H. JOHNSON.

Lamp-Chimney Attachment.

No. 161,339. Patented March 30, 1875.

Fig. 1.

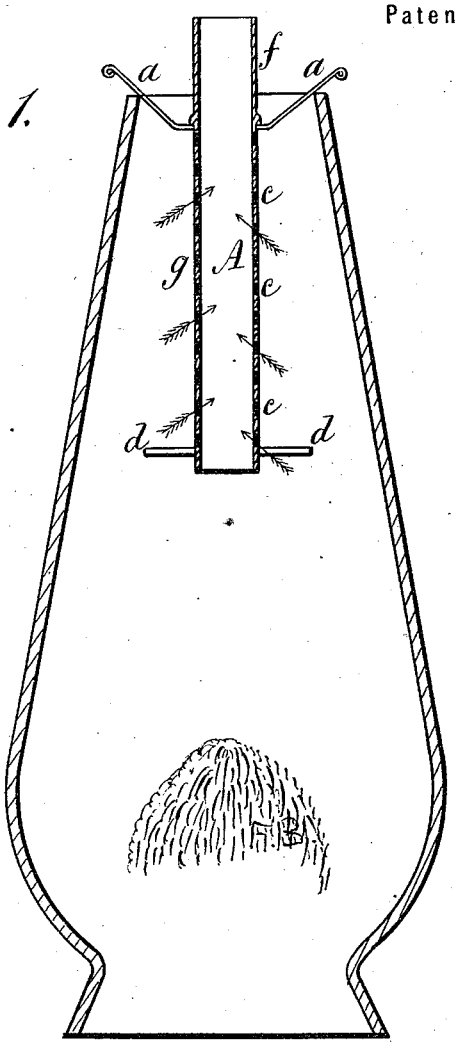
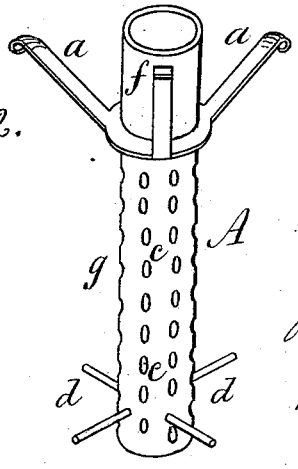


Fig. 2.



Witnesses.
Edwin Scott.
Louis Spahn.

Inventor:
Henry Johnson,
per R. F. Osgood,
Atty.

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

HENRY JOHNSON, OF ROCHESTER, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO MARGARET JOHNSON, OF SAME PLACE.

IMPROVEMENT IN LAMP-CHIMNEY ATTACHMENTS.

Specification forming part of Letters Patent No. **161,339**, dated March 30, 1875; application filed February 20, 1875.

To all whom it may concern:

Be it known that I, HENRY JOHNSON, of the city of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Attachments to Lamp-Chimneys, to prevent breakage under heat; 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 accompanying drawings, in which—

Figure 1 is a vertical section of a lamp-chimney with my improvement applied thereto. Fig. 2 is a perspective view of the attachment removed from place.

My improvement relates to those devices which are suspended within the top of a lamp-chimney for the purpose of producing an auxiliary draft, and thereby withdrawing the heat from the glass.

The device heretofore in use has been an open-topped bell or cone, sunk at some depth within the chimney, and serving to collect the heat at the base and discharging it upward. The main objection to such a device is that, being a closed tube, a large portion of the heated air passes outside the same and in contact with the glass, and has no escape except through the top of the chimney, which thus receives the heat at the concentrated end.

As an improvement on such a device, my invention consists of a long tube suspended within the chimney by spring-arms, the upper end being constructed with closed sides and projecting above the chimney-top, and the lower end, forming a perforated pad, being provided with a series of perforations over its whole surface, extending from the base of the tube to near the top of the chimney, whereby the heat is absorbed from all sides of the glass from base to top, as hereinafter described.

A represents the attachment, which consists of a tube suspended in the top of the chimney by means of the spring-arms *a a a*. This tube is preferably about half an inch in diameter, and of a length to reach sufficiently near the blaze to become highly heated. The pad *g*, from the bottom to near the top of the chimney, has its sides filled with perforations *c c c*, while the end *f*, above the top of the chimney, is made with closed sides, but an open top, as shown. The bottom may be provided with radial arms *d d*, to keep the tube centered, and to prevent too much deflection of the tube when the chimney is inclined. These arms may be used or not, at pleasure. The bottom of the tube may be made open or closed. If closed, it is preferably provided with perforations like those in the sides.

The tube thus suspended over the blaze becomes highly heated, which produces an active draft of the heated air through the same. This draft not only draws the air in at its bottom, but also at the perforations through the sides. The hot air is, therefore, drawn in and abstracted from the glass the whole length of the perforated pad *g*, and in this respect my invention differs essentially from those which draw the air in only at the bottom. The tendency of the air is to rise rapidly under heat, and where the entrance to the tube is only at the bottom a great body of the air escapes past the bottom of the tube, and, rising above and outside the same, is concentrated in the narrow top of the chimney, which is thus subjected to great heat.

By perforating the tube up and down its length I draw the air in at the sides, which would otherwise accumulate around the tube, and thus abstract the heat from the top of the glass, leaving the same comparatively cool. By extending the tube some distance above the top of the chimney, as shown, and making the sides closed, so as not to draw the outside air in above the chimney-top, I greatly accelerate the draft through the tube.

In these respects my device differs from that before referred to, and I make the attachment much more effective than could be done were the tube left unperforated from top to bottom. The great danger to a lamp-chimney comes from the contraction of the top and the concentration of the hot air at that point. Without coming in contact with the glass, the chimney can be kept from breaking under ordinary circumstances.

In the use of this attachment it is not material or necessary that it should hang directly in the center, for if it should hang one side, so that the end does not come directly over

the light, yet the perforations in the sides will take up the heat and discharge it without affecting the glass or the light. The tube may, therefore, be set into the top of the chimney without special care.

I do not claim, broadly, an attachment hung within the chimney for producing an auxiliary draft; nor do I claim, broadly, spring-arms for suspending the attachment; but

What I claim as new is—

The tube A, constructed with the perforated pad *g*, resting within the chimney, and the closed end *f*, resting above the chimney, as described, whereby the heated air, which rises above the lower end of the tube, is drawn in through the perforations in the sides, and then discharged above the top of the chimney without coming in contact with the glass, as hereinbefore described.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

HENRY JOHNSON.

Witnesses:

R. F. OSGOOD,

EDWIN B. SCOTT.