

F. A. Finn

Chimney Cap.

N^o 5,962.

Patented Dec. 12, 1848.

Fig. 2

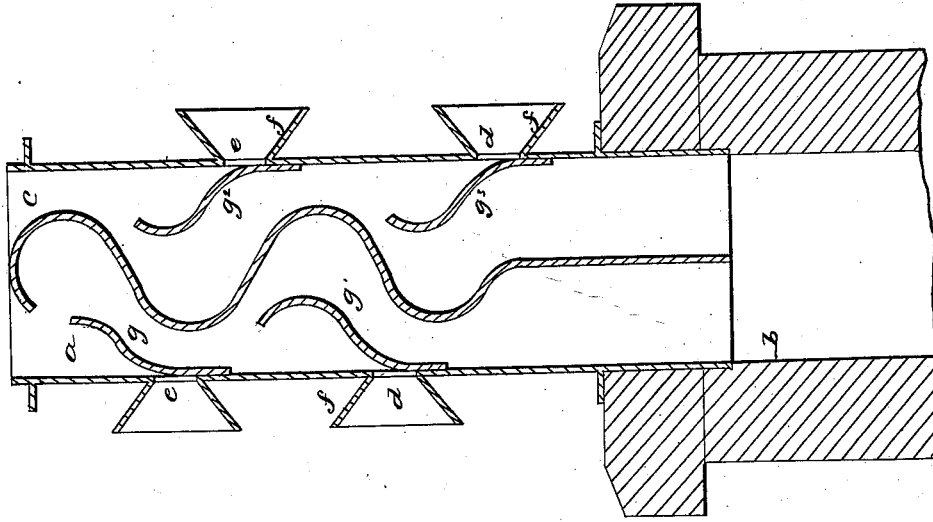
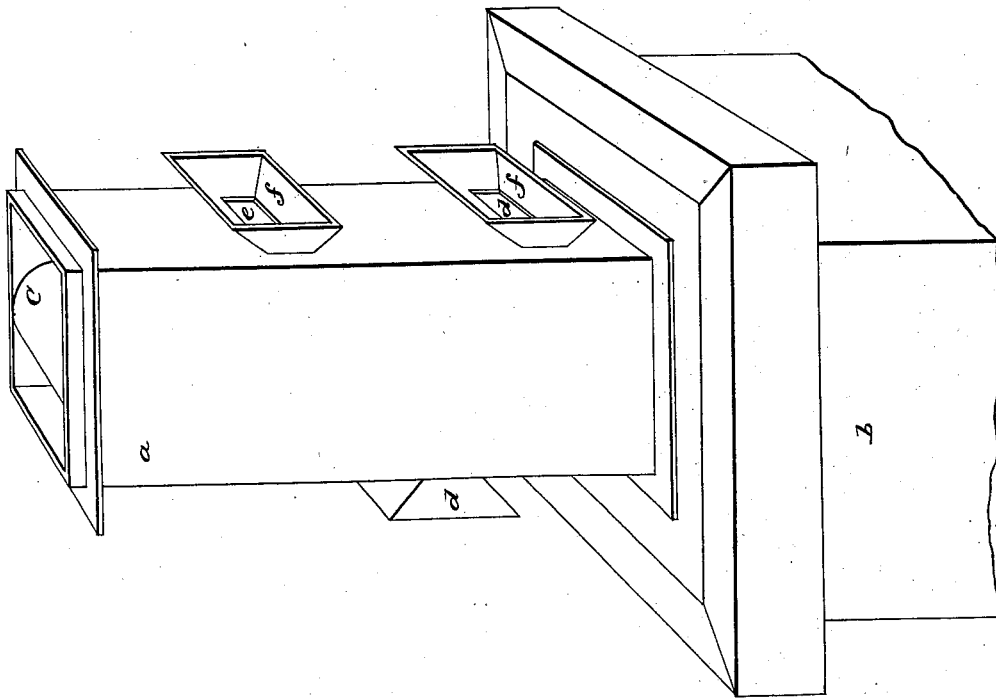


Fig. 1



UNITED STATES PATENT OFFICE.

FELIX A. FINN, OF NEW YORK, N. Y.

CHIMNEY-CAP.

Specification of Letters Patent No. 5,962, dated December 12, 1848.

To all whom it may concern:

Be it known that I, FELIX A. FINN, of the city, county, and State of New York, have invented new and useful improvements in chimney caps to prevent smoking either from the want of draft or from currents blowing down the flues of chimneys, and which may be used as a ventilator, and that the following is a full, clear, and exact description of the principle or character which distinguishes them from all other things before known and of the manner of making, constructing, or using the same, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of my improved chimney cap, and Fig. 2 a vertical section thereof.

The same letters indicate like parts in the two figures.

Chimneys smoke from one of three causes, viz, either because the supply of air to the room through places other than the flue is not sufficient to supply combustion and the rarification, or from external currents blowing down the chimney with a force greater than the upward force of the draft produced by rarification, or, because of a preponderating upward current in some other part of the house which will draw its supply from downward currents in another flue or flues. The first part of these is proved by the practice often resorted to of opening a door or window to give draft to a chimney, which will not otherwise draw. The second by the puffs of wind descending the chimney which often not only blow the smoke but sometimes even ashes into the room. And the last by making fire in two rooms of unequal size or one having tight windows and doors and the other loose, with an open door communicating between the two, in either of which cases one chimney will draw its supply of air from the other, causing a downward current therein which prevents the smoke and other products of combustion from rising. The object of my invention is to remedy these evils.

The first part of my invention is based on the well known fact that an upward and a downward current of air can be produced in a tube by rarification, the circulation being kept up by the continued rarification, and consists in using a partition at the top of the flue, and descending to any extent desired, which partition will separate one side

of the chimney from the other that the downward current to supply the combustion and the current produced by rarification may at the start be separate, the tendency of these currents being to continue separate when once started; the partition having the effect at the same time to prevent the smoke at the top of the chimney from mingling with the air that supplies the downward current. And the second part of my invention consists in providing the chimney cap with apertures on two opposite sides, when combined with curved partitions so arranged that currents which blow into these apertures will be deflected upward and in passing upward will tend to exhaust the flues of the chimney, or when blowing down the chimney shall be deflected and carried out through the side aperture instead of passing down the flue, the upward current from the fire being free at the same time to pass out without any interruption from such blasts of air.

In the accompanying drawings (a) represents a square metal chimney cap on a chimney flue (b). The flue in this cap is divided into two equal parts by a partition which is vertical for a short distance, and is then extended to the top by a double ogee curve, the upper end being then curved down to present a semi-cylindrical curve (c) at the top of the chimney cap. The two sides of the cap which are parallel with the lower part of the partition are each made with two apertures (d, d,) and (e, e,) provided outside with sloped flanches (f) to gather in the currents of wind, and to the lower and inner edges of each is attached a wing (g g' g² g³) curved to correspond with the curves of the o. g. part of the middle partition so that the upper edge of the upper one on the left hand side in the figure shall be about vertically below the turned down edge of the middle partition with space sufficient between them for the passage of the draft, that if it (the draft) should be struck by a downward current of wind the whole will be carried out of the upper lateral aperture, and if by any possibility a portion of the draft should be carried down below this upper wing (g) it will be caught by the second that lies in the second curve of the middle partition, and by it to be deflected and carried out of the lower left hand aperture. The wings (g²) and (g³) of the two apertures on the right side are located in a

corresponding manner on the right hand side of the cap and have the same effect when a current blows down that side of the cap. When a current of wind blows into
5 these side apertures it is deflected and carried upward and passing by the apertures of the flues formed between the wings and the curved surface of the middle partition exhausts the flue on that side of the partition in which the current blows, the draft
10 on the other side being free to pass out or in as the draft in the chimney may require.

I wish it to be understood that the number of curves in the middle partition and the number of lateral openings and wings
15 may be increased or diminished without changing the principle of my invention, although the number represented in the drawing is deemed the best. And that the
20 first part of my invention can be used without the second and produce a good effect in

some cases; but it will be found better to use the whole together, particularly as most smoky chimneys smoke from various causes, under various circumstances.

What I claim as my invention and desire to secure by Letters Patent, is—

Curving the partition in manner substantially as described, in combination with the lateral openings and wings in the sides of
30 the chimney caps, as described, that blasts of wind blowing in through the lateral apertures may tend to exhaust the flue and aid the draft, and by means of which also, downward blasts of wind shall be prevented
35 from passing down the chimney flue as described.

FELIX A. FINN.

Witnesses:

ALEXR. PORTER BROWN,
C. W. M. KELLER.