

(No Model.)

J. G. LUCAS.
VENTILATOR.

No. 493,407

Patented Mar. 14, 1893.

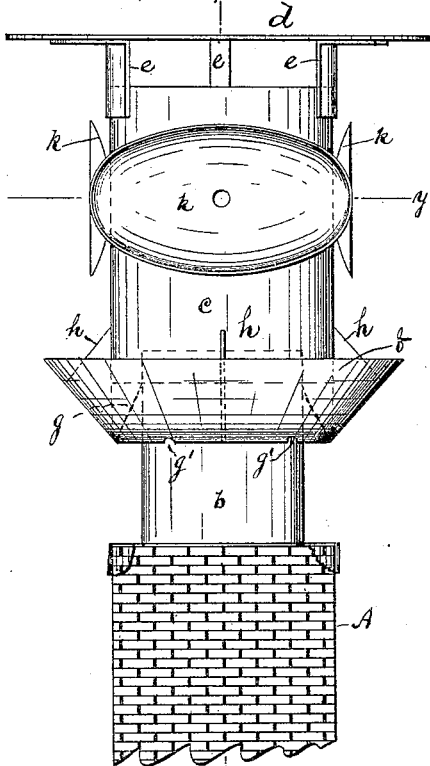


Fig. 1.

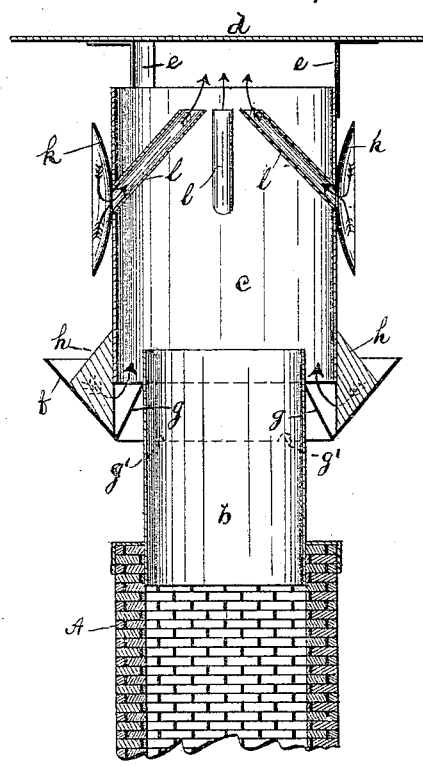


Fig. 2.

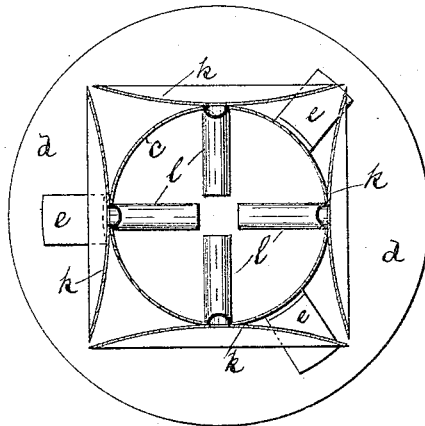


Fig. 3.

Witnesses

Inventor

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UNITED STATES PATENT OFFICE.

JAMES G. LUCAS, OF NEW YORK, N. Y.

VENTILATOR.

SPECIFICATION forming part of Letters Patent No. 493,407, dated March 14, 1893.

Application filed March 1, 1892. Serial No. 423,354. (No model.)

To all whom it may concern:

Be it known that I, JAMES G. LUCAS, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Ventilators; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

15 The object of this invention is to create or induce an outward draft through a chimney or other flue or conduit in order to carry off the products of combustion and to ventilate dwellings, public buildings, closets, &c.

20 The invention consists in the improved ventilator and in the arrangement and combinations of the several parts thereof, as herein set forth and finally pointed out in the claims.

Referring to the accompanying drawings, 25 in which similar letters of reference indicate corresponding parts in each figure where they occur, Figure 1, represents, in elevation, a ventilator embodying my improvements, connected with the outer end of a flue or chimney, and Fig. 2, a vertical transverse section taken through line *x* of the same. Fig. 3, is a transverse section taken through line *y* of said Fig. 1.

35 In said drawings *a* indicates an air flue or a chimney, *b*, a pipe secured to the outer end of said flue, and *c* another pipe, considerably larger, diametrically, than the pipe *b*, into which the latter projects a short distance, as seen in Fig. 2.

40 *d*, indicates a flat disk or cover located a little distance from the outer end of the pipe *c* and supported thereon by means of suitable brackets or straps *e*, as shown. At and to the bottom of said pipe *c* is secured a double 45 deflector, *f*, *g*, the outer portion, *f*, projecting outward and the inner portion, *g*, projecting inward from the wall of said pipe and both projecting upward or toward the outer end of said pipe, as indicated in Figs. 1 and 2. Said 50 deflector is secured to the pipe *c*, by means

of suitable brackets or supports, *h*, which are soldered or otherwise secured to the parts *f* and *c*, as will be understood. The portion *g*, of the deflector is firmly secured, by solder or otherwise, to the pipe *b*, and is thereby, 55 together with the pipe *c*, held permanently in position and in its proper relation to said pipe *b*, as will be obvious. Near the top or outer end of the pipe *c*, are secured, upon the four opposite sides thereof, concentrators or 60 funnels *k*, the nozzles, *l*, of which project inside of said pipe and incline toward the outer end thereof, as will be understood upon reference to the drawings, especially to Fig. 2. These nozzles, as here shown, are straight, 65 and uniform in size from end to end but I prefer to have them tapered, *i. e.* smaller at their extremities than where they connect with the funnels, or with the wall of the pipe, as the case may be, and they may also be curved in- 70 stead of straight.

It will be observed, upon reference to Fig. 1, that the deflector, *f*, *g*, is provided with apertures, *g'*, at the bottom, which serve to prevent any water from collecting or being 75 retained therein, as will be understood.

The operation is as follows, to wit:—As the currents of air strike the side of the pipe *c* above the deflector, and drive downward, they are turned, by the said deflector, 80 upward into the pipe *c*, as indicated by the darts; thereby inducing an outward draft through said pipe, as will be manifest. Again, as the air strikes the funnels it is concentrated at the center thereof and driven into the pipe 85 *c*, through the nozzles, which, being inclined outward, also serve to induce an outward draft, through said pipe, thereby rendering the apparatus very effective as a ventilator or for making chimneys draw well. 90

The apparatus should be made of galvanized iron or other non-corrosive material.

Having thus described the invention, what I claim, and desire to secure by Letters Patent of the United States, is— 95

1. The improved ventilator and draft inducer, herein described, consisting of the pipe *b*, adapted to connect with a chimney or flue; the pipe *c*, of larger diameter than said pipe *b*, and carrying the double deflector, *f*, *g*, the 100

funnels, *k*, *l*, and the cover *d*; said parts being arranged and combined substantially as and for the purposes set forth.

2. In a ventilator, the combination of an
5 inner pipe *b*, an outer pipe *c* encircling the pipe *b*, the double deflectors *f g* arranged at the lower portion of pipe *c*, and the funnels *k l* arranged at the upper portion of pipe *c*, substantially as described.

10 3. In a ventilator, the combination of the pipe *c*, the double deflector *f, g*, and the fun-

nels *k, l*, carried by said pipe; said parts being arranged in relation to one another as described and for the purposes set forth.

In testimony that I claim the foregoing I
have hereunto set my hand this 26th day of
February, 1892.

JAMES G. LUCAS.

Witnesses:

OLIVER DRAKE,

OSCAR A. MICHEL.