

J. EDSON.  
Chimney Cowl.

No. 103,856.

Patented June 7, 1870.

Fig. 2.

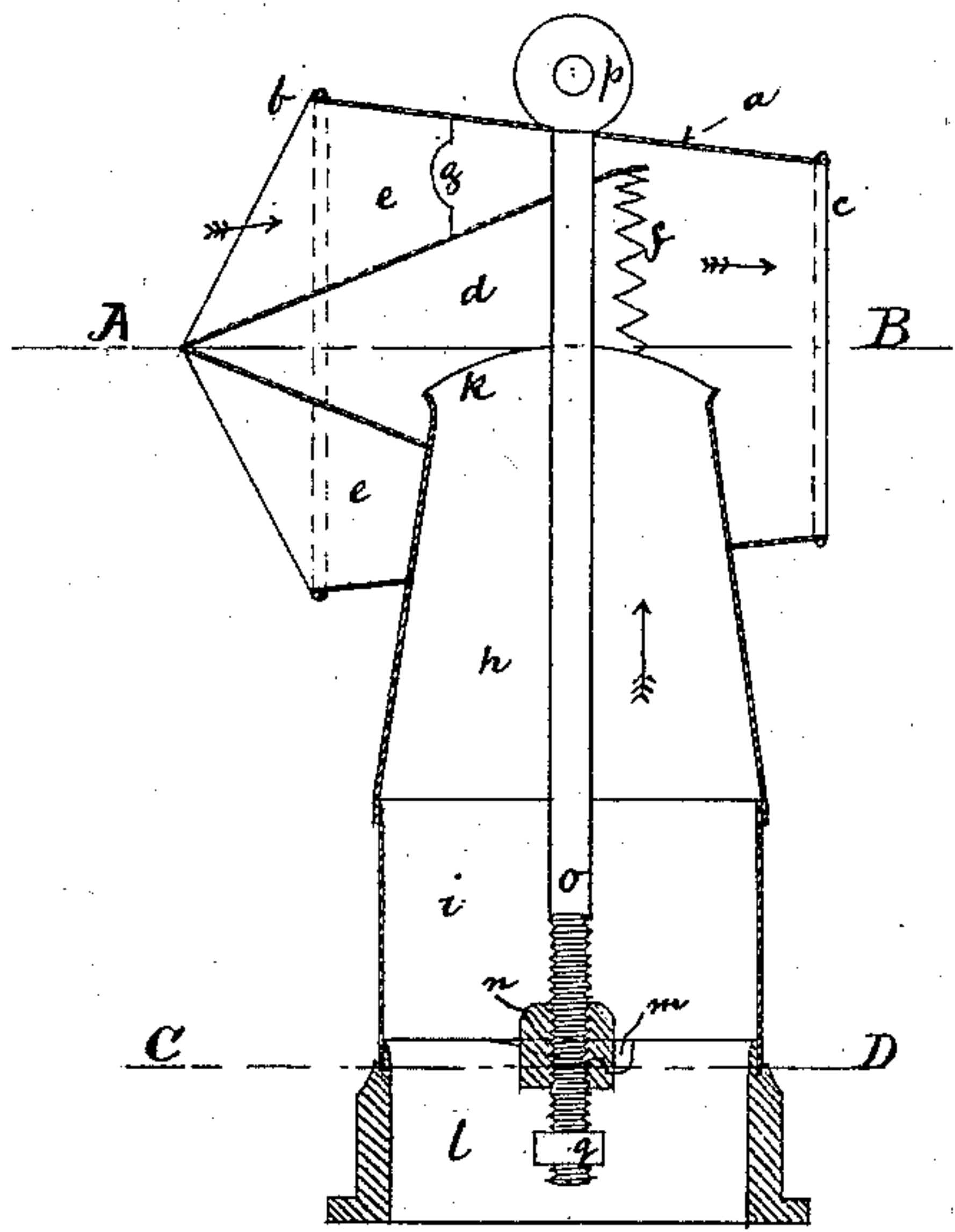


Fig. 1.

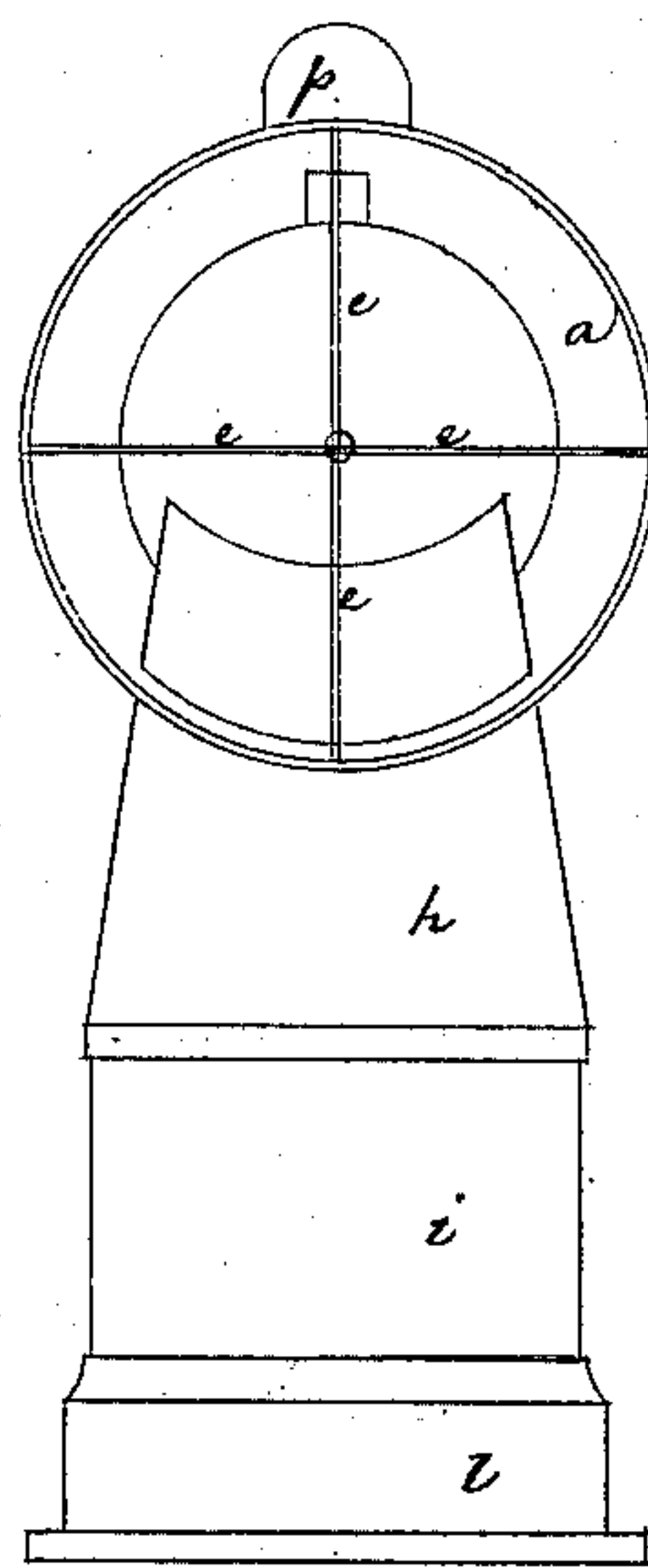


Fig. 3.

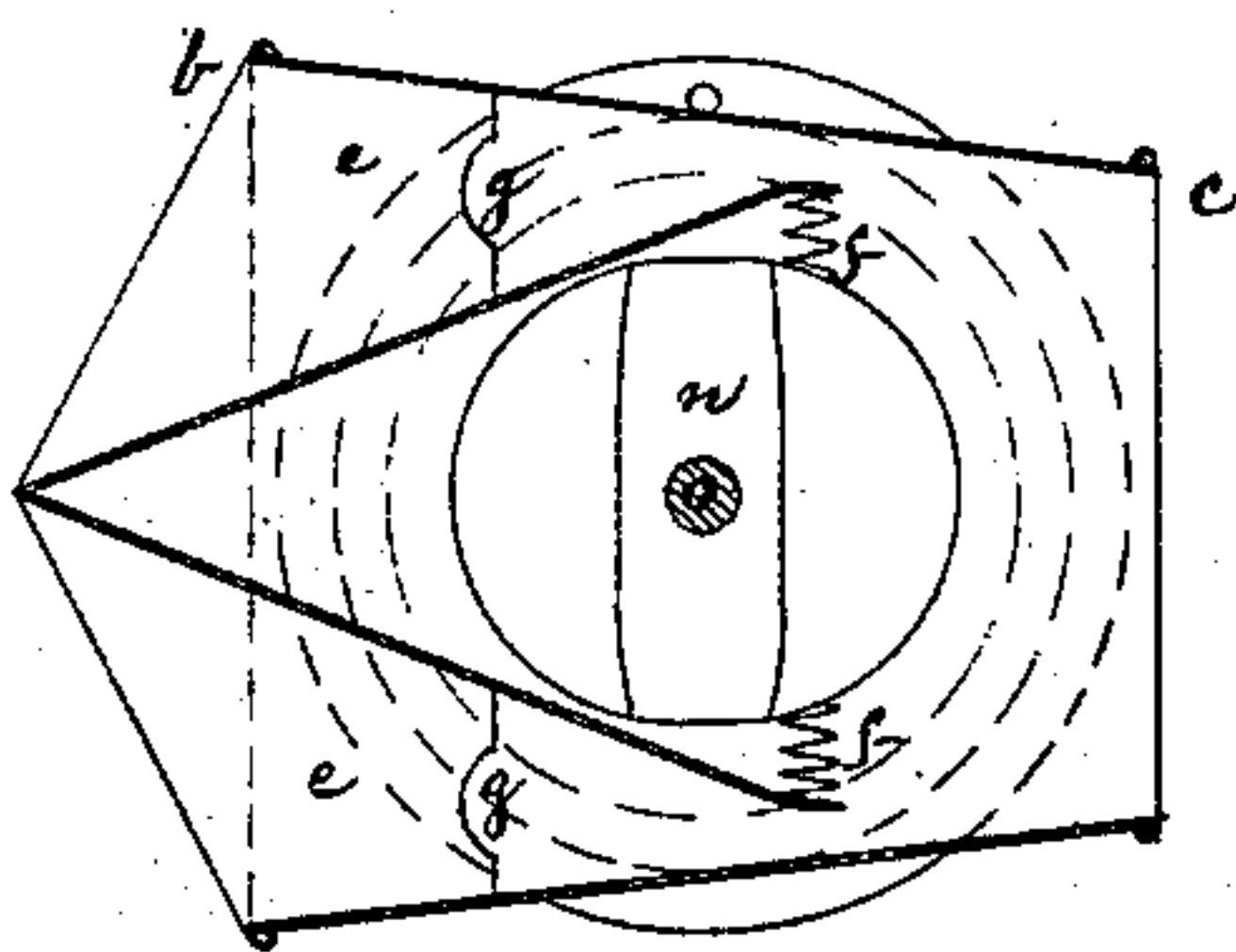
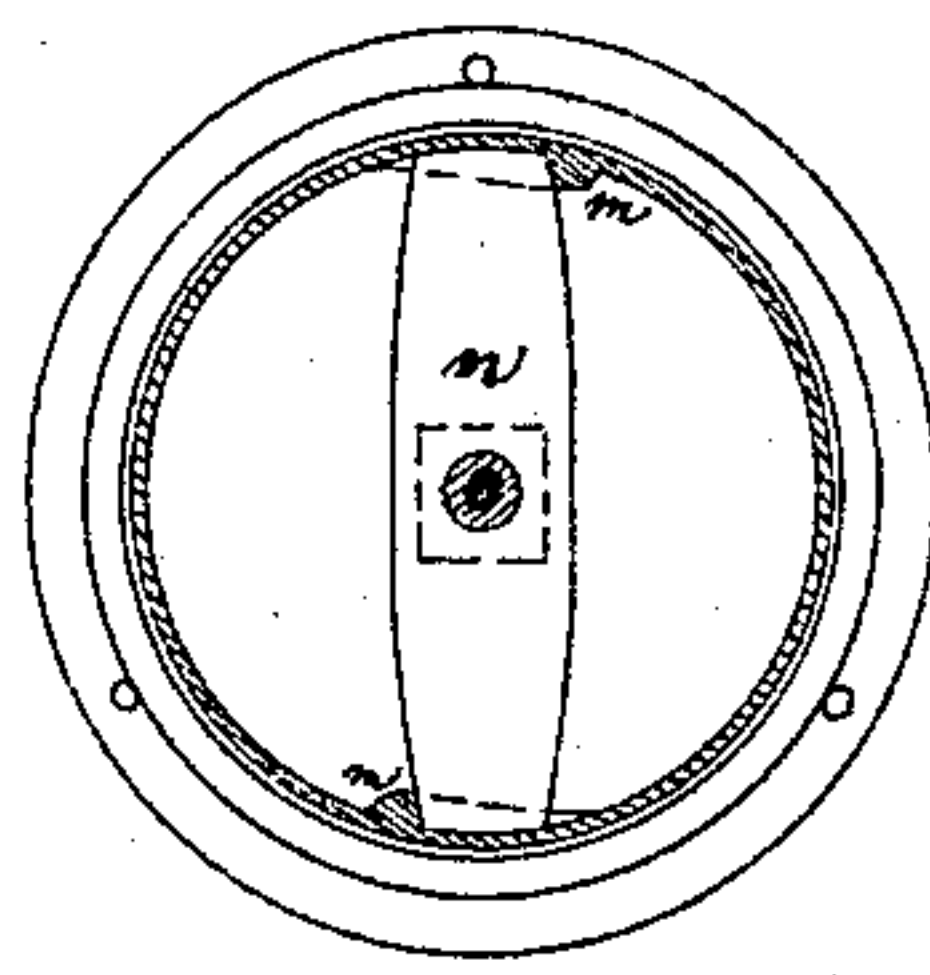


Fig. 4.



— Witnesses: —

*J. F. Nordquist*  
*Wm. Carlton Orland*

— Inventor: —

*Jacob Edson*  
by his attorney *Abner Andren*

# UNITED STATES PATENT OFFICE.

JACOB EDSON, OF BOSTON, MASSACHUSETTS.

## VENTILATOR OR COWL.

Specification forming part of Letters Patent No. 103,856, dated June 7, 1870.

*To all whom it may concern:*

Be it known that I, JACOB EDSON, of Boston, county of Suffolk, and State of Massachusetts, have invented certain Improvements on Ventilators, of which the following is a specification.

The nature of my invention relates to the making of a ventilator in such manner as to obtain a speedy and effectual circulation of the air, smoke, or gas that is to be exhausted; also, of giving to the above-named ventilator a ready access for the wind or draft from all sides to the interior of the hood, whereby a vacuum is produced in the rear end of the hood tending to draw out the impure air, smoke, or gas from the place that is to be ventilated.

In the drawings, Figure 1 is a front view; Fig. 2, a longitudinal section; Fig. 3, a section over the line A B, and Fig. 4 is a section over the line C D, both these sections taken on Fig. 2.

*a* is a hood, on which *b* is the larger end and *c* the smaller one. A cone, *d*, is placed in a suitable position inside of the hood *a*, so as to have its point A at the same end as the larger opening, *b*, and also projecting somewhat outside the extreme end of the said opening *b*.

A number of wings or leaders, *e e e e*, connect the cone *d* to the hood *a*. The object of these wings is to lead or direct the wind blowing from A into the hood with as little friction as possible.

The rear end of the cone *d*, I cut out corrugated, as shown at *f*, Figs. 2 and 3. This I do for the purpose of obtaining an increased contact-surface for the draft upon the gas or smoke that is to be exhausted.

The leaders *e e e* are made and provided with a cut or groove, *g g g*, at the rear end of each leader, for the purpose of conducting water that may enter the opening *b*, either in the form of rain or as spray, if the ventilator is used on board a ship, to the interior, where it may be collected in some of the ordinary ways.

*h* is a conical frustum, with its smallest end *k* projecting through the hood *a* into the cone *d*. The very top *k* of said frustum is made with a rounded edge, so as to allow the impure gas passing through it to turn easily over a rounded surface. By having the pipe *h* made smaller at the outlet *k*, I increase the velocity of the smoke or gas at the moment it

enters the hood *a*, where it comes in contact with the driving-air from A. After this contact the velocity of the smoke or gas is still more increased, and will readily exhaust through the rear opening, *c*.

*i* is a conducting-pipe from the foot *l* to the frustum *h*, and may be made of a suitable length, straight as well as curved, so as to connect from the room or space to be ventilated to the outer air. In the foot-piece *l*, and on the inside circumference of the same, I make two inclined planes, *m m*, opposite each other. Each plane terminates in a head, as shown in the section on Fig. 4.

A cross-bar, *n*, is made to move around the central rod, *o*, and the ends of said bar *n* are made to rest on the inclined planes *m m*. The rod *o* is provided at its upper end with a head, *p*, having an eye through it, as shown on Fig. 2. The lower end of the bolt *o* is screwed and provided with a check-nut, *q*. The middle of the bar *n* is tapped to receive the screw *o*. By means of this arrangement of the bolt *o*, bar *n*, inclined planes *m m*, and check-nut *q*, I connect and hold firmly together the different parts of my ventilator. By turning of the screw *o* from the left to the right I also move the bar *n* around the center *o* till it strikes the heads of inclined planes *m m*, when, by additional turning of said bolt *o*, the whole ventilator is securely held together. By turning the bolt *o* from the right to the left, and when the check-nut *q* meets the under side of the bar *n*, the said bar will slide off the planes *m m*, when the hood *a*, pipes *h* and *i* are disconnected from the ring *l*, which latter may be used as an entrance or man-hole.

The operation of my ventilator is as follows: Secure the ring *l* to an opening in the wall or ceiling of the room that is to be ventilated, and let the larger end, *b*, of the hood *a* face the wind, or nearly so, when there will be a draft in the hood *a* in the direction of the arrows, causing a partial vacuum to take place in the cone *d*. This vacuum tends to draw up the impure air, gas, or smoke through the pipes *h*, *i*, and *l*, discharging at the top *k*, where the smoke or gas will follow the direction of the air from A and discharge with it through the common opening *c*.

Having thus described the nature and operation of my invention, I wish to secure by Letters Patent, and claim—



1. The cone *d*, arranged inside the hood *a*, and connected to the same by means of wings *e e e e*, as set forth.

2. The cuts *g g g* on the wings *e e e*, for the purpose of discharging the water, as set forth.

3. The arrangement of the frustum *h*, projecting through the hood *a* and entering inside the cone *d*, as described.

4. The combination of the eyebolt *p*, screw *o*, bar *n*, and inclined planes *m m*, for the purpose as fully set forth and described.

JACOB EDSON.

Witnesses:

ALBAN ANDRÉN,  
J. F. NORDQUIST.