

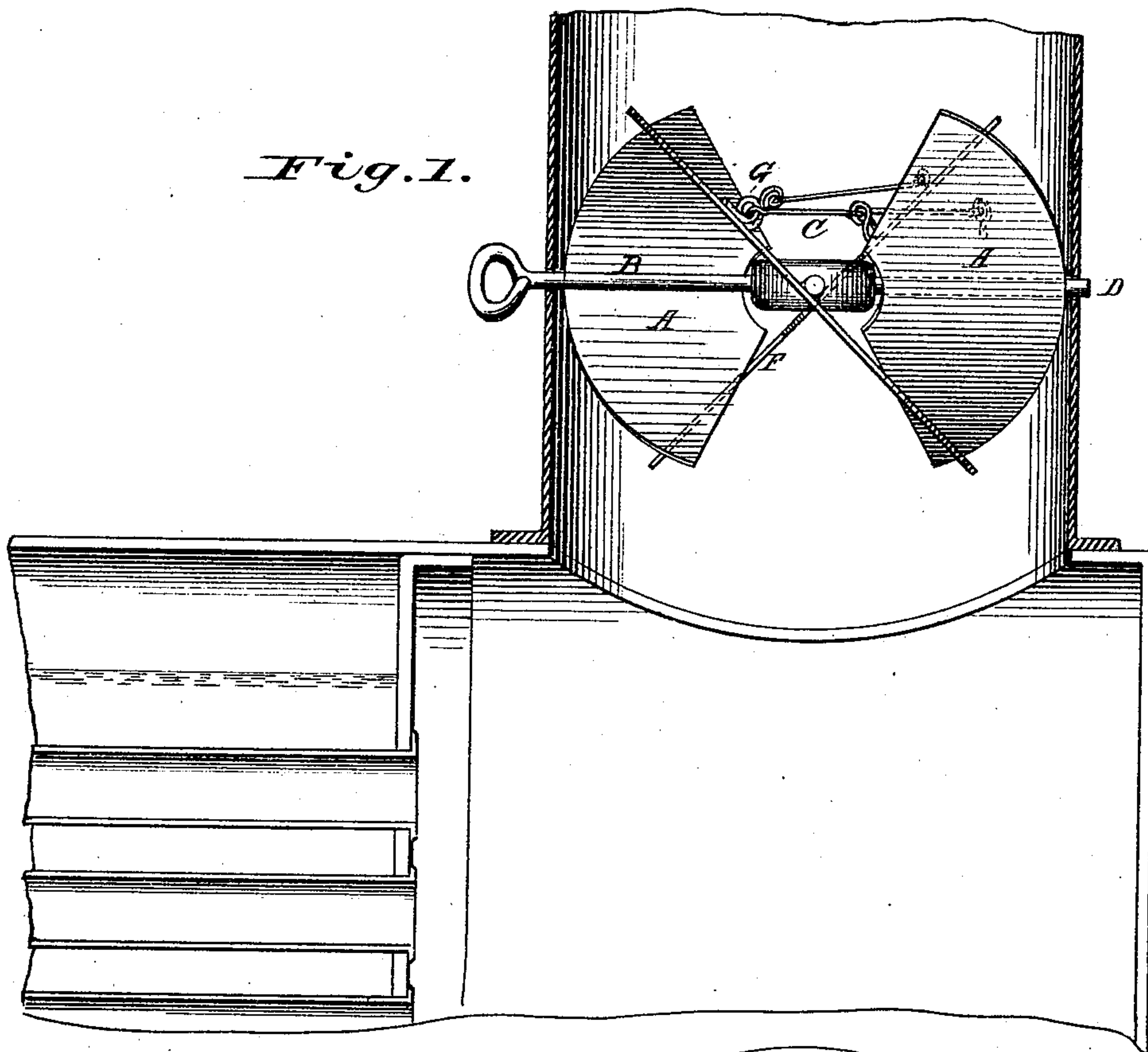
A. H. NORRIS.

DAMPER.

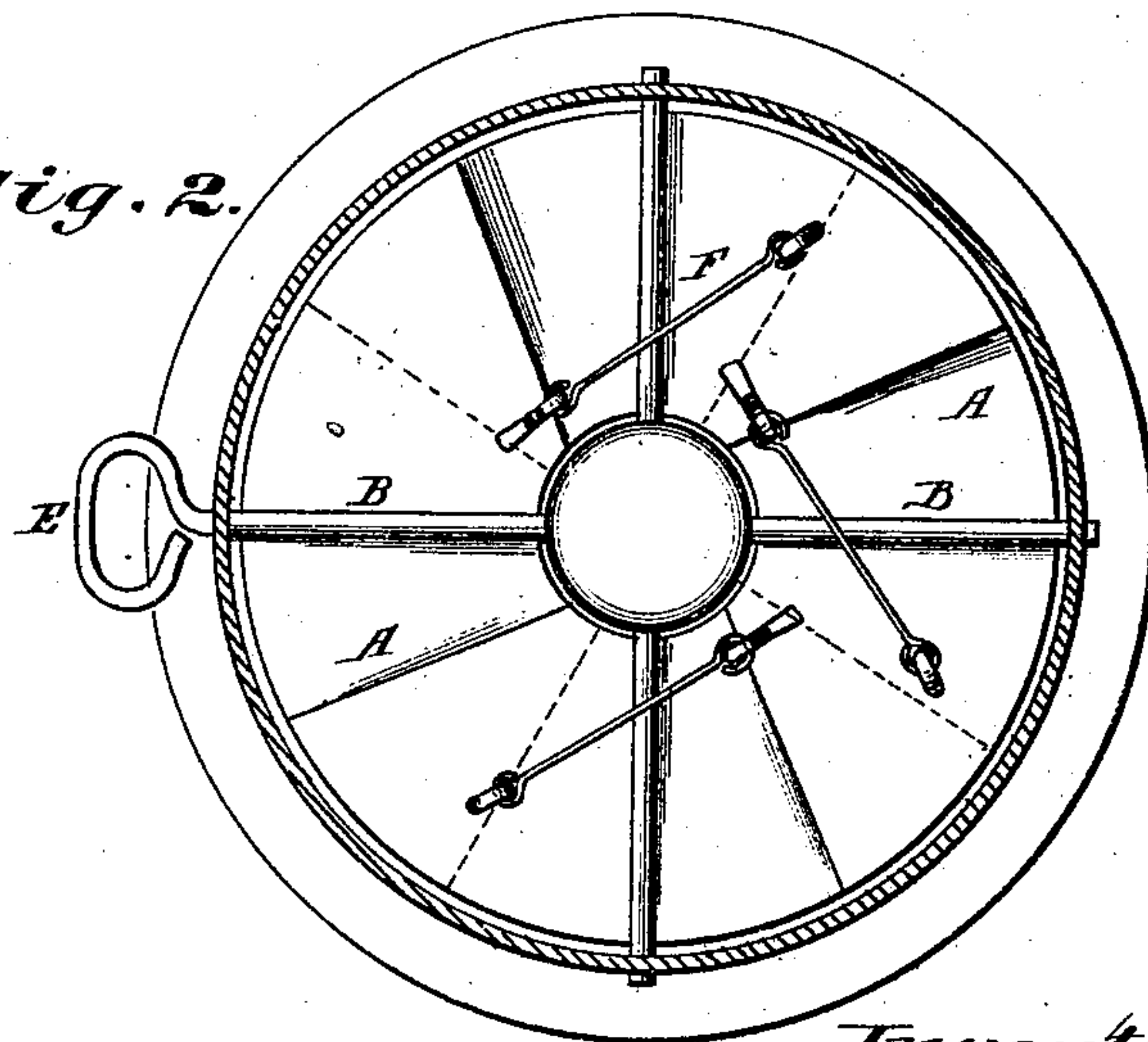
No. 178,795.

Patented June 13, 1876.

*Fig. 1.*



*Fig. 2.*



Attest:  
H. L. Perrine  
J. L. Dooms

Inventor.  
Albert H. Norris  
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Atty.

# UNITED STATES PATENT OFFICE.

ALBERT H. NORRIS, OF WASHINGTON, DISTRICT OF COLUMBIA, ASSIGNOR  
TO NOBLE HEATH, JR., OF NEW YORK, N. Y.

## IMPROVEMENT IN DAMPERS.

Specification forming part of Letters Patent No. **178,795**, dated June 13, 1876; application filed  
May 24, 1876.

*To all whom it may concern:*

Be it known that I, ALBERT H. NORRIS, of Washington, in the District of Columbia, have invented certain new and useful Improvements in Dampers, of which the following is a specification:

This invention relates to an improved damper for stoves and furnaces, but is particularly designed for steam-boilers, its object being to furnish a means by which the draft through an ordinary chimney, or through the smoke-stack of a steam-boiler, may be regulated and controlled with exactness and nicety.

My invention consists in a damper composed of a series of two or more sections or wings, pivoted in the chimney of an ordinary stove or furnace, or in the smoke-stack of a steam-boiler, in such manner that when folded together in a horizontal position they will form a perfect obstruction to the draft through the chimney or smoke-stack, and when thrown apart at an angle to a horizontal plane they will offer a draft or passage through the smoke-stack or chimney, which will vary as the position of said section varies from a horizontal plane, as more fully hereinafter set forth.

In the drawings, Figure 1 represents a sectional view, showing my improved damper as applied to the smoke-stack of a steam-boiler; and Fig. 2, a top view of my improved damper.

The letter A represents the sections of the damper, consisting, in the present instance, of four segmental parts, each of which is mounted on a shaft or journal, B, pivoted at its inner end in a bearing, C, located in the center of the stack or chimney, and at its outer end in the wall of the chimney or stack, as shown at D.

The shaft or journal of one of the sections passes through the wall of the chimney or smoke-stack, and is provided with a handle, E, by which its position may be changed, and the whole series of sections are connected by means of the loosely-attached links F, by means of which the whole series is made to

move together and take similar positions with the first as it is shifted. The links F may be attached, in any convenient manner, to the wings or sections A, but in the present instance are represented as secured to the studs or projections G, which may be secured either to the under or upper sides of the sections. In the present instance four segmental sections are shown arranged in a cylindrical chimney or smoke-stack; but it is evident that the objects of the invention may be accomplished by means of two sections, and that said sections may be constructed to conform to a chimney of any desired shape.

It will be seen that the damper, as thus constructed, provides a means for exactly controlling the draft through the furnace, serving to economize the fuel employed, by preventing the too rapid escape of the products of combustion and the heat that would be carried off by the same; and as the damper is located at the bottom of the chimney, and as near as possible to the boiler, it will be seen that it will retain the heat around the boiler, and not allow it to escape into the chimney, as in the ordinarily-constructed dampers, located upon the top of the chimney or smoke-stack.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

A damper for chimneys, smoke-stacks, &c., in which is combined a series of segmental sections, connected together as described, and mounted upon axes arranged at or about right angles to each other, and an operating-handle for simultaneously moving the segmental sections on their axes, substantially as and for the purpose set forth.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

A. H. NORRIS.

Witnesses:

ELLIS DRAKE,

J. W. HAMILTON JOHNSON.