(No Model.)

R. M. PANCOAST.

VENTILATOR OR CHIMNEY COWL.

No. 476,682. Patented June 7, 1892.

FIG. 1.

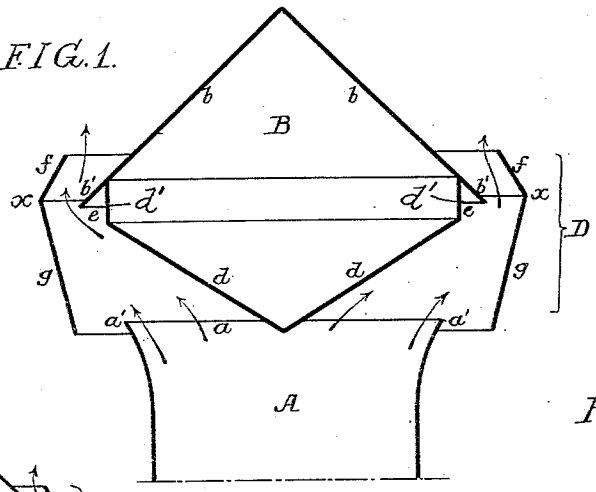


FIG. 8.

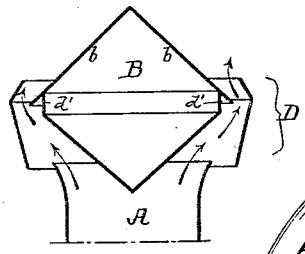


FIG. 3.

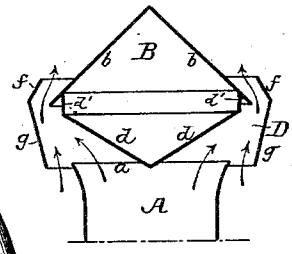


FIG. 2.

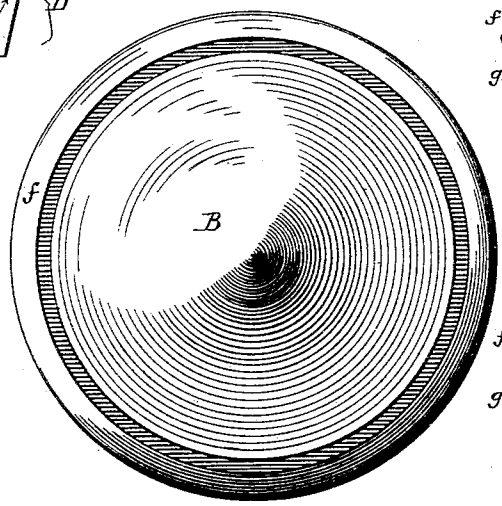


FIG. 4.

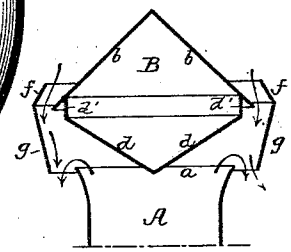


FIG. 6.

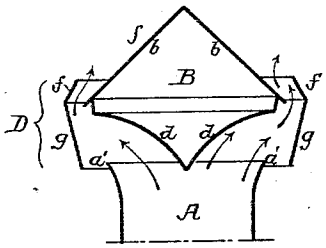


FIG. 7.

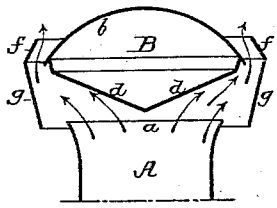
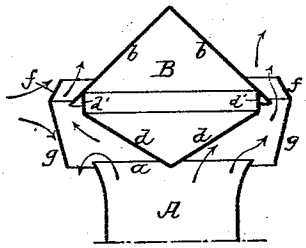


FIG. 5.



Witnesses
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Eugene Elterich

Inventor
Richard M. Pancoast
by his Attorneys
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UNITED STATES PATENT OFFICE.

RICHARD M. PANCOAST, OF CAMDEN, NEW JERSEY.

VENTILATOR OR CHIMNEY-COWL.

SPECIFICATION forming part of Letters Patent No. 476,682, dated June 7, 1892.

Application filed June 22, 1891. Serial No. 397,030. (No model.)

To all whom it may concern:

Be it known that I, RICHARD M. PANCOAST, a citizen of the United States, and a resident of Camden, Camden county, New Jersey, have invented certain Improvements in Ventilators or Chimney-Cowls, of which the following is a specification.

The object of my invention is to furnish a cowl for chimneys, ventilating-flues, &c., that will be absolutely storm-proof and that will furnish free egress for the smoke, &c., when the outside air is calm, and which will increase the draft by any motion of the outside air. This object I attain in the following manner, reference being had to the accompanying drawings, in which—

Figure 1 is a vertical sectional view of my improved exhaust-cowl. Fig. 2 is a plan view. Figs. 3, 4, and 5 are diagram views. Figs. 6, 7, and 8 are views illustrating modifications of my invention.

A is a neck of the cowl, which can be secured to the chimney or ventilating-flue in any suitable manner.

B is the head, having a conical or tapered crown *b*, as shown in Fig. 1, and its base *d* is in the form of an inverted cone, which tends to guide the smoke or the air from the chimney in an easy course without causing any back pressure, due to the backing of the smoke under the head.

The upper end of the neck A is preferably flared, as shown, for the purpose described hereinafter.

The inverted cone *d* is connected to the crown *b* by a vertical or nearly vertical flange *d'*, having an annular space *e* between the projecting edge *b'* of the crown and the flange. The object of this construction is to prevent water that may seek the edge *b'* of the crown from dripping onto and flowing down the cone *d* into the neck A, this break causing the water to stop at the edge of the crown and drop off clear of the chimney-opening. At the same time this break does not interfere with the free flow of smoke or air out of the stack, as the edge *b'* of the crown is higher than and stops short of the rim of the base or cone *d*, as clearly shown by dotted lines in Fig. 1.

In order to prevent any downdraft whatever in the flue and to aid the updraft when the outside air is in motion, I provide a deflector D, having, preferably, two inwardly-inclined surfaces *f g*, one extending above and the other below the center line *x x*. The surface *f* extends up to a point sufficient to prevent air or rain from beating down in an oblique line into the stack, and the surface *g* extends to a point sufficiently below the upper edge *a'* of the neck A as to prevent wind or rain from blowing in under the edge of the deflector and into the body of the cowl.

In Fig. 1 I have shown by arrows the exit of the smoke or air from the body of a cowl during a calm. In Fig. 3 I have shown by arrows the action of an updraft from the outside. In Fig. 4 I have shown the action of a downdraft. In Fig. 5 I have shown the action of a side draft.

The flaring mouth *a* of the neck A directs the air, when an upward current, through the annular flue, formed between the head B and the deflector D.

In Fig. 6 I have shown the walls of the base *d* of the head B concaved, and in Fig. 7 I have shown the crown of the head rounded on top, and in Fig. 8 I have shown an extreme taper or elongation of the inverted cone *d* of the head, where it is necessary to provide as straight a draft as possible for the exhaust of heavy smoke, which would be retarded more by a flatter deflecting cone.

Thus it will be seen that I make a chimney-cowl that is simple in construction and that is absolutely proof against rain and downdrafts, and which will readily allow smoke and air to escape during a calm and will help the exhaust when the outside air is in motion.

I claim as my invention—

1. The combination, in a chimney-cowl, of the chimney-opening, with a deflector above said opening, said deflector having a bottom in the shape of an inverted cone or pyramid, so that the smoke or air passing from the cowl will be deflected outward and upward thereby, an inclined crown, and a flange connecting the inverted conical bottom of the deflector with the crown of the same, the edge of said crown extending beyond the flange, but not beyond a line extended in the plane of the deflector bottom, thereby forming an annular space between the bottom and the edge of the crown to prevent water from flowing down the bottom from said edge of the crown with-

out interfering with the free egress of smoke or air from the cowl, substantially as described.

2. The combination, in a chimney-cowl, of the neck, with the deflector situated above the neck, said deflector having an inverted conical or pyramidal bottom, an inclined crown, and a flange connecting the crown with the bottom and forming an annular space between the bottom and the edge of the crown, the said edge extending beyond the flange, but not beyond a line extended in the plane of the deflector bottom, and with an annular deflector D opposite the cowl-opening and having upper and lower tapered portions, substantially as and for the purpose described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

RICHARD M. PANCOAST.

Witnesses:
WILLIAM D. CONNER,
HENRY HOWSON.