(No Model.)

J. H. BURLEY.

CHIMNEY COWL AND VENTILATOR.

No. 421,094. Patented Feb. 11, 1890.

Fig. 1.

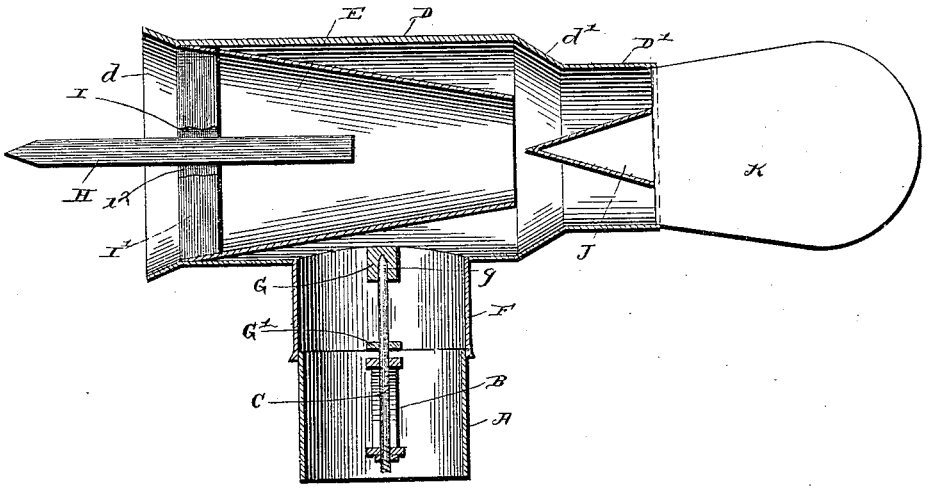


Fig. 2.

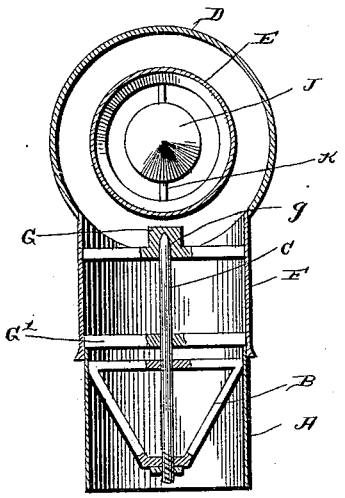
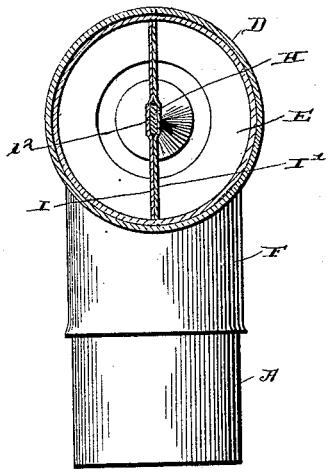


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN H. BURLEY, OF READING, PENNSYLVANIA.

CHIMNEY COWL AND VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 421,094, dated February 11, 1890.

Application filed November 9, 1889. Serial No. 329,715. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. BURLEY, a citizen of the United States, residing at Reading, in the county of Berks and State of Pennsylvania, have invented a new and useful Chimney Cowl and Ventilator, of which the following is a specification.

The invention relates to improvements in chimney cowls and ventilators.

The object of the present invention is to simplify and improve the construction of chimney cowls and ventilators and render them more durable and efficacious.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a central vertical sectional view of a chimney cowl and ventilator constructed in accordance with the invention, the adjustable bar, spreading-cone, and vane being shown in elevation. Fig. 2 is a transverse sectional view. Fig. 3 is a similar view.

Referring to the accompanying drawings by letter, A designates a cylindrical pipe, which is vertical and communicates with a room or other closed space desired to be ventilated, and is provided near its upper end with a hanger B, that is arranged inside of the pipe A and secured to the sides thereof, and is provided with a vertical pivotal stem, which is centrally mounted in the hanger and is adapted to support a chimney-cowl and allow the latter to rotate to keep its flaring mouth always into the wind and insure operation of the device. The cowl consists of a cylindrical casing D, which has a flaring mouth d at its front end and an inclined collar d' at its rear end, to which a reduced cylindrical portion D′ is attached. Secured at the front of the cylindrical casing D and extending rearward is a conical frustum E, which is the same length as the cylindrical casing B, and its reduced end is somewhat smaller than the portion D′ of the casing. The conical frustum forms a space between it and the cylindrical casing, and a depending vertical tube F, which is secured to the casing, communicates with this space, and is slightly larger than the cylindrical pipe A and fits snugly over the latter, and is provided with two parallel cross-pieces G and G′, the former of which has a centrally-arranged bearing g, which receives the upper pointed end of the highly-tempered steel rod C, and the latter cross-piece G′ has a central opening or perforation that steadies the rod or stem C. The depending tube F fits snugly upon the vertical pipe A, and when the cowl is evenly balanced there is no friction between the tube and the pipe, and in order to balance perfectly the cowl a horizontal adjustable bar H is provided. The bar H is centrally mounted in the open flaring mouth of the casing of the cowl and slides between two plates I and I′, which are bent at the center and form a recess i^2 to receive the adjustable bar. By sliding the adjustable bar back and forth in the recess i^2 of the plates the cowl can be perfectly balanced, and there will be practically no friction caused by the rotation of the latter. The air passes through the conical frustum and is intensified by the reduced end, and is spread by a centrally-arranged spreading-cone J and exhausts the air in the space between the conical frustum and the cylindrical casing D, producing a partial vacuum, which causes the air to rush up the vertical pipe A, thereby producing complete ventilation of the room or other inclosed space with which the vertical pipe A communicates. The spreading-cone J is centrally arranged within the reduced cylindrical portion D of the casing and is secured to a vane K, which is arranged diametrically across the rear end of the cylindrical portion D′ and holds the flaring mouth of the cowl into the wind and securing the operation of the device.

By arranging the vertical pivotal stem within the pipe and depending tube the stem and the bearings are protected from the weather and prevented from rusting and corroding. By employing a cylindrical casing and a conical frustum a greater draft and a more complete vacuum are insured.

Having described my invention, what I claim is—

1. A pivoted chimney cowl or ventilator provided with a centrally-arranged and longitudinally-adjustable bar, whereby the cowl may be perfectly balanced, substantially as and for the purpose described.

2. The combination of the vertical pipe provided with a centrally-arranged pivotal stem, the cowl consisting of a cylindrical casing having the conical frustum arranged therein and provided with a depending tube mounted upon the pipe and a pivotal stem, the plates I and I′, arranged diametrically across the mouth of the cowl and provided midway of their ends with bends l^2, forming a recess, and the adjustable bar arranged in the said recess and adapted to balance the cowl, substantially as described.

3. The combination of the cylindrical casing D, provided with a reduced cylindrical portion D′, the conical frustum arranged within the casing, the vane K, secured diametrically across the open rear end of the reduced cylindrical portion D′ and secured within the same, and the centrally-arranged spreading-cone having its base secured to the vane, substantially as described.

4. The combination of the pipe A, provided at its upper end with a hanger B, the pivotal stem mounted centrally in the hanger, the cylindrical casing having a depending tube provided with cross-bars G and G′ and mounted upon the pipe A, the conical frustum arranged within the casing, the vane secured diametrically across the rear end of the casing and carrying the centrally-arranged spreading-cone, the plates I and I′, and the centrally-arranged bar H, adapted to be adjusted longitudinally to balance the cowl, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JOHN H. BURLEY.

Witnesses:
JNO. P. MILLER,
THOMAS TRACEY.