F. M. CAMPBELL.

Chimney-Jacks.

No. 158,360. Patented Jan. 5, 1875.

Fig. 1.

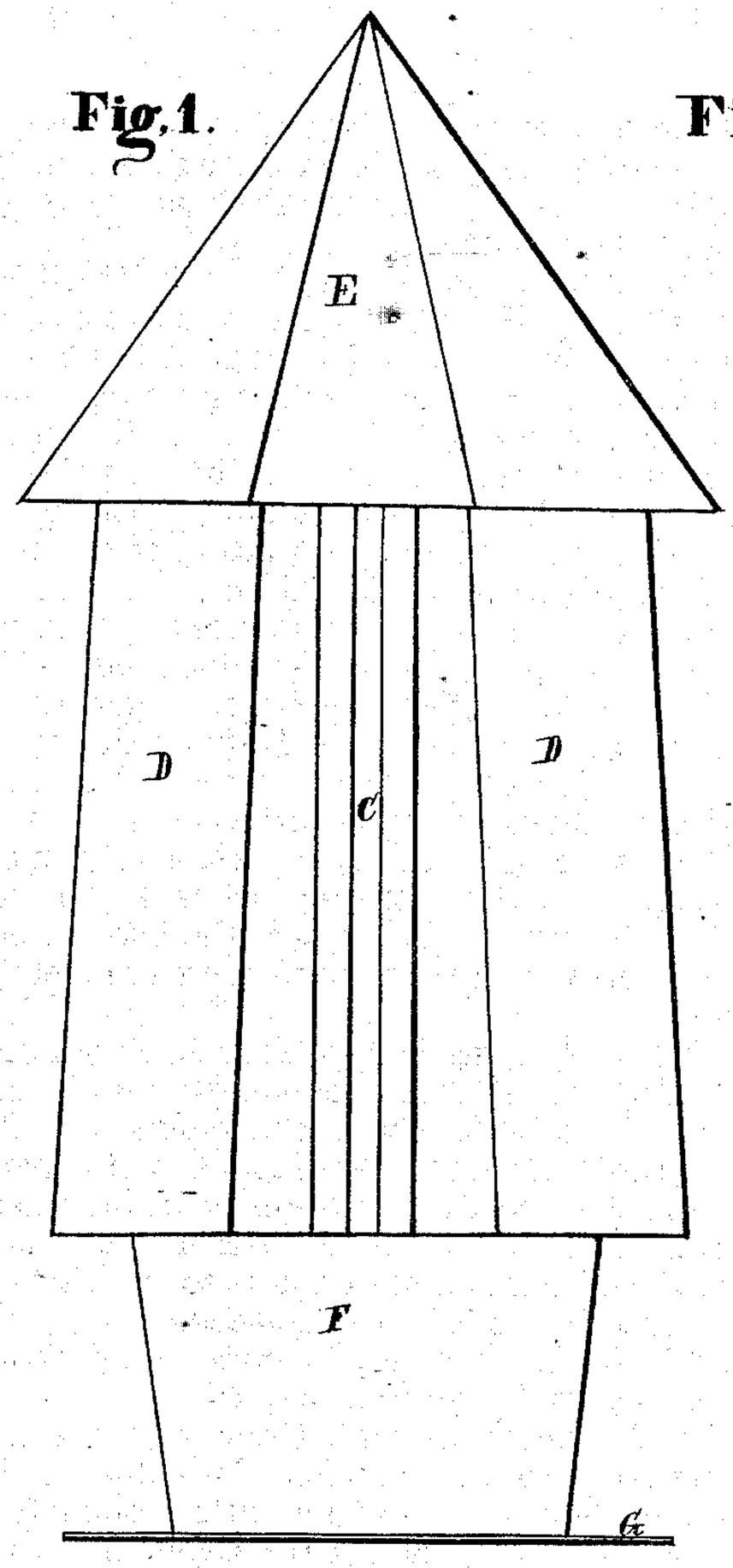


Fig. 2.

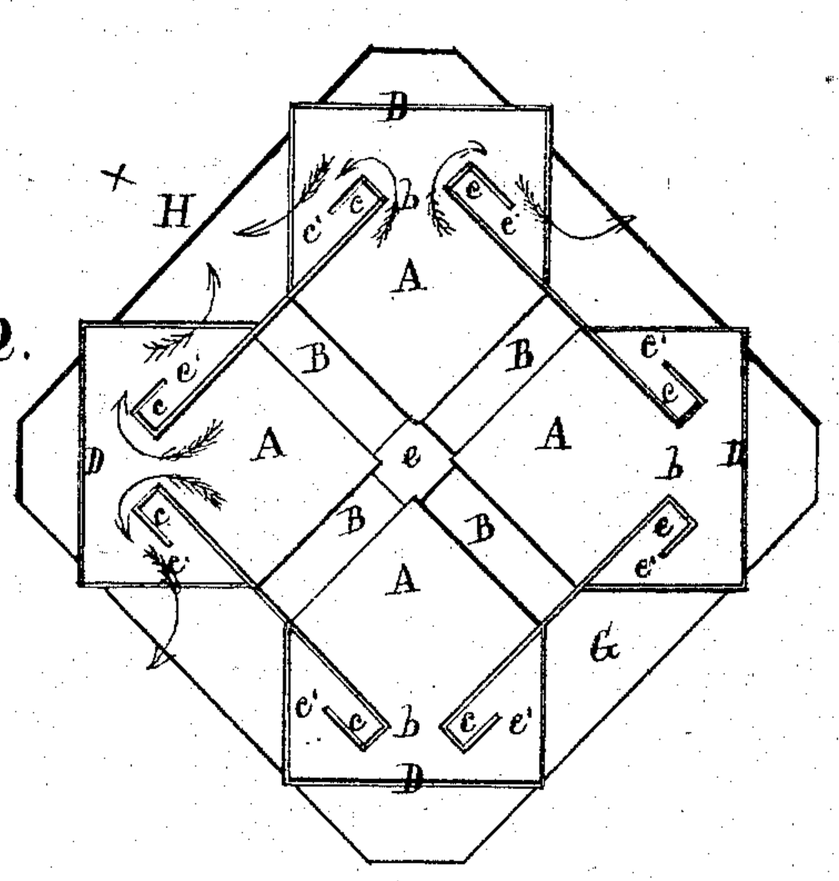
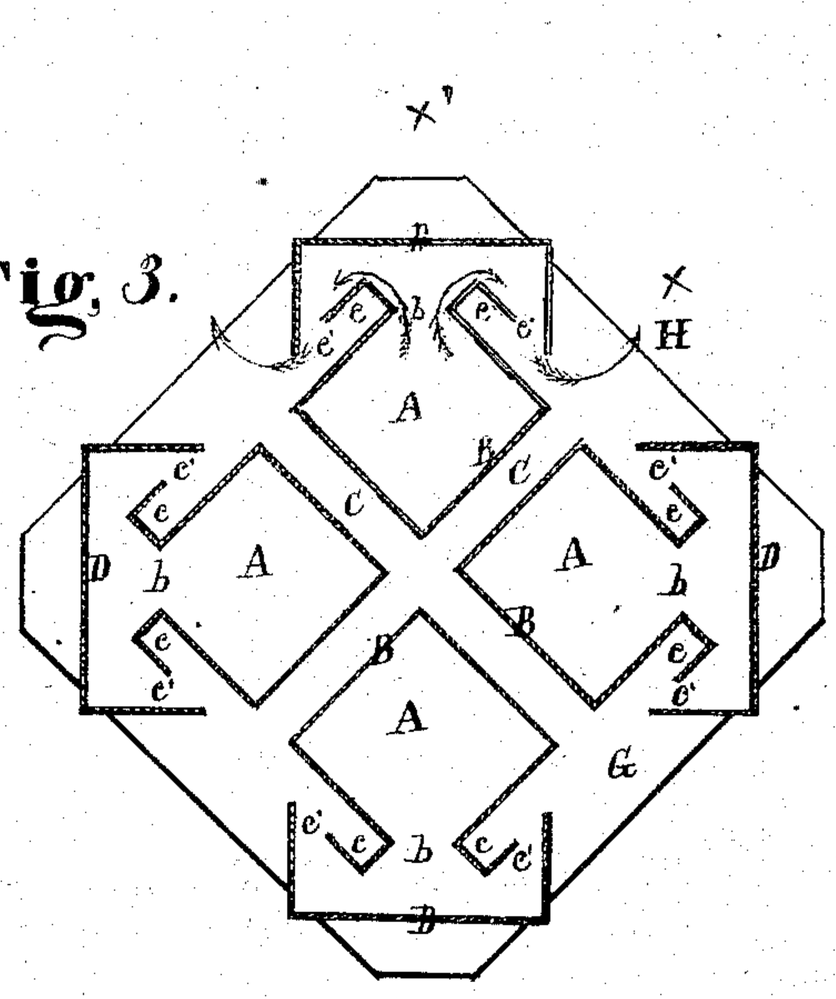


Fig. 3.



Witnesses.

A. F. Cornell.

J. W. Wright

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UNITED STATES PATENT OFFICE.

FRANK M. CAMPBELL, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN CHIMNEY-JACKS.

Specification forming part of Letters Patent No. **158,360**, dated January 5, 1375; application filed November 16, 1874.

To all whom it may concern:

Be it known that I, FRANK M. CAMPBELL, of St. Louis, in the county of St. Louis and State of Missouri, have invented certain new and useful Improvements in Smoke-Jacks and Ventilators, whereof the following is a specification, reference being had to the accompanying drawings, making a part thereof, wherein—

Figure 1 is an exterior view of the jack. Fig. 2 is a top view, having the cap removed. Fig. 3 is a horizontal transverse section.

Like letters of reference refer to like parts in the several views.

The nature of this invention relates to a chimney-jack and ventilator, and the object whereof is to prevent chimneys from smoking, and which may, also, be used for ventilating purposes.

The construction of the aforesaid invention, and the operation of the same, are as follows:

The jack is constructed of sheet metal, and, externally, of the shape shown in Fig. 1. The body of the jack consists of four rectangular flues, A, whose inner walls, B, inclose a space, *l*, as seen in Fig. 3. The spaces C between the walls open to the outside, but are closed at the bottom and also at the top, excepting at the center, *e*, which is open. The whole top may be left open, but it is better that it be partially closed. The outer corner of each of the flues is open, as will be seen at *b*, Fig. 3, the edges or sides of which are turned outward at right angles and then back in direction of the side of the flue, forming rectangular laps of the edges, as seen at *c*. The open corners of the flues are covered with a shield, D, the sides of which extend so far inward as to embrace the laps *c*, as shown in the drawings, wherein it will be seen that the shield does not cut off the communication of the flues A with the outside, said communication being open, as indicated by the arrows. The cap or hood E projects down over the top of the flues. The lower part of the jack consists of the hollow base F, having a wide flange, G, whereby the jack is secured to the chimney.

The practical operation of the jack is as follows: Supposing the wind to blow from a point, *x*, it can only strike the jack directly at the side H, which will enter the opening C, passing through it and up and through the opening *e* in the top, thereby forming a vacuum and inducing a draft from all the openings of the flues, and thus facilitating the escape of smoke from the chimney, passing up therefrom into the flues A, and out of the sides and top of the jack into the air. Should the wind blow from the point *x'* it can only strike two of the openings at *c'*, and that indirectly, for the shield prevents it from blowing directly in and stopping the draft on the opposide side; hence, a partial vacuum is formed, thereby inducing a draft in the flues, causing a free escape of the smoke through the openings on the farther side of the jack. In the event the wind is downward, the hood or cap E will prevent it from going down the chimney.

The above-described jack is not only a protection against smoky chimneys, but is also well calculated for ventilating rooms, &c. For this latter purpose the principle of its operation is the same, and requires no change to be made in its construction further than some slight modification to adapt it to the particular place where it is to be placed.

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

In the herein-described chimney-jack and ventilator, the combination of the flues A, inclosing the space *l*, having outlet *e* and shield D, provided with laps *c*, in the manner substantially as described, and for the purpose set forth.

FRANK M. CAMPBELL.

Witnesses:

ANTHONY C. DUNLEVY,
JAS. A. BROWN.