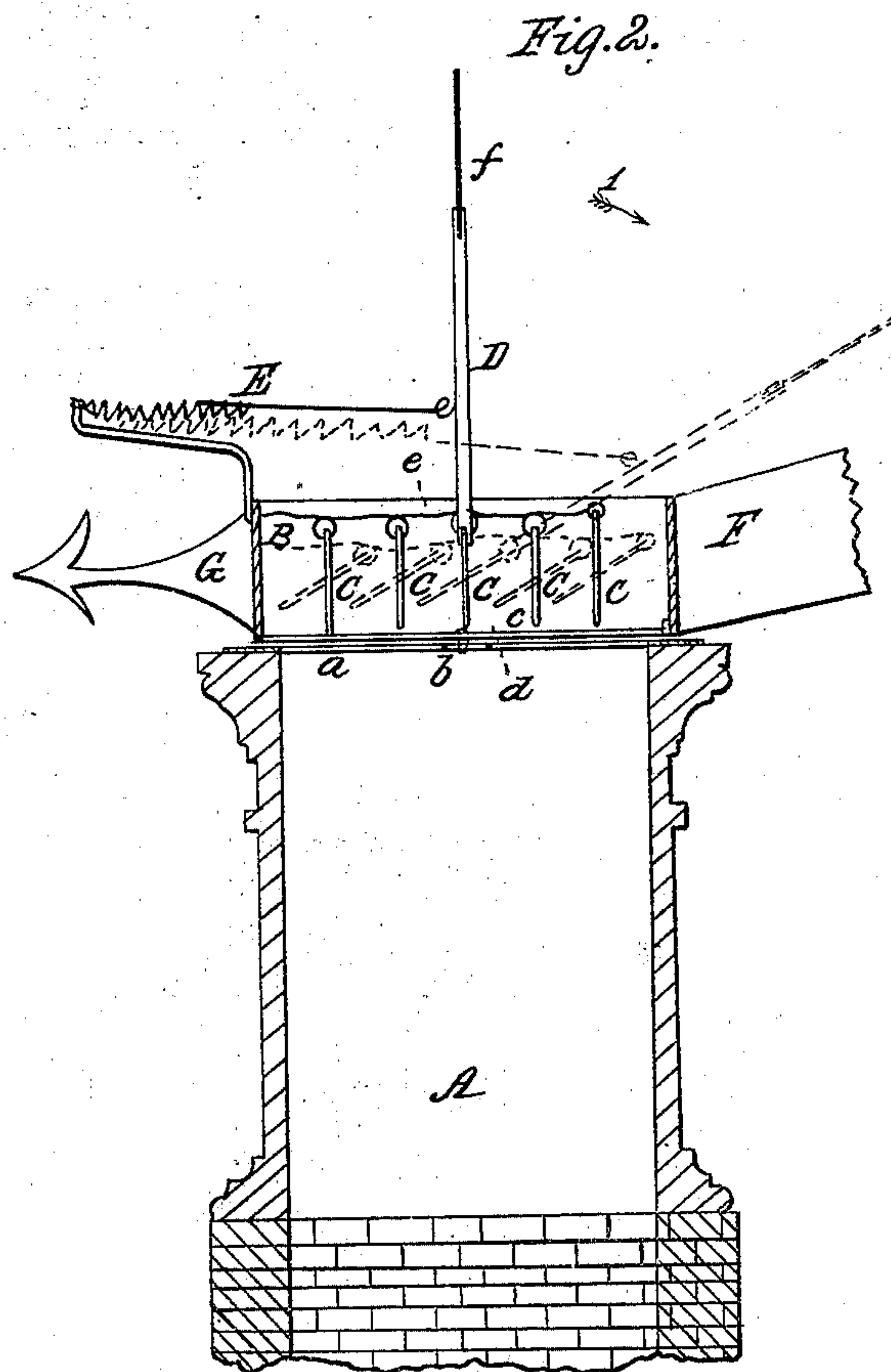
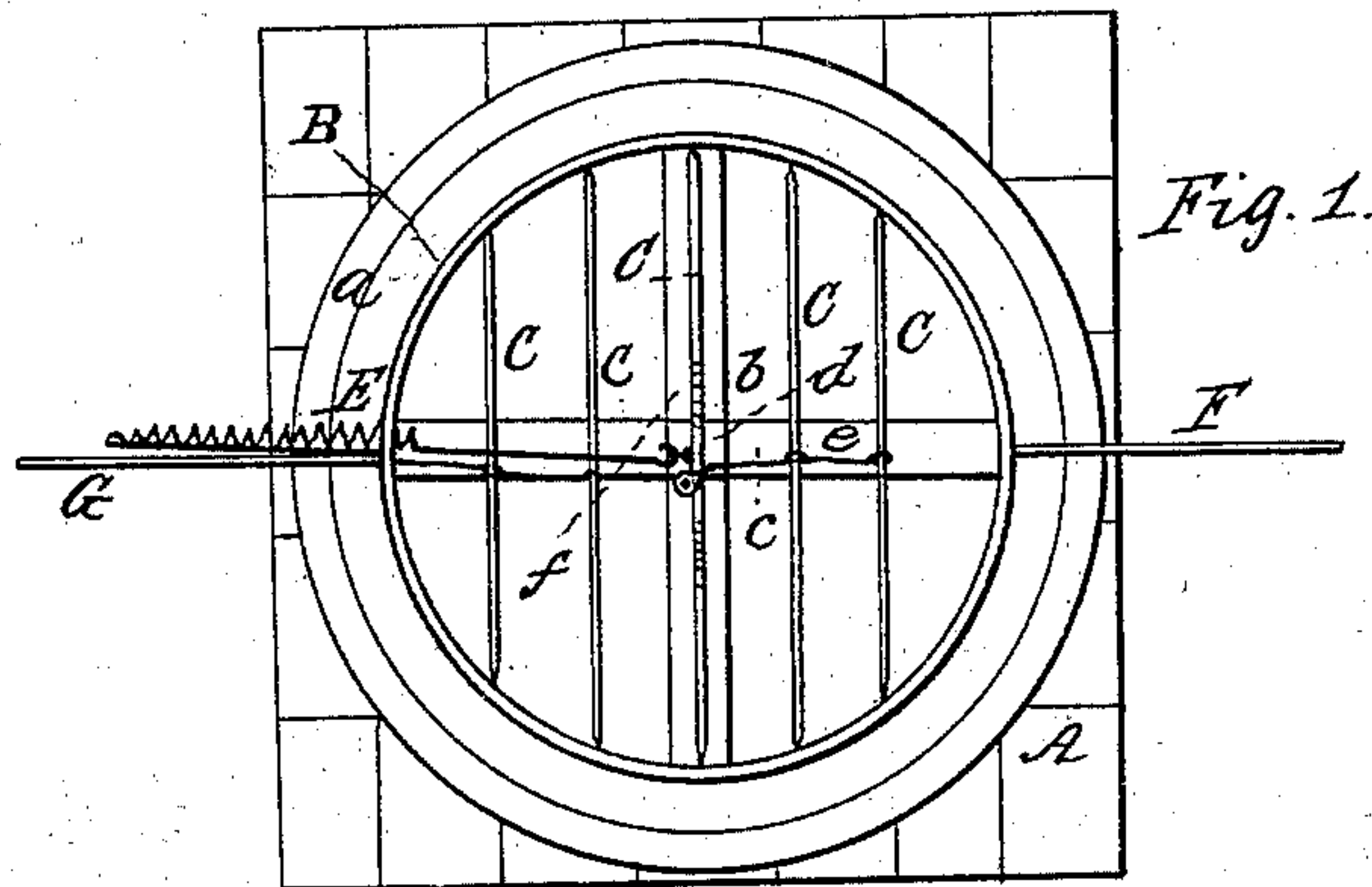


J. A. ROYCE.  
Chimney Cowl.

No. 15,779.

Patented Sept. 23, 1856.





# UNITED STATES PATENT OFFICE.

J. A. ROYCE, OF LEE, MASSACHUSETTS.

## SELF-REGULATING DRAFT FOR CHIMNEY-TOPS.

Specification of Letters Patent No. 15,779, dated September 23, 1856.

*To all whom it may concern:*

Be it known that I, JOSIAH A. ROYCE, of Lee, in the county of Berkshire and State of Massachusetts, have invented a new and useful Self-Acting Draft-Regulator for Chimneys, &c.; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1, is a plan or top view of a chimney with my draft regulator applied to it; and Fig. 2, a vertical central section of the same.

Similar letters of reference indicate corresponding parts in each of the several figures.

The object of my invention is to regulate the draft of chimneys during windy weather, in such a manner as, that no more fuel shall be consumed during such weather than is consumed when the weather is calm.

The nature of my invention consists in the application to the top of a chimney, or draft flue, of a frame having one or more turning slats or dampers hung in it, said frame being provided with a rudder, so as to be always turned to the proper position by the action of the wind, and the dampers being combined with a spring mast—with sail on top, so as to be closed more or less by the action of the wind and automatically opened during a calm.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A, represents a chimney or draft flue of a dwelling, steam works, or other place; *a*, is a metal annular ring fastened on top of it, so as to give an even surface; and *b*, a bar placed across the flue so as to serve as a bearing.

B, is a frame of circular, square, or other desired shape; it has a bar *c*, placed across its bottom and is connected at its center to the cross bar *b*, by a fulcrum pin *d*, as shown.

C C, represent slats or dampers hung at each end in the frame B, in a manner to be capable of turning a part of a revolution. These slats or dampers are placed a short distance apart and connected together, at top edge, by a rod *e*, in a manner to decrease the size of the draft flue during windy

weather and thereby save fuel, as will be presently shown. 55

D, is a mast extending up from one of the slats or dampers and having a sail *f*, on its upper end, with which the wind comes in contact and forces it in the direction of the arrow 1, and thereby causes the slats or dampers to contract more or less the draft flue of the chimney, as illustrated in red. 60

E, is a spring attached to the mast and extending therefrom to a bracket on the edge of the frame as shown, or otherwise. This spring, as the mast is blown over by the wind from a vertical to an inclined position, is distended or expanded and consequently, when the wind ceases to blow, contracts and brings the mast back to its proper position, and thus causes the slats or dampers to open the chimney flue its full width at the time necessary or when the draft is very slight. 65

F, is a rudder, extending out from the rear of the frame; and G, an arrow or wind indicator, arranged on the front of the frame in line with the rudder. The rudder serves, when the wind blows, for turning the sail to a proper position for being acted upon by the wind and also for turning the arrow to the wind. 75

Operation: When the wind blows the rudder is first acted upon and caused to turn the frame and bring the point of the arrow to the wind, and also the sail in a position for being operated upon thereby. The wind now strikes the sail and causes the mast to incline and in doing so to give an inclination to the slats or dampers, and thus decrease the draft flue, as illustrated in red. As soon as the wind ceases to blow the mast is raised to a vertical position by the spring E, and the draft flue left open its full width, as illustrated in black. 90

This invention has been practically tested and gives great satisfaction; for with it the draft is uniform and consequently the heat steady, no matter what be the state of the weather, and the baking and cooking processes are more regular, and also considerable saving in fuel is effected. 100

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

The application to the top of a chimney, or draft flue, of a frame having one or more

turning slats, or dampers, hung in it, said  
frame being provided with a rudder so as to  
be always turned to the proper position by  
the action of the wind, and the dampers be-  
5 ing combined with a spring mast, with sail  
on top, so as to be closed more or less by the  
action of the wind and automatically opened

during a calm; substantially as and for the  
purpose set forth.

JOSIAH A. ROYCE.

Witnesses:

CHAS. W. GRAVES,  
JOHN BROWNING.