W. F. ROSSMAN.

Ventilator and Chimney-Top.

No. 205,141. Patented June 18, 1878.

Fig. 1.

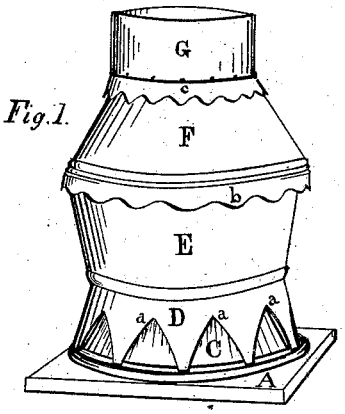
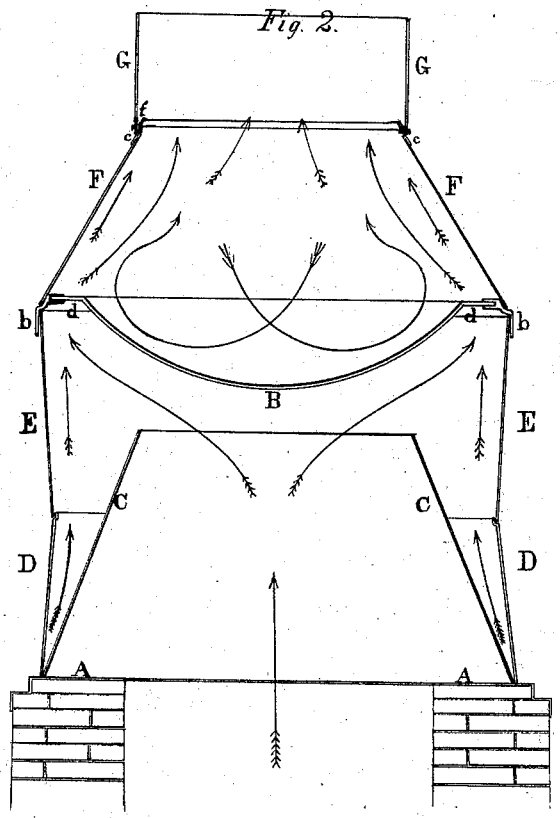


Fig. 2.



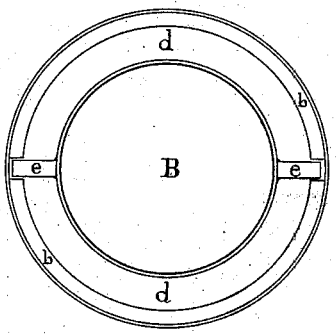


Fig. 3.

Witnesses

Sherman Law Mfg

Giles H. O'Neil

Inventor

Wm. F. Rossman

UNITED STATES PATENT OFFICE.

WILLIAM F. ROSSMAN, OF HUDSON, NEW YORK, ASSIGNOR OF ONE-HALF HIS RIGHT TO LEONARD J. ROSSMAN, OF SAME PLACE.

IMPROVEMENT IN VENTILATORS AND CHIMNEY-TOPS.

Specification forming part of Letters Patent No. **205,141**, dated June 18, 1878; application filed March 19, 1878.

To all whom it may concern:

Be it known that I, WILLIAM F. ROSSMAN, of the city of Hudson, in the county of Columbia and State of New York, have invented a new and useful Improvement in Ventilators and Chimney-Tops, which invention is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 is a perspective view of the exterior, and Fig. 2 is a vertical section, showing the interior, construction of my chimney-top and ventilator; and Fig. 3 is a transverse section, showing bowl B and its supports and the surrounding open space or flue *d*.

The object of my invention is to provide buildings and apartments with an efficient and economical ventilator, and chimneys and chimney-flues of imperfect draft with tops which will prevent smoking and correct the evil effects of downward currents of air by checking and reversing them.

In the drawings, the larger darts indicate the course of the foul or impure air when used as a ventilator, and of the smoke, warm air, and gas when used as a chimney-top, and the smaller darts show the course of the external air in both cases.

A is a metallic base, of the same form as and covering the top of the chimney or flue, and firmly fastened to it. B (see Fig. 2) is a circular concave or metallic bowl, designed to arrest the downward currents of air and to reverse their direction. C is a truncated sheet-metal cone, surrounding and partially covering and contracting the flue, and resting on the base A. D is a cast-iron circular case, inclosing cone C, and provided with arched or other formed openings *a* for admitting the external air. E is another casing, resting on the cone-case D, and provided with a cast-iron rim, *b*, which forms the support of the concave or bowl B, which latter is provided with two or more short arms, *e e*, resting in recesses or sockets in the inner flange of rim *b*. F is a conical case, inclosing and partly covering the bowl B. This case is provided with a cast-iron rim, *c*, which may be corrugated on the outer or top side, so as to form channels for the escape of the water that may enter the top; or the top piece G may be provided with small holes at its base, which will answer the same purpose.

The cylindrical pipe or tube G sits on the rim *c*, and may be of any desired height. The rim *c*, by projecting inward somewhat within the inner surface of pipe G, will form a gutter, *f*, so as to catch the drip from above and discharge it through the apertures or holes at the base of pipe G.

The warm air, smoke, and gas of a chimney-flue, on leaving the top of the chimney, (see Fig. 2,) pass over the top of the truncated cone C, between it and the bottom of the bowl B. Diverging on either side, they pass through the annular flue or space *d* surrounding the bowl, and then upward and out of the top. The external or pure air at same time enters the arched openings *a a a*, &c., in case D, and, impinging against the outside of cone C, it rises, passing through the same annular space *d* around the bowl B, and thence along the inner walls of cone F, and out the top.

One object of the cone F is to contract the opening over the bowl B, so that currents of external air entering at top will strike in the concavity of the bowl, and, being thus deflected upward and caused to pass toward the sides, will be returned through the tube G by the upward currents of smoke and air. Should the currents so pass in as to strike the annular flue, the smoke rising through it will be forced out at the openings in the casing D, the cone C preventing its return down the chimney. Another object of the external cone F is to deflect upward the currents of air striking it externally, and thus tend to increase the draft through the tube G.

The casing E is made distinct from the cone F, and is broader at the top than the bottom, which allows of a larger annular flue and a smaller opening above than when the corresponding parts are made in one piece and of uniform taper for its whole length, as in some forms of chimney-tops.

The arched openings in casing D admit the external air into the widening space between this casing and the cone C with a certain velocity, which, on reaching the top of the cone, is accelerated in proportion to the velocity of

the current coming from the interior, and pass together, with this accelerated velocity, through the space *d* surrounding bowl B, and thus, to that extent, increase and improve the draft.

The cast-iron rims *b* and *c* may be made ornamental or plain.

By the arrangement and construction here shown I am enabled to produce a chimney-top which has a large deflecting-bowl, surrounded by a correspondingly-large annular flue, in combination with a comparatively small opening above for the entrance of the external currents, by which means downward currents cannot readily enter, and should they do so they are, by the use of the concavo-convex bowl, deflected and returned; and by the use of the conical casing F, the wind, striking against it, is used to help force upward the smoke or impure air passing through the chimney.

I am aware that it is not new to use a conical bowl above a truncated cone surrounded by a tapering casing, and therefore I do not claim this; but

What I do claim as new is—

1. The combination, with the external truncated cone F, of the concavo-convex bowl B, having its concave side upward, substantially as described, and for the purpose specified.

2. The combination of the concavo-convex bowl B, internal truncated cone C, perforated casing D, flaring casing E, and external truncated cone F, the whole constructed and arranged substantially in the manner described, and for the purpose set forth.

WM. F. ROSSMAN.

Witnesses:

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