

W. QUAYLE.
CHIMNEY-TOPS.

No. 195,399.

Patented Sept. 18, 1877.

fig. 1.

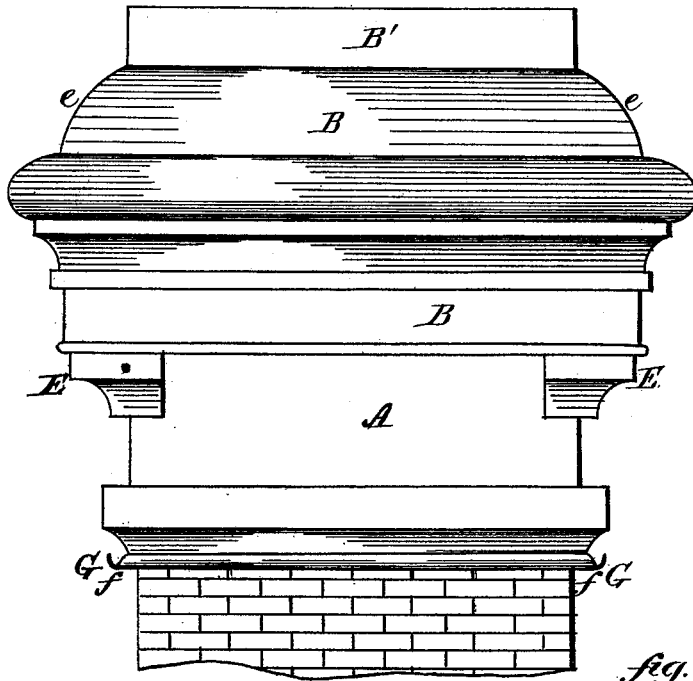


fig. 2.

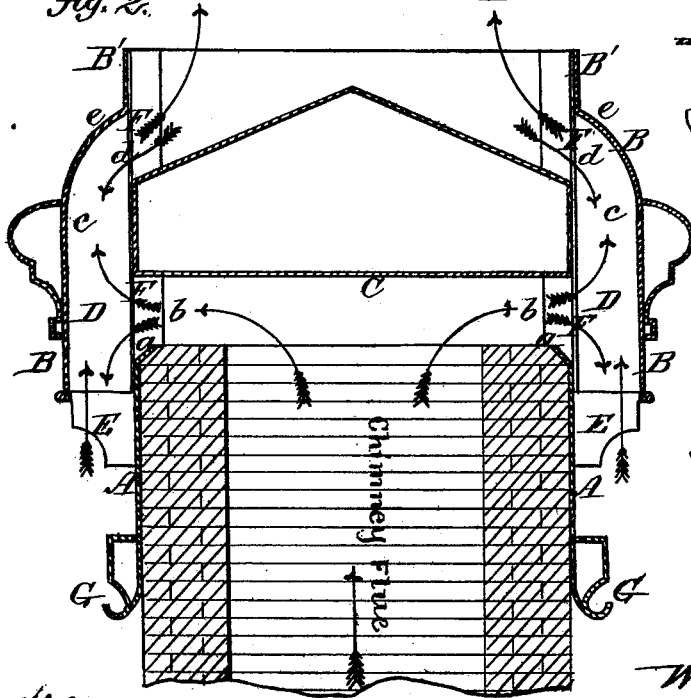
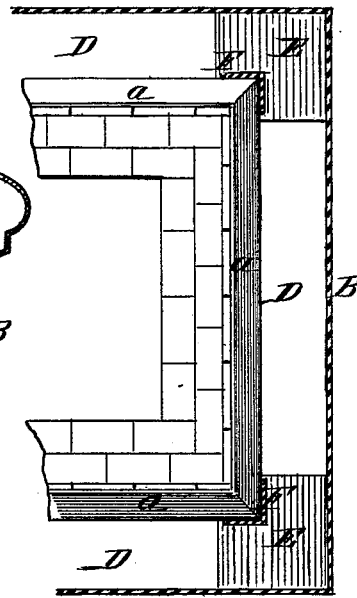


fig. 3.



Witnesses:
Fred Morris.
Geo. P. Patten.

William Quayle,
Inventor,
by *Johnson & Johnson*
Attys.

UNITED STATES PATENT OFFICE.

WILLIAM QUAYLE, OF PEORIA, ILLINOIS, ASSIGNOR OF ONE-HALF HIS
RIGHT TO CULTER, SANDMEYER & CO., OF SAME PLACE.

IMPROVEMENT IN CHIMNEY-TOPS.

Specification forming part of Letters Patent No. 195,399, dated September 18, 1877; application filed
April 17, 1877.

To all whom it may concern:

Be it known that I, WILLIAM QUAYLE, of Peoria, in the county of Peoria and State of Illinois, have invented a new and useful Improvement in Chimney-Tops and Ventilators, which improvement is fully set forth in the following specification and accompanying drawings.

My object is to produce a cap for chimneys and ventilating-flues, adapted as an ejector for smoke and gases and exclude rain, being also adapted as a ventilator for air-shafts for buildings, &c., the construction being such as to allow an effective draft, whether the wind be blowing horizontally, upward, or downward.

In accomplishing this I find that the flue-outlets should be equal in area to the flue of the chimney, and for this purpose the central cap-deflector is arranged in such relation to the top of the chimney and to a surrounding outside vertical flue as to make the area of the outlet beneath the cap-deflector and of the vertical side flue each equal to the area of the chimney-flue, and by this means prevent the least impediment in the draft of the chimney.

Many chimney-caps have been designed with central deflectors and outside flues; but so far as I know there has been no provision for equalizing the outlets with the chimney-flue, which is vital to a proper draft of the chimney.

The cap is telescoped with the chimney and supported upon the top thereof by an inwardly-bent flange formed upon the upper edge of the telescoping portion, and this part serves to bind the bricks in place and protect them from the effects of the weather. The lower edge of the telescoping portion of the cap is formed into a gutter-shaped molding with open corners, whereby the rain or drippings from the deflector and from the outer chimney-wall are collected and pass out at the open corners of the spout, and thereby prevent any discoloration of the chimney-wall from this cause.

The outside vertical flue is formed by the outer cap portion or case, which is secured to the inner telescoping portion by quoin-brackets at points below the chimney-top. The cap-deflector is supported by angle-irons, which fit

over the angles on the outside of the telescoping portion, and the angles on the inner side of the outer case.

The vertical flue is formed by the outer case outside of the chimney-wall, and is open below the chimney-top and above the cap-deflector, the outer case being curved inward above the deflector to bring the top outlet in line with the vertical sides of said deflector and the chimney-wall, so that the wind may blow downward or upward, but is prevented from being blown down the chimney-flue.

In the claims I shall specifically point out the particular features of my improvement.

Referring to the drawings, Figure 1 represents an elevation of a chimney cap and ventilator embracing my invention; Fig. 2, a vertical section thereof, and Fig. 3 a horizontal section, taken above the chimney-flue.

The cap consists of a wall portion, A, which telescopes a suitable distance with the upper portion of the chimney, and an outer case or shield, B, which incloses the central cap-deflector C, and forms a vertical flue, D, outside of the chimney-wall and above the chimney. These two parts A and B are secured together by quoin-brackets E below the chimney-top, and the central cap-deflector is secured in position over the chimney-flue by angle-irons F, secured to and extending from the angles of the wall portion A, on the outside, and to the angles of the shield-case B, at the inner side of the top thereof. The parts thus secured form the cap, which is secured and supported by means of an inwardly-bent flange, a, at the upper edge of the wall part A upon the chimney-top, as shown in Figs. 2 and 3.

The central cap-deflector extends over and above the chimney-flue, so as to bring its sides in line with the wall part A, thus forming a horizontal outlet, b, between the central cap and the top of the chimney, while the outer case B extends from a point below the chimney-top to above the cap-deflector, forming a surrounding outside flue, c, the top outlet d of which is in vertical line with the vertical sides of the deflector, and is formed by an inward and upward bend, e, of the outer case, so that the smoke and gases from the chimney pass out beneath the cap-deflector and are driven

up or down the side flue according as the wind may be blowing. In either case the draft and suction of the side flue will always preserve the upward draft of the chimney. This result, however, is only effectually obtained by reason of the equalization of the outlets and the chimney-flue. At three points of outlet—viz., *b c d*—this equalization of area must be made with the chimney-flue in order that the draft may be as free at the outlets as within the chimney.

The wall part *A* terminates at its lower edge in a gutter, *G*, which is open, as at *f*, at the angles of the chimney, so that the rain and drippings over the wall portion are collected in the gutter and pass off at the corners away from the wall, and prevent the chimney-wall from being discolored from soot, &c.

The top of the cap-deflector is made conical to shed the rain. The shield or case *B* rises from the curved part *e* so as to bring the top *B'* in line with the vertical sides of the deflector and chimney-wall, and bring the opening *d* coincident with the contracted top.

The cap is very ornamental in its general design, consisting of series of moldings, the

most prominent of which is a shelf-like molding and large ovolo at the top portion.

I claim—

1. The cap-deflector *C*, and the outer case *B*, constructed and arranged with reference to the outer wall of the chimney and its flue, to form the vertical side flues *c* *D*, the cap-outlets *d*, and the main flue outlets *b*, of equal area with the chimney-flue, said outlets *b d* being in line with the outside of the chimney-wall, as shown and described.

2. The telescoping part *A*, having the inward-bent flange *a*, in combination with the quoin-brackets *E*, and the angle-irons *F*, as and for the purpose herein set forth.

3. The combination, with the wall part *A* of a chimney-cap, of the gutter *G*, having the open ends *f*, as and for the purpose herein set forth.

In testimony whereof I have hereunto set my hand in the presence of two witnesses.

WILLIAM QUAYLE.

Witnesses:

J. F. HOKE,

JOHN M. HENDERSON.