(No Model.)

I. J. TURNER.

CHIMNEY COWL.

No. 410,660. Patented Sept. 10, 1889.

Fig. 1.

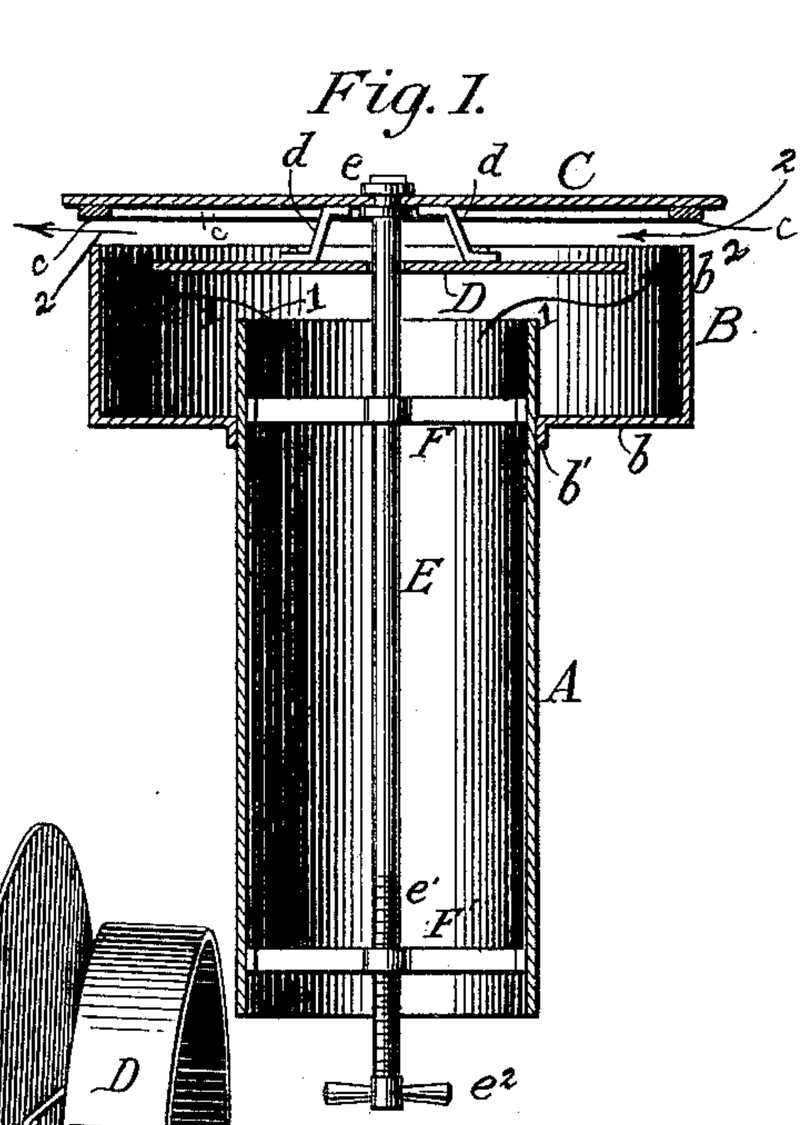


Fig. 2.

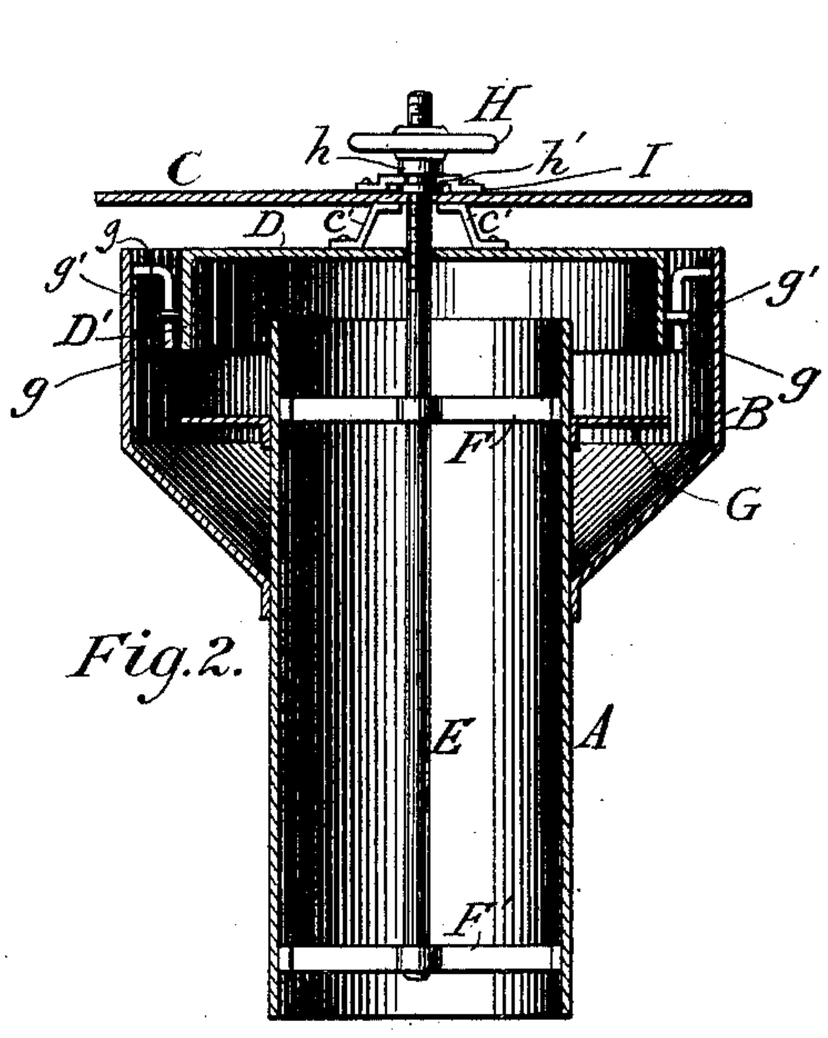


Fig. 3.

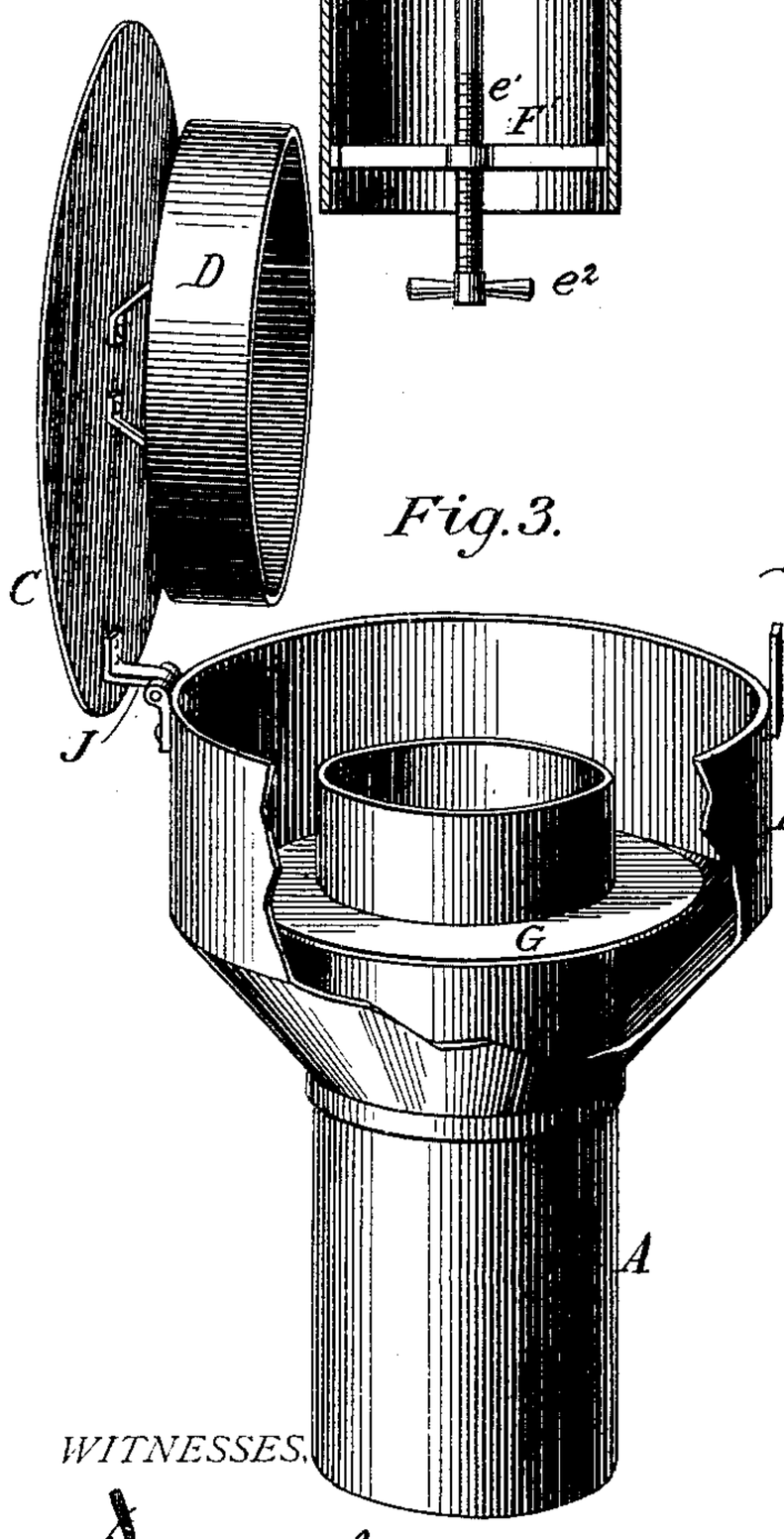
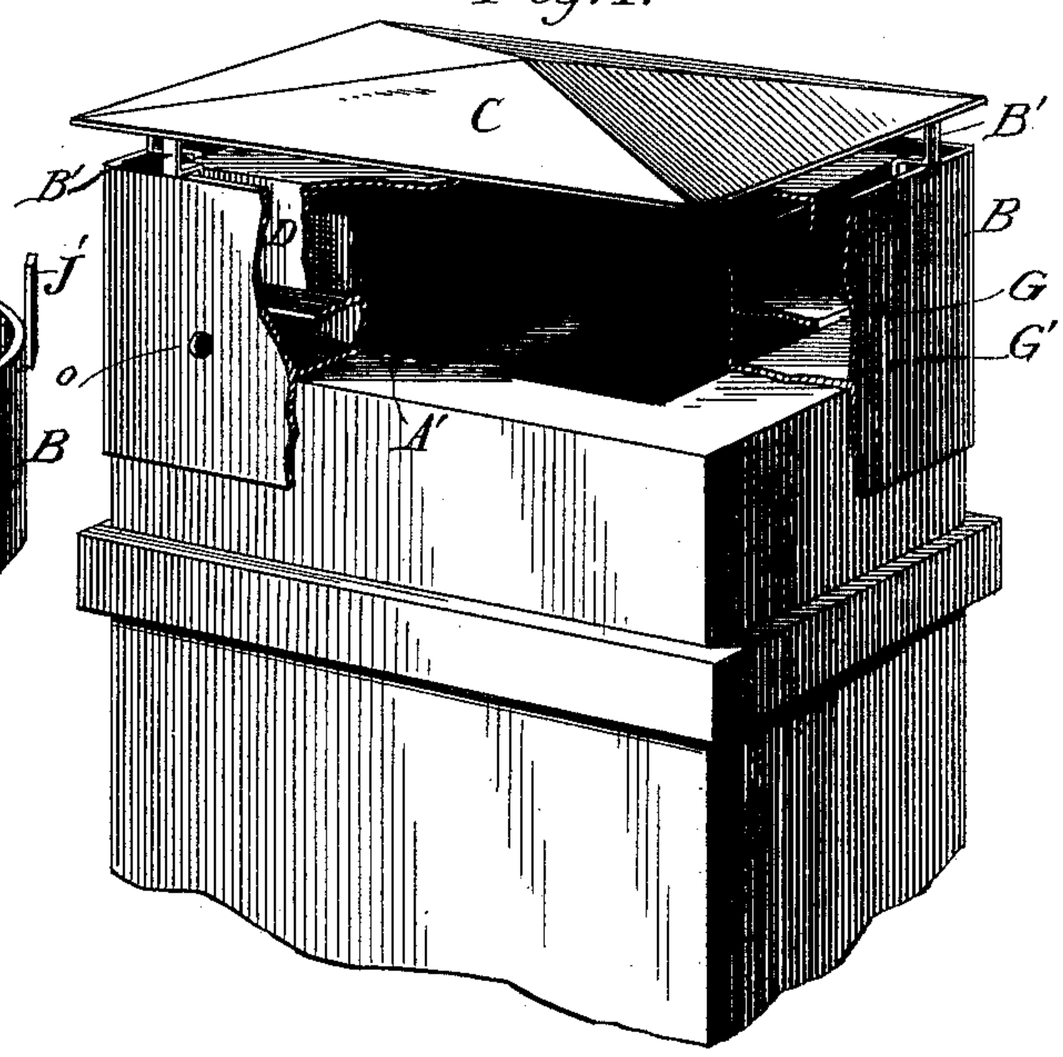


Fig. 4.



WITNESSES.

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ISAAC JACKSON TURNER, OF PRINCETON, NEW JERSEY.

CHIMNEY-COWL.

SPECIFICATION forming part of Letters Patent No. 410,660, dated September 10, 1889.

Application filed January 8, 1889. Serial No. 295,747. (No model.)

To all whom it may concern:

Be it known that I, ISAAC JACKSON TURNER, a subject of the Queen of Great Britain, at present residing at Princeton, Mercer county, and State of New Jersey, have invented certain new and useful Improvements in Chimney Cowls or Ventilators, of which the following is a specification.

In an application for Letters Patent filed by me May 12, 1888, and serially numbered 273,714, I have shown and described a chimney-cowl in which improved means are employed for permitting the smoke from a chimney to have a ready exit and currents of air from the outside are prevented from entering the chimney, so as to cause a downdraft that would impede the exit of smoke and upward currents of gas and air.

My present invention has the same general objects in view; but the details of construction of my improved cowl or ventilator are somewhat different from those shown in my above-mentioned application, and devices are provided whereby the cowl may be opened to admit of cleaning the interior of the cowl and flues and the opening at the top of the cowl may be adjusted to regulate the drafts.

In the accompanying drawings, Figure 1 is a vertical central section through my improved chimney cowl or ventilator, showing the adjusting devices in elevation. Fig. 2 is a similar view showing a modification. Fig. 3 is a perspective view, partly broken away, showing a hinged cap for the cowl; and Fig. 4 is a perspective view, partly broken away, of a modified form of cowl, showing it applied to a chimney.

The cowl shown in Fig. 1 consists of a cylindrical body portion or flue A, around the upper end of which is secured a cylindrical top piece or guard B. The bottom *b* of the guard is formed with a downturned flange *b'*, which fits closely the exterior of the flue A a short distance below its upper end. The outside flange b^2 of the guard extends above the upper edge of the flue.

The top plate or cap C is disk-shaped or circular, of slightly greater diameter than the guard B, and is provided with a bearing-ring *c*, which, when the cap is lowered sufficiently, bears against the upper edge of the flue.

A deflector plate or disk D, of less diameter than the top plate or cap C, but of considerably greater diameter than the flue A, is supported from the cap C by hanger *d*. The plate D serves to deflect the smoke, air, &c., as they ascend from the flue A, and cause them to take the direction indicated by the arrows 1—that is, the smoke, &c., strikes the plate D, is deflected at right angles, and then passes over the edge of the guard out under the cap C. This arrangement also prevents wind or drafts of air from the outside from passing into the chimney; for if air enters the cowl below the cap it strikes the top of the plate D and passes out at the opposite side, as indicated by arrow 2.

The cap C and the plate D are supported by a rod E, which extends vertically and centrally through the flue A and is guided and supported in brackets or cross-pieces F F', placed near the upper and lower ends of the flue. The upper end of the rod E is swiveled to the cap C and secured by nuts to the flanges *e* in any suitable way. The rod passes freely through the plate D and bracket F and the bracket F', which latter is provided with a female screw, with which a male screw *e'* on the rod engages. The lower end of the rod is provided with a handle e^2. By adjusting the rod the cap C and plate D may be raised and lowered to vary the opening between the top of the flue and the deflector-plate and between the top of the guard and the cap, thus regulating the draft to any desired degree, or, if desired, completely closing the cowl. In this instance it is necessary to remove the cowl from the chimney in order to adjust the rod; but where the device is used as a ventilator for cars, ships, &c., it may be adjusted from the inside without removal.

In Fig. 2 I have shown devices for adjusting the rod without removing the cowl. This figure also shows certain other modifications. The guard B is in this instance formed with a funnel-shaped bottom *b*, the lower flanged edge of which fits closely around the flue A. The upper edge of the guard projects above the top of the flue, as in Fig. 1. An annular deflector-flange G is formed on or secured to the exterior of the flue a short distance below its upper edge. The flange extends horizontally from the flue or body portion A to-

ward the flange of the guard B, but terminates before reaching it, leaving an annular opening between its outer edge and the vertical sides of the guard. The deflector D in this instance is provided with a downwardly-projecting annular flange D′, which, when lowered sufficiently, rests on the top of the flange G. The top plate or cap C is supported on the deflector-plate D by brackets *c′*, which hold the cap a suitable distance away from the deflector. L-shaped guide-bars *g*, secured to the guard B, fit into eyes *g′* of the deflector and permit of its being raised and lowered at will without lateral movement. The adjusting-rod E is supported at its lower end in a bracket F′, in which it is free to turn, and also extends through a guide-bracket F, near the upper end of the flue. The upper end of the rod E is screw-threaded and extends freely through the deflector D and cap C and is provided with an adjusting-wheel H, which has a hub *h*, internally screw-threaded for engagement with the screw-threaded end of the rod E. The hub *h* is provided with an annular groove *h′*, into which fits loosely a flanged plate I, secured to the cap C, so that as the wheel is raised and lowered the cap C will be correspondingly moved. By this arrangement the cowl may be adjusted from the outside without removing it from the chimney. The course of the smoke, &c., from the chimney is indicated by arrows 1. The course of outside currents entering the cowl is indicated by arrows 2. These currents, it will be observed, pass under the cap and over the top of the deflector.

In Fig. 3 the main body of the cowl is formed and shaped like that shown in Fig. 2—*i. e.*, the flue or body portion A, guard B, flange G, cap C, and deflector D are the same; but the adjusting devices are dispensed with, and a bracket J is employed, which is hinged to guard B and holds the cap and deflector at a suitable elevation. J′ indicates a support for the cap when closed. By this arrangement the cowl may be opened to permit of the flues being cleaned, should it be so desired.

In Fig. 4 the cowl is made rectangular and the general construction is considerably modified. The long flue or body portion A is dispensed with, but its place is taken by a short flue or body portion A′, which extends around the edge of the flues of the chimney. The guard B extends above the edge of the flue A′, and also extends below the top of the chimney and closely fits around the top of the chimney, so as to hold the cowl in position. The guard B may be formed to fit any form of chimney. A laterally-projecting flange G′ connects the bottom of the flue A′ with the guard. This flange rests on the top of the chimney. A deflector or flange below the top of the flue A′ and above the flange G′ projects from the flue A′ toward the guard B, but terminates before reaching it, so as to leave a passage between its outer edge and the inner side of the guard The cap C extends over the guard B and is supported and held a suitable distance away by brackets B′, secured to the edges of the cap and the guard. The deflector D is formed with a downwardly-projecting flange, as in Figs. 2 and 3, and is supported from the cap C, so as to leave a space between its upper side and the cap and between its under side and its downwardly-projecting flange and the flue A′, the deflector-flange G, and guard B.

A hole *o* may be formed in the guard B to allow water to run out.

Smoke issuing from the flues passes over the top of the flue A′, down under the downwardly-projecting flange or deflector, and out over the upper edge of the guard B. Currents of air from the outside are prevented by the deflector from entering the flues of the chimney, as above described. Outside currents of air striking the cowl from any direction cause a strong upward draft in the flue or ventilator.

I claim as my invention—

1. The combination, substantially as hereinbefore set forth, of the flue or body portion, the guard around the upper edge of the flue or body portion and extending above it, a flat deflector or disk above the flue, and the imperforate top plate or cap above the deflector.

2. The combination, substantially as set forth, of the flue, the imperforate top plate or cap, and the flat deflector below the cap and above the flue and held away from the cap.

3. The combination, substantially as hereinbefore set forth, of the flue, the guard around the upper end of the flue, the cap above the guard, and the deflector, having a downwardly-projecting flange below the cap and above the flue.

4. The combination, substantially as hereinbefore set forth, of the flue, the guard around the upper end of the flue, the imperforate top plate or cap above the guard, the flat deflector having a downwardly-projecting flange below the cap and over the flue, and the deflector-flange G below the upper end of the flue.

5. The combination, substantially as hereinbefore set forth, of the flue, a guard around the upper end of the flue, an adjustable cap above the guard, and an adjustable deflector below the cap and within the guard.

6. The combination, substantially as hereinbefore set forth, of the flue, the cap, the deflector below the cap and above the flue, the adjusting-rod, the supporting brackets, and device, substantially as described, on the rod for varying the distance between the deflector and the upper end of the flue.

7. The combination, substantially as hereinbefore set forth, of the flue, the guard around the upper end of the flue, the deflector-flange around the upper end of the flue within the guard, the deflector above the flue and having downwardly-projecting flanges, the

cap above the deflector, the brackets which connect the cap to the deflector, the adjusting-rod, the brackets in the flue in which it is mounted, the adjusting-wheel adjustably secured to the adjusting-rod, and the flanged plate connecting the adjusting-wheel with the cap.

In testimony whereof I have hereunto subscribed my name.

ISAAC JACKSON TURNER.

Witnesses:
D. W. McCORD,
LLOYD B. WIGHT.