

(No Model.)

F. H. LEONARD.

DRAFT REGULATOR AND SOOT ARRESTER FOR CHIMNEYS.

No. 316,796.

Patented Apr. 28, 1885.

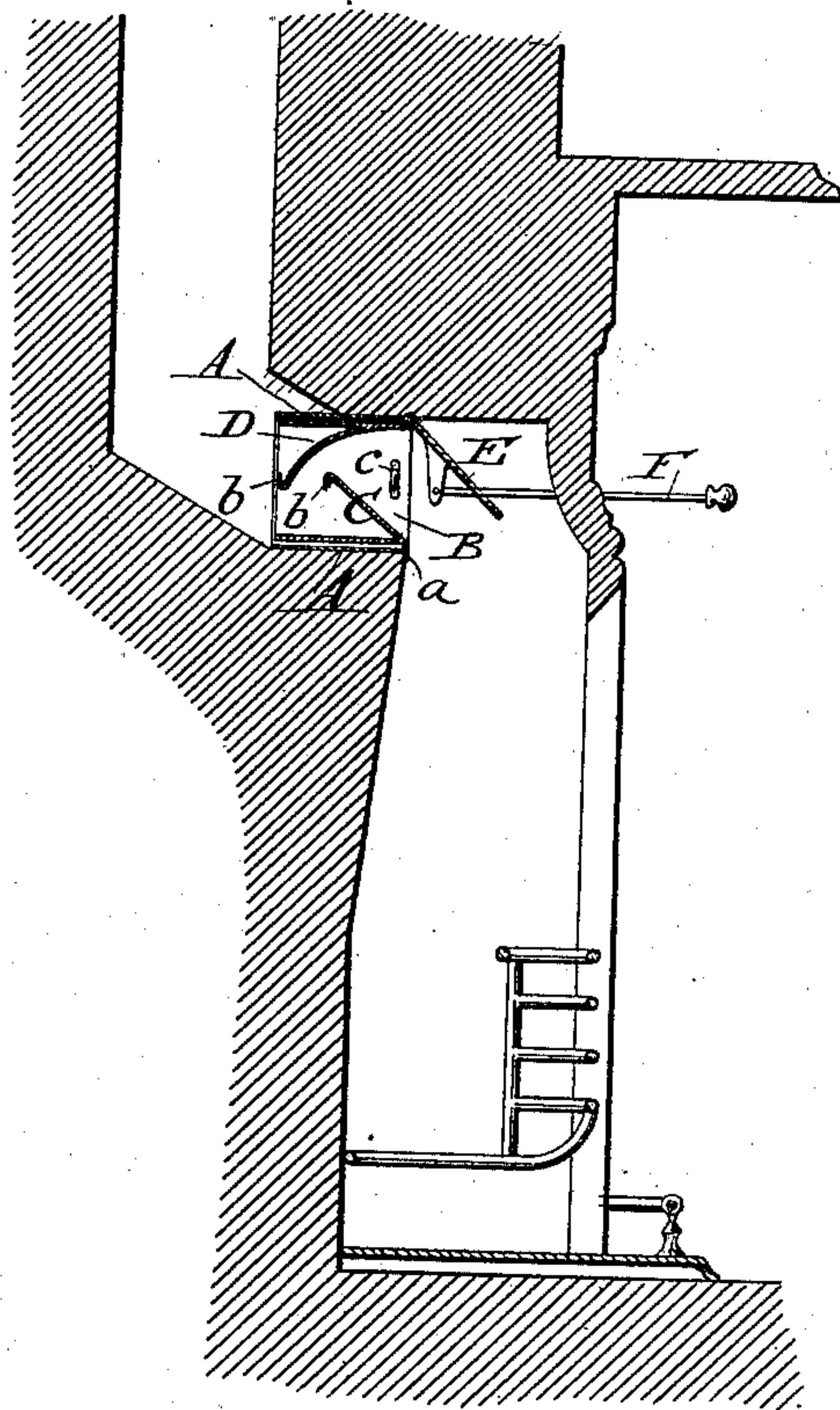


Fig. 1.

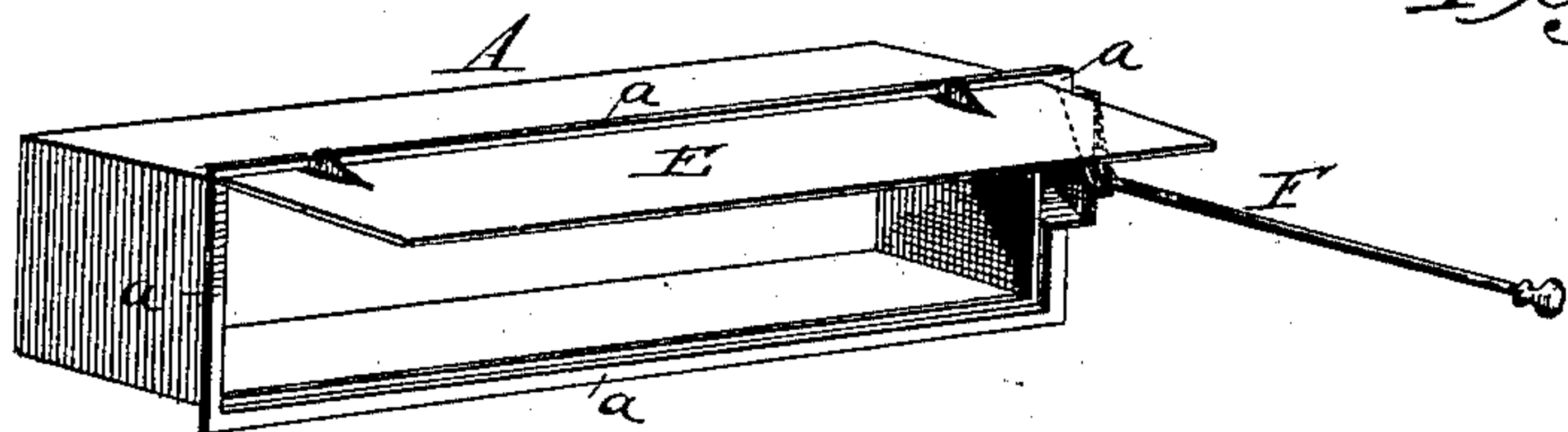


Fig. 2.

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DRAFT-REGULATOR AND SOOT-ARRESTER FOR CHIMNEYS.

SPECIFICATION forming part of Letters Patent No. 316,796, dated April 28, 1885.

Application filed October 11, 1883. (No model.)

To all whom it may concern:

Be it known that I, F. H. LEONARD, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Draft-Regulators and Soot-Arresters for Chimneys, of which the following is a specification.

The object of this invention is to provide a simple device for controlling the upward draft in chimneys, preventing a downward draft or current therein, and retaining and facilitating the removal of the soot which may accumulate within the chimney.

To this end it consists in a frame or mouth-piece designed for introduction into the lower end of the chimney or flue, provided with inclined overlapping shelves or deflectors, and with a hinged door or damper.

It also consists in a device containing the above features with a soot-retaining frame detachable from the remainder, in order that it may be readily withdrawn to permit the removal of the accumulated soot, ashes, &c.

Referring to the accompanying drawings, Figure 1 represents a vertical cross-section through a chimney having my improved device arranged in its mouth. Fig. 2 is a perspective view of the device with its parts separated from each other.

Referring to the drawings, A represents a frame or mouth-piece of an oblong rectangular form, with an opening through it from side to side. This frame, which is preferably cast complete in one piece, is provided with an outwardly-turned flange, *a*, around its forward edge, or otherwise suitably constructed to admit of its being firmly and conveniently secured in place within the mouth or inlet of the chimney.

Within the mouth-piece A there is mounted a removable frame, B, closely fitting therein, and flanged or otherwise formed to insure its retention in the proper position. Handles *c* are preferably formed on the inside of the frame B, for convenience in inserting and removing the same. This frame, which is open at the front and rear, contains two inclined deflectors or shelves, C and D, extending from end to end of the frame—that is to say, in such direction as to extend from side to side of the

chimney when in place. The lower deflector, C, extends upward and rearward from the lower front edge of the frame B, while the upper deflector, D, extends from the upper forward edge of the frame backward and downward within the same, as shown, its lower edge being carried behind and below the upper edge of the deflector C. The upper deflector, D, is preferably curved from the front to the rear edge, as shown; but it may be made with a flat or straight face, if preferred.

The two deflectors are provided at the rear edge with backwardly-turned lips *b*, as shown. The lips render the deflectors more effective in preventing down currents and in preventing the soot from being carried over their edges.

To the front side of the frame or body A, at its upper edge, I hinge a pendent plate or damper, E, of suitable size, to close the front of the frame when lowered. To this damper I connect a rod, F, or other suitable device, by which it may be conveniently adjusted from the outside of the chimney.

In making use of my device the frame A is inserted and secured permanently within the throat of the chimney in such manner that the smoke, air, and gases are compelled to pass through the same in entering the chimney. The internal frame, B, containing the deflectors, is placed in position within the frame A, and by means of the rod F the damper E is adjusted to regulate the size of the inlet-opening as required.

It will be observed that the current passing through the chimney rises behind the damper E, against the upper deflector, D, and is compelled thereby to descend behind the upper edge of the deflector C before entering the chimney proper.

Owing to the manner in which the deflectors overlap each other, they serve to prevent the sudden gusts or eddies of air which may be driven down the chimney from passing outward through the throat or inlet. The lower deflector also serves as a guard to retain and prevent the escape of the soot, ashes, &c., which may descend the chimney.

It will be observed, on reference to Fig. 1, that all matters descending the flue lodge be-

hind and are retained by the deflector C. The removal of the matters thus deposited may be readily effected by opening damper E and withdrawing the frame B.

5 The essential features of the invention are the deflectors C and D, arranged as shown, and the combination therewith of a valve or damper, E.

10 The arrangement of the deflectors to extend from side to side—that is to say, from right to left across the flue, with a forward and backward inclination—is important, in that it equalizes the draft across the entire mouth of the flue, which would not be the case were the
15 deflectors arranged to incline from side to side.

I am aware that the top of the chimney has been provided with deflectors extending laterally therein and overlapping each other. My
20 arrangement differs therefrom in being located at the lower end or throat of the chimney, so as to arrest and detain all soot, dust, and cinders which may descend the flue, and also in that the deflectors have a forward and back-
25 ward inclination, instead of an inclination in a lateral direction, so that the draft will be of the same strength across the entire face of the

flue—a very important consideration when grates or open fires are used.

Having thus described my invention, what I claim is— 30

1. In combination with the frame A and the damper or regulator attached thereto, the internal removable frame provided with the two deflectors, substantially as described and
35 shown.

2. In combination with the frame or mouth-piece, the upwardly and rearwardly extending deflector C, having a backwardly-turned edge, in combination with the deflector D, con-
40 structed, as described, with the upwardly-turned edge.

3. An external frame adapted for insertion within the throat of a chimney, in combination with an internal removable frame con-
45 taining a deflector or guard rising from its lower side, substantially as described, whereby it is adapted to arrest soot, ashes, &c., which may descend the chimney.

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Witnesses:

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