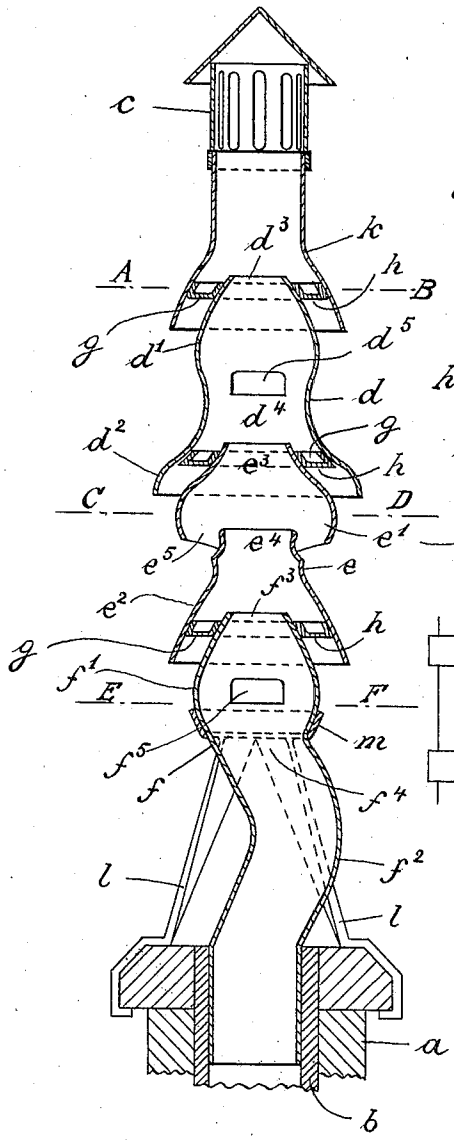
W. J. CALDER.

CHIMNEY COWL OR TOP.

APPLICATION FILED JAN. 14, 1919.

1,310,470. Patented July 22, 1919.

Fig. 1.



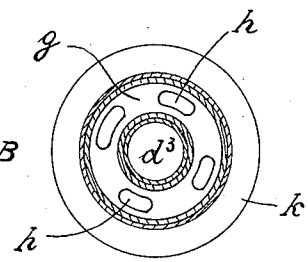


Fig. 2.

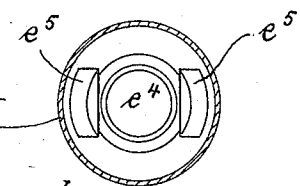


Fig. 3.

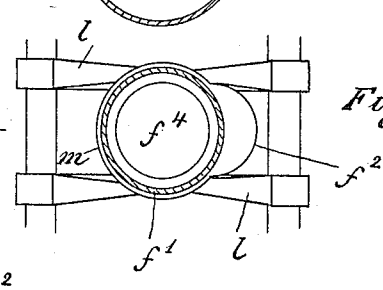


Fig. 4.

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UNITED STATES PATENT OFFICE.

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CHIMNEY COWL OR TOP.

1,310,470. Specification of Letters Patent. Patented July 22, 1919.

Application filed January 14, 1919. Serial No. 271,167.

To all whom it may concern:

Be it known that I, WILLIAM JOHNSON CALDER, doctor of medicine, a subject of the King of England, residing at Edinburgh, Scotland, Great Britain, have invented certain new and useful Improvements in Chimney Cowls or Tops, of which the following is a specification.

This invention relates to chimney cowls or tops and its object is to so make the same that down drafts will be prevented.

Under this invention the top consists of a structure of peculiar shape comprising one or more superimposed parts each of a special combined bulbous and conic formation as hereinafter described. Each part has a globular body open at top and bottom so as to form restricted passageways or throats and, forming a continuation of the bottom of the globular body, is an enlargement which is preferably made of a flared or truncated cone formation and is so fitted on, or over, the next globular body as to leave lateral passageways at either side for the escape of any downrush of air. Each globular body may have air escape openings at the opposite sides thereof. The structure may be surmounted by a top of a truncated conic formation upon which a revolving or other cowl is or may be placed.

There may be three globular parts with their depending conic enlargements arranged one above the other. Owing to the special formation of these parts any air rushing downward escapes at either side of the structure.

In order that the invention may be clearly understood I make reference to the accompanying drawings which show, by way of illustration or example, one mode of constructing the chimney cowl or top. In these drawings:—

Figure 1 is a vertical section of the chimney cowl;

Fig. 2 is a cross section on the line A—B, Fig. 1;

Fig. 3 is a cross section on the line C—D, Fig. 1;

Fig. 4 is a cross section on the line E—F, Fig. 1.

Referring to the drawings:—

a is the chimney stack, *b* the vent lining, and *c* an ordinary top or cowl. The improved cowl, as shown, comprises three parts *d*, *e*, *f*, the part *d* being of combined globular and conic formation, the part *e* also of combined globular and conic formation and the part *f* of globular formation with a depending pipe or flue. The part *d* is supported on the part *e* by means of a flanged ring *g* in which four apertures *h* are made, and the part *e* is supported on the part *f* in a similar manner.

The part *d* has a globular body d^1 and a lower portion of flared or conic formation d^2. d^5 are apertures in the globular body, one at each side.

The part *e* has similarly a globular body e^1 and a flared lower portion e^2 with air escape apertures e^5, one at each side. The shape of the part *e* may, as shown, be slightly different from that of the part *d*.

The lower part *f* has a globular body f^1 and a tubular part f^2 the lower end of the tube fitting into the chimney vent. It has apertures at opposite sides at f^5. The various parts have restricted passageways or throats at d^3, d^4, and e^3, e^4, and f^3, f^4, respectively.

The part *d* may be surmounted by a top *k* of truncated conic formation upon which the cowl *c* is fitted. The top is supported by a flanged ring *g* having apertures *h* therein.

For the purpose of supporting the structure and stiffening it against lateral wind pressure there may be metal standards or supports *l* connected with a supporting ring *m*.

It will also easily be understood that the device described may be constructed and arranged to suit circumstances. For instance, the height from the ring *m* to the top of the cowl can be reduced considerably by building the tubular part f^2 entirely or nearly so into the mason work of the chimney, and by lessening the height of the device to about four feet for residences, or increasing it for chimneys of manufacturing establishments, the vacuum caused in the middle globular body is diminished or increased accordingly.

Having now fully described my said invention, what I claim and desire to secure by Letters Patent is:—

1. In the herein described chimney cowl, the combination, with a plurality of superimposed parts of which the top and bottom part are provided with air escape apertures, one on either side, each of the said parts being of combined bulbous and conic formation and open at the top and bottom to form passageways, of means to support the several

parts on one another and on the chimney, all substantially as and for the purpose set forth and shown.

2. In the herein described chimney top, the combination, with three superimposed parts having air escape apertures, of which the two top parts are of combined bulbous and conic formation and the bottom part formed into a globular body terminating in a tube which fits into the chimney vent, and all the parts being open at the top and bottom to form passageways, of a top of truncated conic shape and surmounting the upper of the said three parts, an ordinary cowl fitted on said top, flanged and holed rings mounted in said passageways and supporting the superimposed parts, and means to support the whole structure on the chimney and stiffen said structure, all substantially as and for the purpose set forth.

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

WILLIAM JOHNSON CALDER.

Witnesses:
HELEN SUTHERLAND,
ALBERT HILLIARD.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."