J. HURD.

Chimney Cowl.

No. 3,854.

Patented Dec. 12, 1844.

Fig. 2

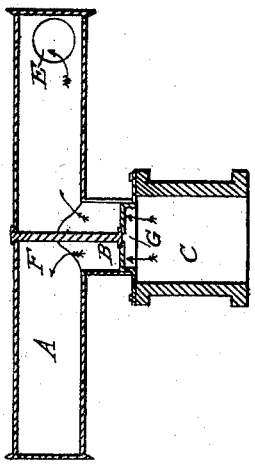


Fig. 3

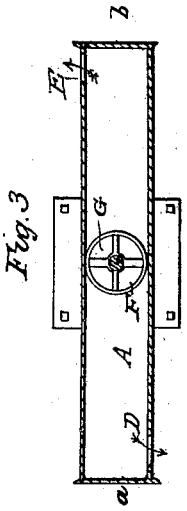
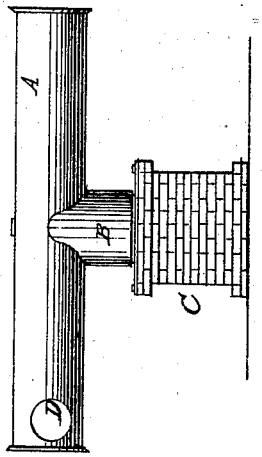


Fig. 1.



UNITED STATES PATENT OFFICE.

JOSEPH HURD, OF STONEHAM, MASSACHUSETTS.

CAP FOR REGULATING THE DRAFT OF CHIMNEYS.

Specification of Letters Patent No. 3,854, dated December 12, 1844.

To all whom it may concern:

Be it known that I, JOSEPH HURD, of Stoneham, in the county of Middlesex and State of Massachusetts, have invented a new Apparatus for Regulating the Draft of Chimneys and Facilitating the Escape of Smoke Therefrom, and that the following description and accompanying drawings taken together constitute a full and exact specification of the construction and operation of the same.

Figure 1 represents an elevation of the top of a chimney and the apparatus as applied thereto. Fig. 2, is a central and vertical section thereof—and Fig. 3 is a horizontal section taken through the axis of the horizontal revolving tube to be hereinafter described.

My apparatus although similar in its principle to Barker's mill—and operating very much like the same, is nevertheless applied to the top of a chimney for a different purpose from what the said mill is generally used—the object of such apparatus being to keep up a steady and regular draft through the chimney, and at the same time prevent the wind from blowing the smoke down the flue.

It consists of a horizontal tube A, (Figs. 1, 2, 3,) mounted upon a short vertical tube, B, which opens into the tube A, at the top and is placed over so as to communicate at its lower end with the interior of the chimney or flue C. Each end of the horizontal tube A, is closed as seen at *a*, and *b*, Fig. 3, and there is an opening D, made through one side of the tube, at or near one end—and another and similar opening E, made through the tube on the opposite side thereof, and at or near the other end of it in the position as seen in Fig. 3. The two tubes A, and B, thus made and connected, are mounted so as to revolve upon a vertical spindle F, projecting upward from a bar G, fastened across the chimney on a suitable plate applied thereon and having a circular orifice cut through it to permit the smoke to pass from the chimney into the tubes B, and A, as denoted by the arrows in Fig. 2. As the smoke and hot air issue in opposite directions from the orifices D, E, they will cause the tube B, to revolve around or upon the axis F, and with a velocity proportionate to the quantity of smoke and heat. The diameter of each of the orifices should be less than that of the tube A. By the revolution of the tube a steady and regular draft through the chimney or flue will be created. As a rotary movement of the tube (produced by the hot air and gases which rise from the burning fuel and escaping through the orifices of the tube) is effected—a power is generated and stored within the tube as there is in a fly wheel when it is revolved the said power acting to create draft up the chimney—whenever the draft slackens—and thus the draft is regulated by the revolving tube—as a fly wheel regulates the operations of a machine.

A long horizontal tube placed on a chimney and constructed with closed ends and orifices, and acting in the above manner cannot be affected to any serious extent by gusts of wind, so as to drive back the smoke as it rises in the chimney. The said apparatus is not intended to increase the draft of a chimney—as a blast wheel does when applied to the top or bottom thereof—and put in motion by wind or other suitable power—but its object is to regulate the draft and thereby facilitate the escape of smoke in a steady and equal manner.

Having tried a great many other forms of cowl to act on the above principle, I find none so effectual or in comparison with each other so effectual and cheap in construction as the long horizontal tube. When applied to a chimney that from its position or other circumstances is liable "to smoke" in the common acceptation of the term, it completely and in a very beautiful manner obviates or cures the defect.

I shall therefore claim—

The employment upon a chimney or discharge flue in the manner described of a long tube having closed ends, and orifices—through its opposite sides at or near its ends—and otherwise arranged and operating as set forth, the same being for the purpose of regulating the draft and facilitating the escape of smoke as hereinbefore explained.

In testimony that the above is a correct specification I have hereto set my signature this 25th day of October A. D. 1844.

JOSEPH HURD.

Witnesses:
R. H. EDDY,
G. H. BAILEY.