibly drawn out, thus creating a greater vacuum in the tube and further increasing the draft of the chimney.

While the tube may be of the same width throughout, in order to produce the results hereinbefore stated, the flaring or widened bottom permits the tube to be easily applied to new chimneys as well as to old ones without altering the same, and the closing of the joint between the chimney and bottom of the tube by the application of mortar, cement, &c., dropped into the chamber *b* from the top of the chimney and directed on and around the bottom edge of the tube.

For the purposes of repairs, replacement, &c., the tube may be withdrawn and restored at the top of the chimney without disturbing the latter.

In the wall of the chimney is a draft-opening, *d*, which leads into the chamber *b*, so that a draft may be created in said chamber to assist in rapidly expelling the heated air therein.

To the top plate, C', is secured a deflector, C'', which overhangs the opening in said plate, through which the flue or tube B projects, so as to direct the hot air of the chamber *b* as closely as possible to the tube B and insure the creation of a vacuum in the latter.

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

1. The inner flue or tube, B, in combination with the top plate, C', and the deflector C'',

the latter being supported on said plate, and the tube projecting through openings in the plate and deflector and suspended within the chimney from said deflector, substantially as
5 and for the purpose set forth.

2. The inner flue or tube, B, in combination with the rod C, which is passed through the wall of the tube and sustained on the top of the chimney, substantially as and for the
10 purpose set forth.

3. The chimney, in combination with the inner flue or tube, B, rod C, deflector C'', and top plate, C', substantially as and for the purpose set forth.

JACOB M. PATTERSON.

Witnesses:

JOHN A. WIEDERSHEIM,
A. P. GRANT.