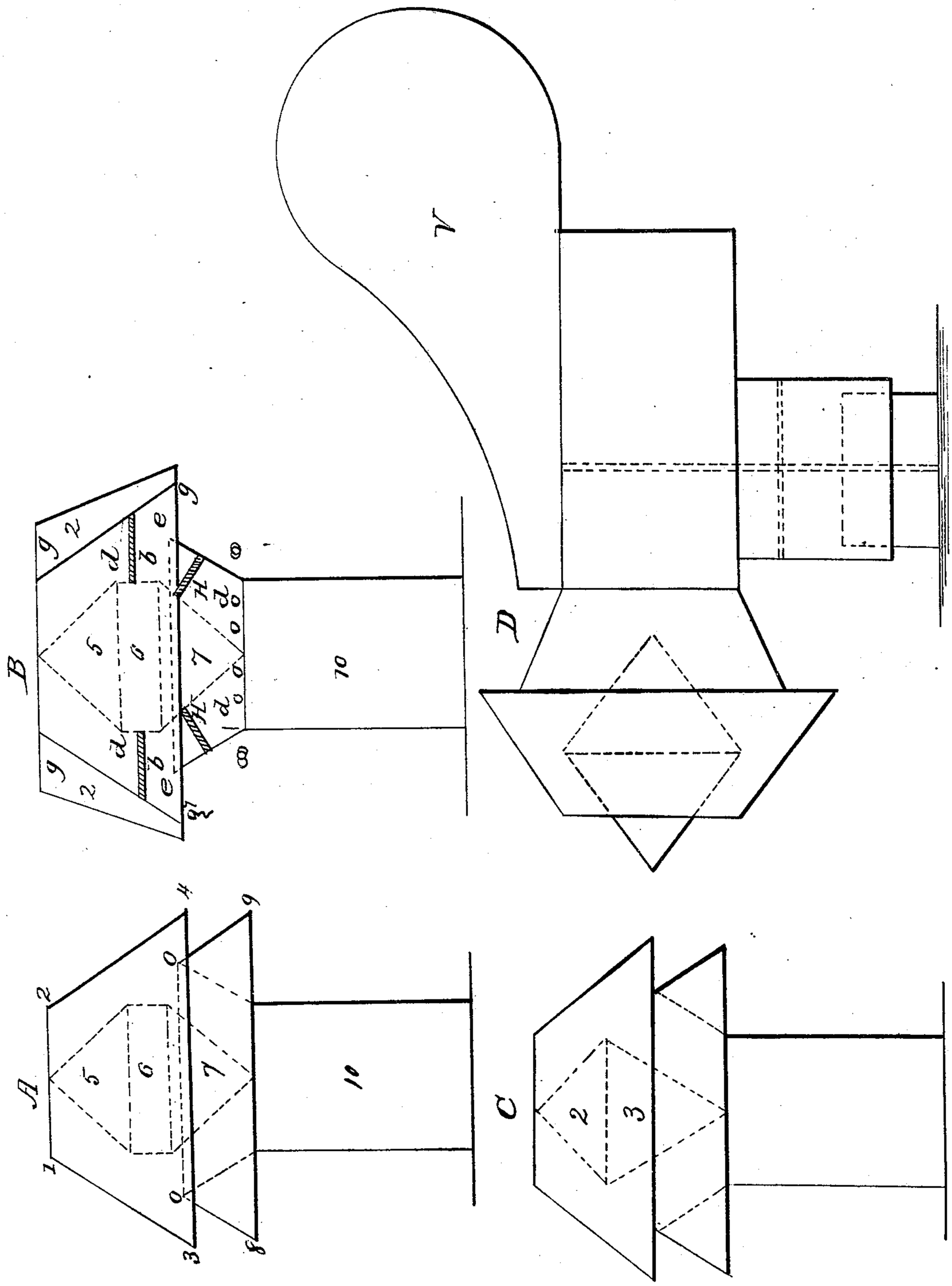
B. F. MILLER.

Chimney Cowl.

No. 13,620. Patented Oct. 2, 1855.



UNITED STATES PATENT OFFICE.

BENJN. F. MILLER, OF NEW YORK, N. Y.

CHIMNEY-STACK.

Specification of Letters Patent No. 13,620, dated October 2, 1855.

To all whom it may concern:

Be it known that I, BENJAMIN FRANKLIN MILLER, of the city, county, and State of New York, have invented a new and Improved Ventilator; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making part of this specification.

Figure B represents one of the modes in which I construct my ventilator. Fig. 10 is a cylindrical pipe, or tube to be placed on the top of chimneys or buildings or other places to be ventilated; *e*, *e*, its funnel shaped expansion; No. 5, a solid or hollow cone with its apex upright or pointing out of the mouth or opening of the smoke pipe and retained in a central position in the mouth of the funnel by iron rods or stays H, H. *g*, *g*, *g*, *g*, is another hollow but obtruncated cone placed over the above mentioned single cone as before described in its proper position, that is, its sides equidistant from the interior cone, with its apex end, about on a line or level with the apex of the upper interior cone and its base a little below the funnel top of the pipe as shown in the drawing, B, and kept in this position in the manner above described by iron rods or stays, *b*, *b*. 2, 2, are sheet iron planches bolted or riveted on the exterior surface of this shield or outer cone and intended to give an upward direction to all lateral currents of air. These cones may also be held in their proper position by means of similar planches or sheet iron septums riveted on the inner surface of the outer cone and the outer surface of the interior cone.

Fig. A is intended to represent a similar ventilator varying from the construction in Fig. B by having a circular planch 8, 9, riveted around the neck of the funnel and extended until its outer edge is in line with the base 3, 4, of the outer cone or shield 1, 2, 3, 4. The funnel portion of the pipe is then surrounded by a conical shaped band, which gives an inward as well as an upward direction to the lateral currents of air, instead of the upward and outward direction as would occur without it, and as will be seen by referring to Fig. B.

Fig. C is intended to represent the same ventilator of a square or quadrangular form varying also in respect to the relative size and shape of the central cones or prismatic figures.

Fig. D represents the same construction of ventilator placed horizontal and intended to revolve the vane V keeping the apex portions of both cones always presented to the direct and principal current of wind moving horizontally.

The object to be attained by the foregoing described invention is to give such direction to the outward currents of wind no matter in what direction they may come, that instead of entering the tube or smoke pipe, the current of wind will be made to pass by the said opening, and thus produce a tendency to vacuum in the passages, and draw the air from the inside of the ventilator and smoke pipe.

By reference to the different figures it will be seen, that owing to the position of the interior cone, and the angle of inclination of its surface, as well as those of the shield or exterior cone and the funnel shaped termination of the main pipe or cylinder, no material thread or current of air can penetrate into the smoke or ventilating pipe, and thus obstruct or impede the exit or egress of the air contained within it, but on the contrary as before observed, materially and effectually aid its exit by the well known tendency to vacuum created by currents of wind.

To render the ventilator in its upright position weather proof in its application, that is, to prevent rain from entering the main pipe, I carry the surface *a*, *a*, of the upper cone 5 Fig. B, so far beyond the termination of the main pipe 10 which is continued up at *a a* inside of the flare of the funnel, so that the "drip" will fall in the space shown between *a* and *o* and then by means of perforations or one or more tubes inserted at *o*, *o*, *o*, the water will be conveyed off on the outside of the main pipe or smoke stack.

This ventilator may be constructed of any durable and sufficiently light, though strong material. I prefer and propose constructing them chiefly out of galvanized sheet iron.

What I claim as my invention or improvement is—

Constructing and placing a solid or hollow cone or a pyramid in the mouth of the funnel of smoke stack with its apex upward or pointing outward from the mouth of said chimney or pipe, in combination with the surrounding shield furnished with planches

as described constructed and located substantially as set forth.

Disclaimer.—I do not claim as new or as my invention the conical shield herein before described, or the conical band and circular planch described in Fig. A they having been already applied, or placed at the top of smoke pipes for the purposes of ventilation.

I do not claim placing a single cone with its apex pointing inward in the smoke pipe or chimney as new and first invented by me.

BENJAMIN F. MILLER.

Witnesses:
H. MORTON,
W. Q. MORTON.