

L. F. BETTS.
CHIMNEY CAP.

Fig. 2.

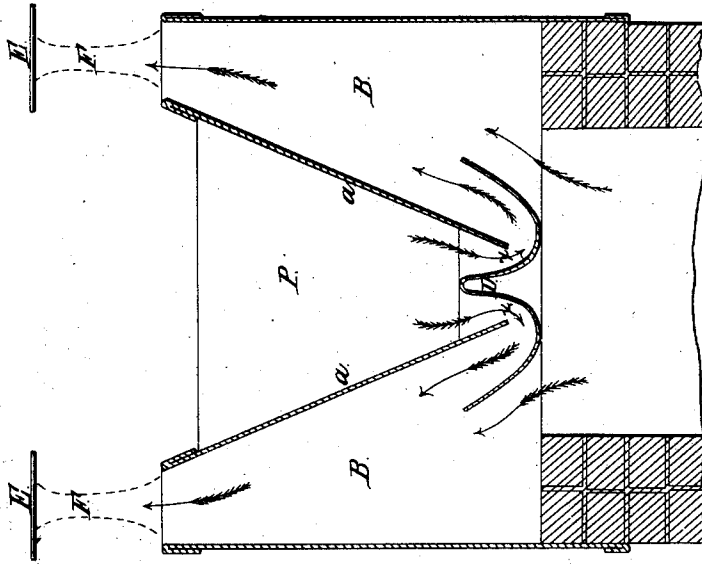
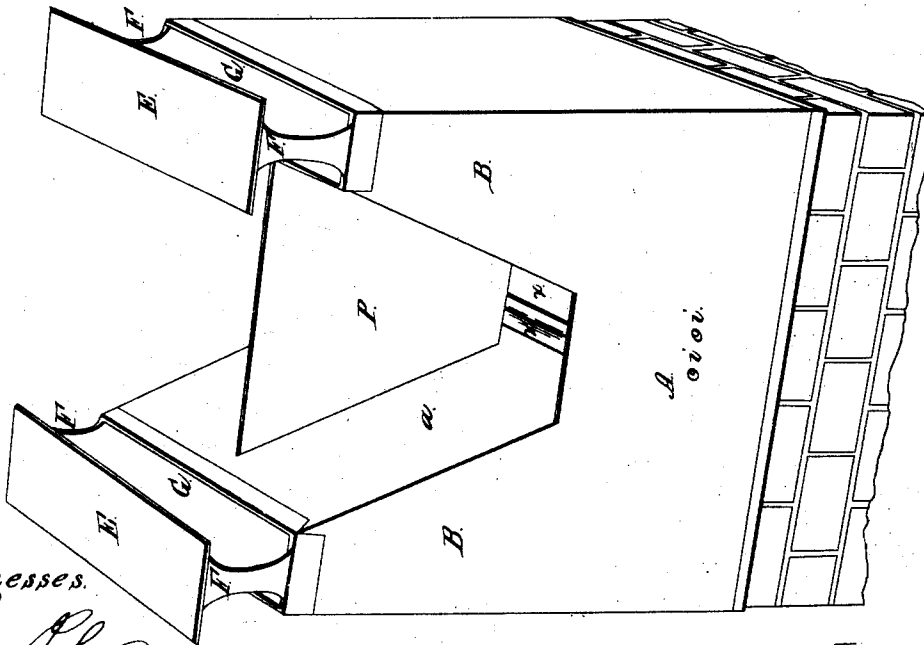


Fig. 1.



Witnesses.

George Johnson.
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Inventor.

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UNITED STATES PATENT OFFICE.

LEWIS F. BETTS, OF ALBION, MICHIGAN.

IMPROVEMENT IN CHIMNEY-CAPS.

Specification forming part of Letters Patent No. 37,270, dated January 6, 1863.

To all whom it may concern:

Be it known that I, LEWIS F. BETTS, of the village and township of Albion, in the county of Calhoun and State of Michigan, have invented a new and useful Improvement in Chimney-Caps; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view. Fig. 2 is a longitudinal vertical section.

This improvement is for the purpose of increasing the draft in chimneys which, from their locality—such as being adjacent to very high buildings, bluffs, or mountains—are subjected to the action of what is generally termed a “beating wind,” the downward motion of which with its cross-currents and eddies, produces such a pressure on the chimney-flue as to obstruct the escape of the smoke.

I usually construct my improved caps of galvanized sheet-iron, on account of its non-liability to rust.

The main body of the cap, when first formed, is simply a deep rectangular box, as exhibited at A, open above and below, its interior horizontally being of the exact form and size of the chimney to which it is to be attached. It is usually made from a single sheet, bent to the required shape and riveted or otherwise attached at one corner. This is divided partially into two compartments or flues, B B, which is done by cutting away a triangular-shaped piece of the metal sheet from the upper and central part of each of the sides marked A, and attaching a sheet of iron, *a*, to each pair of sloping edges so formed.

By reference to Fig. 2 it will be seen that the lower ends of the sloping sides *a a* do not come together, but are left a short distance apart, for reasons to be presently explained, and also that said sides project downward below the flattened apex of the triangular shaped space formed by cutting away the sides, as previously described.

D represents what I term a “guide-plate,” extending laterally across the inside of the cap. It is corrugated by bending, so as to resemble somewhat two semicircular troughs, and its central ridge between the curves projects upward above the lower ends of the sloping sides *a a* of the flues. This guide-plate D is also so

arranged relatively with the lower ends of the said sides *a a* as to leave a narrow slot or inlet (marked *x*) on each side of the central ridge aforesaid, which inlets are made sufficiently large to admit a free passage for the wind into the interior of the flues B B.

E E represent two cowls, which are attached by standards F F above the flues. They are flat metal sheets, but they may be made semicircular and ornamental otherwise in their character.

P is a partition of sheet-iron attached to the sheets *a a* in the center between the flues.

To prevent rain or melted snow from accumulating in the troughs of the guide-plate D, I usually make one end of said plate lower than the other, and make two holes, *ii*, through the side, to allow the water to escape.

As the shell of the cap is made to fit snugly around the chimney, the under side of the guide-plate resting on the brick-work, it is held quite firmly, and usually requires no other fastening.

By the peculiar arrangement of parts, as herein described, the wind itself is made the instrument by which the draft is created and regulated, without any requirement of change of position in any of such parts, for as the area of the two flues at the points G G, where the smoke escapes, is less than the area between, and as the cowls E E partially relieve the pressure, the descending wind, impinging on the sloping sides *a a* and partition P, accumulates in the recess, and is driven with increased velocity in the direction of the arrows toward and through the inlets *x x*, and, following the curves in the guide-plate D, is conducted upward and creates a partial vacuum below, which permits the smoke to escape.

I do not claim forming two flues or outlets for the smoke and protecting them with cowls, as this is in common use; but

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

The peculiar arrangement of the two flues B B, in combination with the openings or inlet-passages *x x*, guide-plate D, and cowls E E, substantially in the manner and for the purposes specified.

LEWIS F. BETTS.

Witnesses:

FRANCIS W. SHEARMAN,
GEORGE JOHNSON.