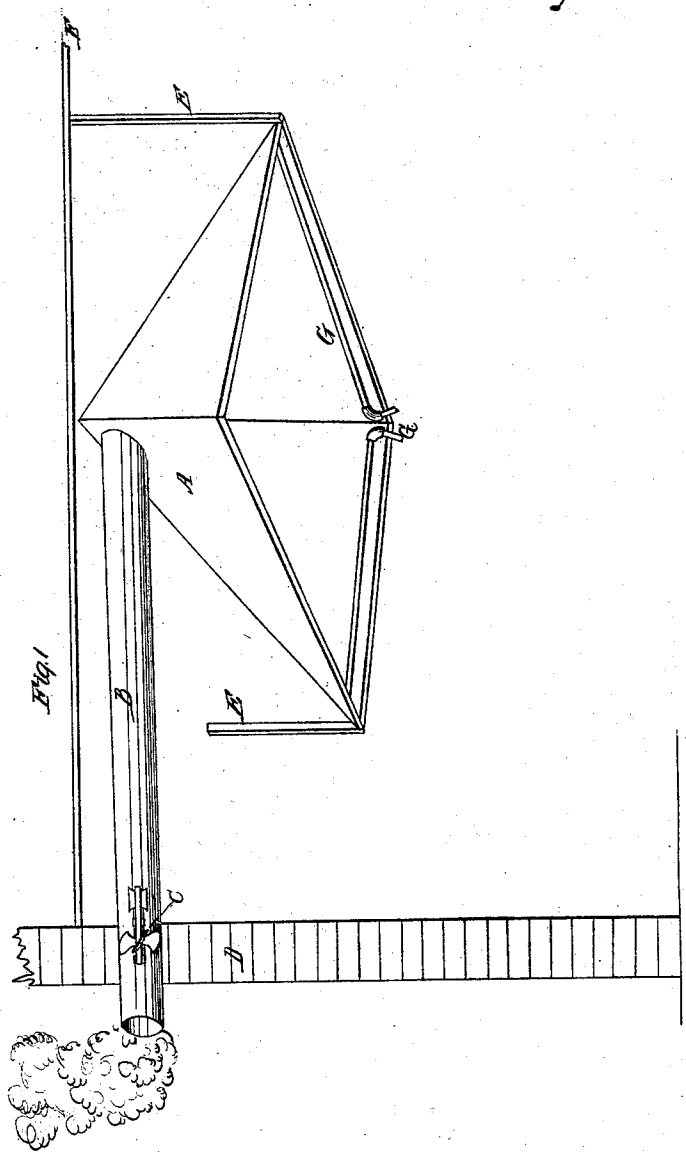
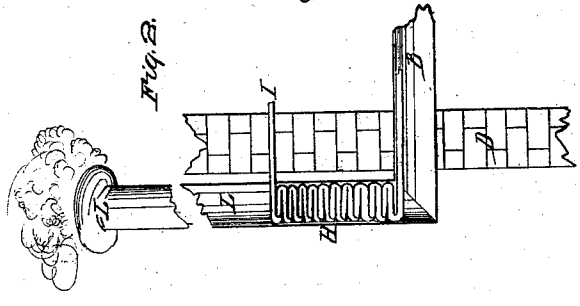
R. F. Brower,

House Ventilator,

No. 15,716. Patented Sep. 9, 1856.





Witnesses:
Jno. Wilde
Wm. Jenkins

Inventor:
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UNITED STATES PATENT OFFICE.

ROBERT F. BROWER, OF BLOOMFIELD, NEW JERSEY, ASSIGNOR TO S. A. BROWER AND J. L. BROWER, OF SAME PLACE.

METHOD OF DRAWING FROM MANUFACTURING INCLOSURES WASTE GASES, STEAM, &c.

Specification of Letters Patent No. 15,716, dated September 9, 1856.

To all whom it may concern:

Be it known that I, ROBERT F. BROWER, of Bloomfield, in the county of Essex and State of New Jersey, have invented a new and useful Improvement in Ventilators for Drawing Off Steam, Moisture, or Waste-Gases from Buildings or Apartments where Drying, Boiling, or Chemical Operations are Conducted; and I hereby declare the following to be a full, clear, and exact description of the construction thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon,

Description of drawings, with remarks.

Figure 1. A represents the inverted funnel shaped receiver, which may be part of the ceiling, or in cases where not required, the apparatus may be used without the receiver. From rooms having inclined ceilings the blowing outward may be from the highest point or gable end, or from the side of a cupola ventilator, of which the other sides are closed. When the receiver A is used it should be placed as low as circumstances will admit. It may be made of canvas, wood or sheet metal. B represents the flue or outward channel from the receiver A. In B, near the wall, D, is the blower, C, which is driven by a belt passing through openings in the side of B as represented in the model. The flue, B, may be made of sheet metal or wood. It should incline outward. D represents the wall of the building. E, E, represent supports or braces to A. F represents the ceiling of an ordinary room. G, G, represent a steam pipe heater which ordinarily is not required.

Fig. 2, H represents a steam pipe coil for heating the upward current in the flue L, and may be used instead of the blower as in Fig. 1. I represents the steam pipe leading to the coil (H). B and D represent portions corresponding to the same as those marked by the same letters in Fig. 1.

What I claim as an improvement, and for which I desire Letters Patent, consists in an arrangement of an inverted funnel shaped receiver (A), connected at the side near its apex by a flue (B), which inclines outward, and has near its termination, which projects outside of the building, a blower (C,) designed to force a current outward. This arrangement may have the addition of steam pipe heaters around the inside of the funnel shaped receiver; or, a blast of heated air may be blown into the receiver (A). The object to be attained by these arrangements, is to secure a manageable current, having the least tendency to condense steam, and thus prevent its dripping on to the manufactured goods, machinery and floor; and from depositing on the ceiling walls and other places where it may act injuriously.

I do not confine my method to the mode above explained which briefly illustrates the principles of the invention; but I claim in general the use of means such as described or otherwise, for drawing off by mechanism or heated currents, the steam and moisture that arises within buildings where drying or boiling is conducted; and I also claim the same method for drawing off injurious or other waste gases from buildings where chemical operations are conducted.

The peculiar advantages of this invention consist, in preventing the deposition of moisture which is apt to fall on paper or fabrics when passing over heated driers; also in rendering the ejection of the steam subject to control, so that the desired object being attained, no unnecessary cold air need be drawn into the apartment, and in this respect far superior to open ventilators which tend to condense steam before it has passed from over the operations; also in giving an inclined passage way for the condensed moisture at practically the nearest point to the operations; also in affording when necessary additional heat to the moisture, so as to prevent deposition until it has passed to the flue, or tube channel leading to the blower and particularly in the advantage of creating any desired ejection of waste steam or gases, even when the condition of the atmosphere is such as to render inefficient ordinary ventilators, this ejection being regulated by increasing or decreasing the speed of the blower and regulating the heat within the funnel, if this heating should be necessary, but which ordinarily is not required.

I am aware that for many purposes, blowers have been used for driving fresh air into apartments. This method of ventilation diffuses steam and gives unhealthy cur-

rents of air, whereas the herein proposed method concentrates the waste steam or gases and ejects them, while the air that is renewed in the apartment, is brought in from any or all open spaces and does not produce an unhealthy current. The operation of blowing on or over heated driers, wastes the heat of the driers; and so also do large open ventilators waste the desired heat of driers by allowing unnecessary currents of air to play over the heated surfaces.

What I claim as my invention, and desire to secure by Letters Patent, is—

The operation of drawing off waste steam or gases by mechanism or heated currents, from buildings or apartments where drying, steaming or chemical operations are conducted, after the manner substantially as herein set forth and explained.

ROBT. F. BROWER.

Witnesses:

JOHN T. WILDE,

WM. JINKINS.