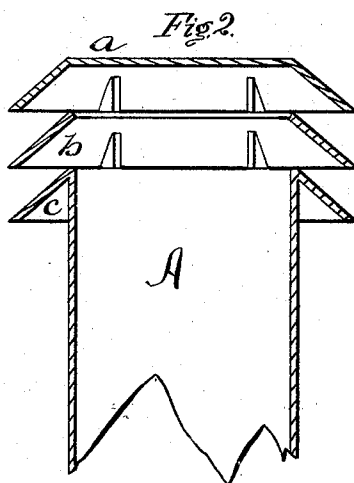
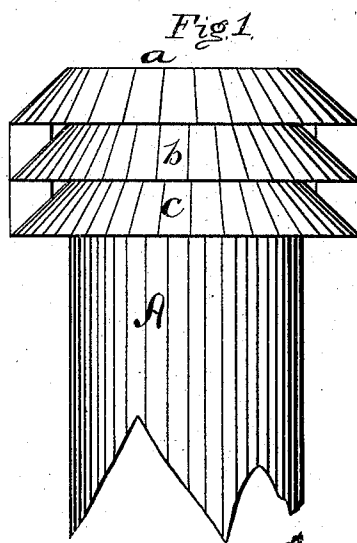


J. H. IRWIN.  
VENTILATING-CAP.

No. 173,958.

Patented Feb. 22, 1876.



*Witnesses:*  
*F. B. Townsend*  
*J. S. Brown*

*Inventor:*  
*John H. Irwin*  
*By his atty*  
*R. D. Smith*

# UNITED STATES PATENT OFFICE.

JOHN H. IRWIN, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN VENTILATING-CAPS.

Specification forming part of Letters Patent No. **173,958**, dated February 22, 1876; application filed July 23, 1875.

### *To all whom it may concern:*

Be it known that I, JOHN HENRY IRWIN, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented an Improvement in Ventilating-Caps, of which the following is a specification:

This invention relates to that class of caps for ventilating-flues which depend upon stationary deflecting-plates for their efficacy; and it consists in the closed top plate with edges inclined and parallel with the other deflecting-plates of the series.

That others may fully understand my invention, I will particularly describe it, having reference to the accompanying drawing, in which—

Figures 1 and 2 represent in elevation my improved cap with closed top.

A is the pipe or flue through which a current of air is to be caused to flow, and the office of the cap is to compel said flow by the atmospheric currents outside of said pipe or flue acting against the deflecting-surfaces of said cap, and the problem has been to effect this result with certainty in whatever direction the atmospheric currents may strike said cap.

In my patent dated May 19, 1874, and numbered 150,958, I describe the principle of operation of the cap described herein, and reference is hereby made to the specification and drawings of said patent for a full exhibition of said principles.

The invention herein set forth is supplemental to and an improvement on the invention shown in said patent, designed more perfectly to adapt it to some situations and uses.

For ordinary purposes I close the opening through the center of the upper deflecting-plate *a*, as shown in Fig. 2, and dispense with the large inclined plates shown in my said patent, and thereby wind is prevented from blowing down the flue when the air-currents are moving with a downward inclination.

Heretofore, when plates have been employed to close the flue-opening to prevent the entrance of descending currents of air, said plates have been elevated sufficiently far above said flue to permit the clear passage of a horizontal current between the flue and cap, and therefore said current would blow into the flue sometimes instead of blowing across its mouth.

The upper plate *a* is horizontal over a space equal to the cross-sectional area of the flue A, and its edges are turned downward at an angle of forty-five degrees, parallel with and equal in area to the deflecting-plate *b*, which has an open center equal to the cross-sectional area of the flue A.

The plate *c* is exactly equal in diameter to the plate *b*, and is attached to the flue A, as shown clearly.

The relative arrangement of the deflecting-plates of my cap is such that the apex of the one plate is about on the plane of the base of the plate above it.

It will appear evident that, in whatever direction a current of air may encounter the plates *a b c*, it will enter the central space with an upward deflection, and pass across said space in that direction, the effect whereof will be a partial exhaustion of the air within the flue A and the establishment of an upward flow therein.

Having described my invention, what I claim as new is—

The upper plate *a*, made horizontal over a space equal to the cross-sectional area of the flue, and having its edges turned downward, in combination with the plates *b c*, said plates being so arranged in relation to each other that the base of one shall be on the plane of the apex of the other, and their inclined portions parallel, substantially as set forth.

JOHN H. IRWIN.

Witnesses:

CHAS. F. R. HENCKEROETH,  
REBECCA J. ELDER.