

W. J. KAYSER.
COWL.

APPLICATION FILED JAN. 13, 1903.

NO MODEL.

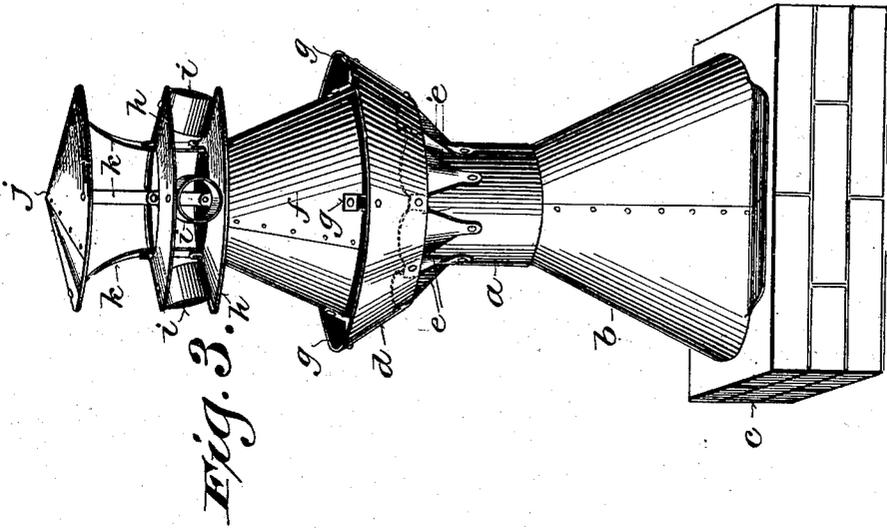


Fig. 3.

Fig. 1.

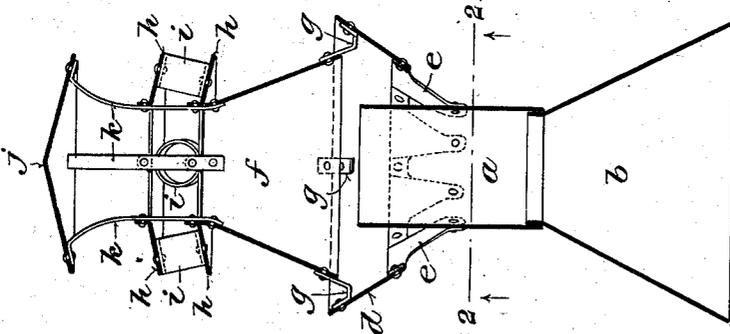
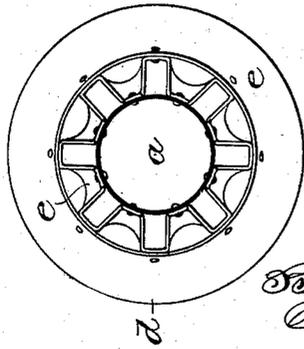


Fig. 2.



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UNITED STATES PATENT OFFICE.

WILLIAM J. KAYSER, OF GREENBAY, WISCONSIN, ASSIGNOR TO HILLMAR DANZ, OF GREENBAY, WISCONSIN.

COWL.

SPECIFICATION forming part of Letters Patent No. 743,390, dated November 3, 1903.

Application filed January 13, 1903. Serial No. 138,798. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. KAYSER, a citizen of the United States, residing at Greenbay, in the county of Brown and State of Wisconsin, have invented certain new and useful Improvements in Cowls, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

The main objects of this invention are to increase the draft of chimneys and ventilators, to exclude rain and snow therefrom, and generally to improve the construction and operation of devices of this class.

It consists in certain novel features of construction and in the arrangement and combinations of parts hereinafter particularly described, and pointed out in the claims.

In the accompanying drawings like letters designate the same parts in the several figures.

Figure 1 is a medial vertical section of a cowl embodying my invention. Fig. 2 is a horizontal section on the line 2 2, Fig. 1; and Fig. 3 is a perspective view of the cowl as designed for and applied to a brick chimney.

For the purpose of illustration and explanation of my invention I have shown and described one of the preferable forms in which it may be embodied and which is particularly designed for application to and use with an ordinary brick chimney. The invention, however, is applicable to ventilating-flues, soil-pipes, and chimneys of various forms, sizes, and constructions, and to adapt it to various uses and conditions to which it is applicable, the details of the construction and arrangement of its parts may be modified without materially affecting its principle or mode of operation or departing from the spirit and intended scope of the invention.

Referring to the drawings, *a* designates a pipe, which may be made of cylindrical form, as shown, or tapering, according to the size, shape, and construction of the pipe, flue, or chimney to which it is applied. In the present case it is shown as provided with an outwardly-flaring base *b* for attachment to a brick chimney *c*, as shown in Fig. 3.

d is a flaring shield encircling the upper open end of the pipe *a* and extending above

and below the same. It is of larger diameter than the upper end of said pipe, so as to leave between it and the pipe an annular space or opening. It is connected with said pipe and supported in place by externally-concaved brackets *e*, which converge downwardly and extend below the lower edge of the shield. These brackets may be made from a continuous strip of sheet metal, as shown, or may be separately formed. They are riveted or otherwise attached at their lower ends to the outside of the pipe *a* and at their upper wider ends to the inside of the shield *d* at or near its lower edge. This shield may in certain cases be inverted, so that its smaller end will be at the top instead of at the bottom.

f is a frustum of a cone arranged centrally over the upper end of pipe *a* with its base, which is of smaller diameter than the larger end of the shield *d*, extending a short distance into said shield or below its upper edge. It is connected with the shield and held in place by brackets *g*, which may be made of band iron or steel bent, as shown, and riveted to the outside of the frustum at its base and to the inside of the shield at its upper end. Around the opening at the upper smaller end of the frustum *f* are arranged one or more downwardly-flaring rings *h*. The lower ring may be riveted or otherwise attached to the top of the frustum and the ring or rings above it supported by the ring-brackets *i*, arranged as shown in Figs. 1 and 3. Above the upper ring *h* a conical cap *j* is supported by brackets *k*, which may be conveniently made of band iron or steel. The frustum *f* with the parts above it constitute what may be termed the "top" of the cowl and some of these parts may be dispensed with and the remaining parts variously arranged in connection with the lower part of the cowl, according to the conditions and requirements of each particular case.

The main parts of the cowl are preferably made of galvanized iron; but other kinds of sheet metal may be used in their construction.

The device as hereinbefore described operates as follows: Lateral currents striking the cowl on any side below the shield *d* are

intercepted and deflected upwardly between said shield and the pipe *a*, a part of the air thus entering at the bottom of the shield passing upwardly through the frustum *f* and a part passing out of the cowl through the annular opening between the top of the shield *d* and the base of the frustum *f*. An upward draft in the pipe *a* and the chimney, ventilator, or flue to which it is attached is thus produced or accelerated. The wind or lateral air-currents striking the upper faces of the rings *h* are deflected upwardly, thereby inducing or increasing an upward draft through the frustum *f*. The smoke, foul air, or gases thus drawn upward through the cowl are discharged therefrom through the opening or openings between the top of the frustum *f* and the cap *j* on the leeward side of the cowl. Wind or outside currents of air pass freely through the ring-brackets, whose axes are parallel with the direction of the air-currents; but the air striking the sides of these brackets is deflected outwardly, and thereby not only prevented from obstructing or interfering with the updraft through and the discharge from the cowl, but also made to assist the updraft.

Various changes in minor details of construction and arrangement of parts may be made to adapt the cowl to the various kinds of chimneys, ventilators, and flues to which it is applicable and to various conditions and requirements within the principle and intended scope of the invention.

I claim—

1. In a cowl the combination of a pipe, a flaring shield encircling the upper open end of said pipe at a distance therefrom and extending above and below the same, and externally-concaved brackets connecting said shield and pipe and extending below the shield outside of the pipe, substantially as described.

2. In a cowl the combination of a pipe, a shield encircling the upper open end of said pipe and flaring outwardly toward its upper edge, and externally-concaved brackets connecting said shield with said pipe and extending below the shield, substantially as described.

3. In a cowl the combination of a pipe, a flaring shield encircling the upper open end of said pipe at a distance therefrom and connected therewith by externally-concaved brackets which extend below the shield, and a top comprising a cap surmounting the cowl

and a flaring ring surrounding the exit below it, substantially as described.

4. In a cowl the combination of a pipe, a flaring shield encircling the upper open end of said pipe and connected therewith by externally-concaved brackets which extend below the shield, and a top comprising a frustum, surmounted by a cap and flaring rings surrounding the opening at the upper end of the frustum below the cap, substantially as described.

5. In a cowl the combination of a pipe, an upwardly-flaring shield encircling the upper open end of said pipe, externally-concaved brackets connecting said shield with said pipe and extending below the shield, a frustum extending at its base into said shield below its upper edge, a downwardly-flaring ring surrounding the opening at the upper end of said frustum, and a cap supported by brackets above said opening, substantially as described.

6. In a cowl the combination of a pipe, a flaring shield encircling the upper open end of said pipe and extending above and below the same at a distance therefrom, externally-concaved brackets connecting said shield with said pipe and extending below the shield and a top comprising downwardly-flaring rings surrounding the opening at the upper end of the cowl, ring-brackets interposed between said rings and supporting one above the other, and a cap above said rings, substantially as described.

7. In a cowl the combination of a pipe having a downwardly-flaring base, an upwardly-flaring shield encircling the upper open end of said pipe and extending above and below the same, externally-concaved brackets connecting said shield with said pipe and extending below the shield, a frustum extending at its base into the top of said shield which is of larger diameter, downwardly-flaring rings surrounding the opening at the upper end of said frustum, ring-brackets interposed between said rings and supporting one above the other, and a conical cap above the upper ring, substantially as described.

In witness whereof I hereto affix my signature in presence of two witnesses.

WILLIAM J. KAYSER.

Witnesses:
CARL BONG,
G. BONG.