

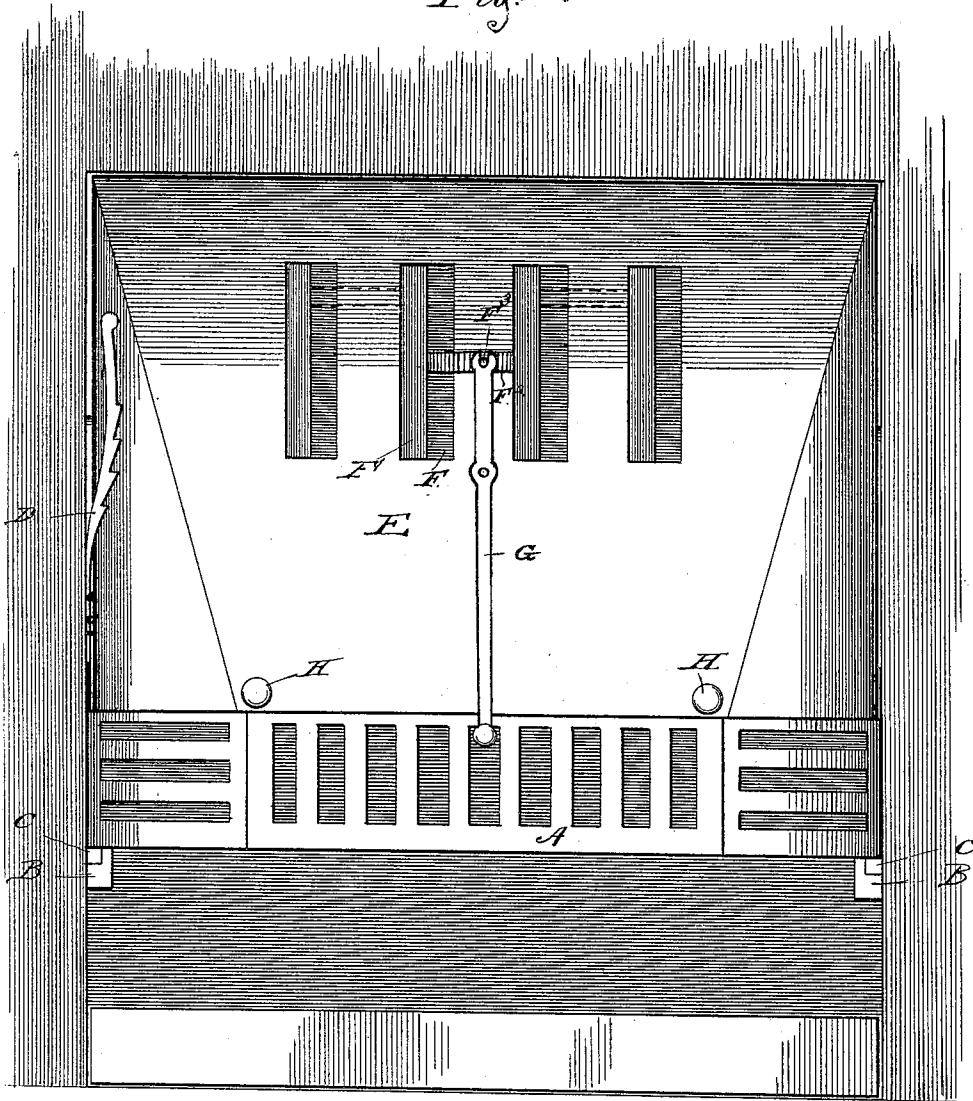
C. M. CURRIER.

COMBINED BLOWER AND CHIMNEY DRAFT CONTROLLER.

No. 386,529.

Patented July 24, 1888.

Fig. 1



Witnesses,
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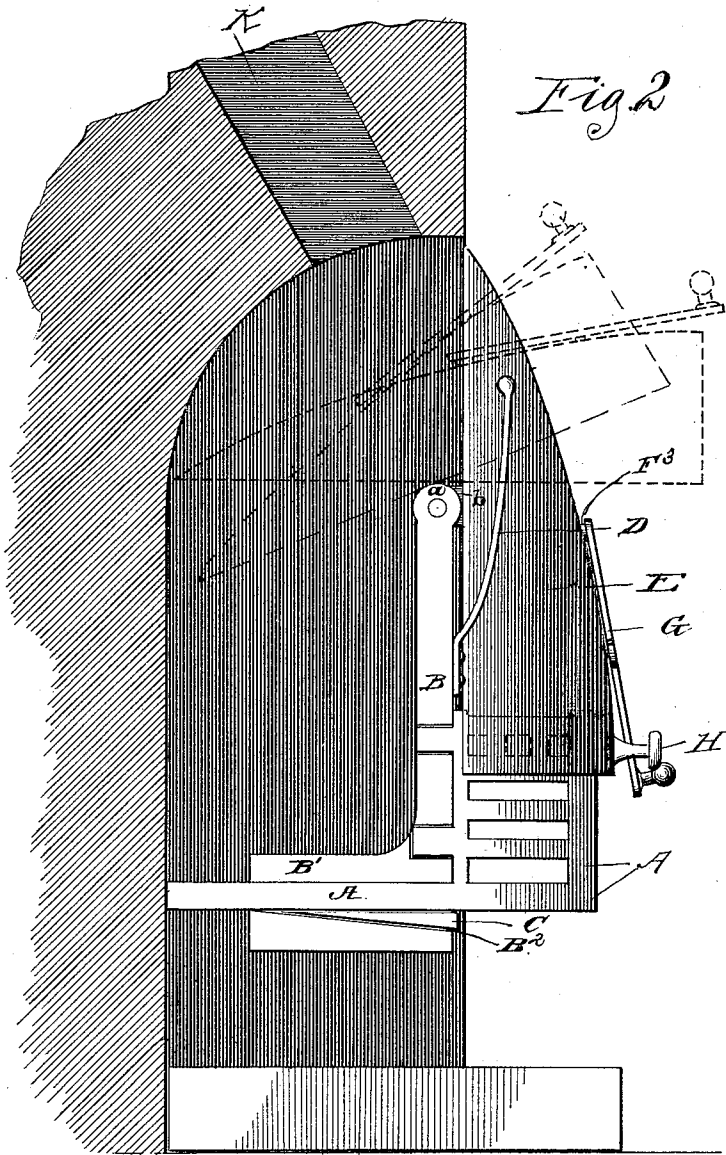
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UNITED STATES PATENT OFFICE.

CHARLES M. CURRIER, OF CHICAGO, ILLINOIS.

COMBINED BLOWER AND CHIMNEY-DRAFT CONTROLLER.

SPECIFICATION forming part of Letters Patent No. 386,529, dated July 24, 1888.

Application filed February 11, 1888. Serial No. 263,696. (No model.)

To all whom it may concern:

Be it known that I, CHARLES M. CURRIER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Combined Blowers and Chimney-Draft Controllers; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in combined blowers and chimney-draft controllers; and it consists in the construction and arrangement of parts hereinafter described and claimed.

The object of my invention is to provide means whereby the greater part of the heat generated in open fire-places or grates is thrown into the apartment and prevented from ascending the chimney, as is generally the case; and a further object is to so combine and construct the above-mentioned means as to adapt it for use as a blower when the fire is to be started, or a heat-radiator when the ignition is completed. I attain this object by the device illustrated in the accompanying drawings, wherein—

Figure 1 is a front elevation of my improved blower; and Fig. 2, a side elevation showing the walls of the chimney in sections, and the different positions of the blower in dotted lines.

In the drawings, A represents the end and front grate-bars, and B one of two vertical standards situated on each side of the grate in close proximity to the side walls of the chimney. They are constructed of straight bars, of malleable or cast iron, and have inwardly-extending feet or flanges B', which have long grooves B² formed in their outer side faces. The grooves B² are formed with horizontal upper walls and oblique or outwardly-inclined lower walls, and are of sufficient width to admit a grate-bar to be placed therein.

C is a binding-key, of tapering shape, and in size sufficient to admit of its insertion in the inclined portion of the groove B² beneath the grate-bar.

The upper ends of the standards are somewhat enlarged, and have journal-bearings

formed therein, in which are placed journals or studs *a*, projecting laterally from inwardly-extending arms *b*, formed on the side edges of the blower E, above or about its center.

The blower E is constructed of metal and in the usual shape, its upper end arranged to come slightly below the top of the grate-opening and its lower end below the upper front grate-bars.

Handles H, made of non-heat-conducting material, are secured to the lower portion of the blower, by which the same is operated to prevent the hand from coming in contact with the heated metal.

A series of draft openings or slots, F, is cut in the center of the top portion of the blower, which are arranged to be brought directly under the opening of the chimney K when the blower is swung up, and thus prevents the gas and smoke from escaping into the room through the openings.

To increase or diminish the amount of draft, to insure more or less rapid ignition of the fuel and a perfect disposition of the smoke and gases when the blower is turned up, a sliding damper, F', is placed beneath the openings F^x in the blower. This damper is constructed of four plates of sufficient size to cover the openings, and are connected with each other in any suitable manner and mounted in ways formed or secured to the under side of the blower, which permits them to be forced back and forth from right to left.

An oblong opening, F², is made in the blower between the two center draft-openings, through which projects a pin, F³, which is secured to one of the connecting-bars of the damper.

G is a lever for actuating the damper. It is pivoted to the blower near its center, its long arm extending outward beyond the lower edge of the blower, at which point it is provided with a suitable non-heat-conducting handle. The upper end or short arm of lever G has a bifurcation at its end, in which the pin F³ works.

To retain the blower in its elevated position, a spring-catch, D, is provided, having ratchet-teeth on its edge adjacent to the blower. This catch is secured to one of the standards B and is extended outward and upward, and

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is sufficiently flexible to admit of its being forced back from its normal position, or in contact with the edge of the blower, and thus allow the blower to swing back or down, which it will immediately do, owing to its lower end being of greater weight than its upper end and to its being journaled above or about its center.

By the above description it will be readily seen that when the fire is to be started the blower is turned down over the front of the grate, thereby opening the chimney and creating a strong draft, which can be easily regulated by moving the damper and admitting air in the grate above the fuel. When the fuel is sufficiently ignited, the blower is swung up, as shown in the dotted lines, its upper end extending into the grate-opening below the chimney-opening and practically cutting off all the draft, while its lower end is extended out into the apartment, and, owing to its being inclined, acts as a radiator for the heat and deflects it into the apartment, the inner end preventing the heat from ascending the chimney.

To admit the escape of smoke and gas and prevent their being forced into the apartment, the damper in the blower is opened and they are conducted into the chimney, the size of the openings being regulated according to the amount of smoke and gas arising from the fuel or required draft. By the peculiar construction of the feet B and the use of the key C my device can be readily removed, and can be applied to any ordinary grate.

By having the long arm of lever G extended beyond the edge of the blower the damper can be readily operated without exposing the operator to danger from the heat.

It is obvious that any minor changes in the construction and arrangement of my device can be made and substituted for those shown and described without departing from the nature and principle of my invention.

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

1. In a grate, the combination, with the

grate-bars, of standards removably secured thereto, and a blower pivoted to said standards, substantially as described. 50

2. In a grate having a flue leading out from its top, the combination of the sides of the grate and a blower pivoted thereto, said blower having a damper in its upper portion adapted to be swung below the said flue to regulate the draft, substantially as described. 55

3. In a grate, the combination, with the outer grate-bars, of a pair of standards having grooves in the sides of their lower ends, in which said bars are adapted to be fitted, a blower pivoted to said standards, and a damper formed in the upper part of said blower, substantially as described. 60

4. The combination, with a grate having a flue leading out from its top and vertical standards secured thereto, of a blower pivoted to said standards having a damper in its upper portion, said blower arranged to be swung on said standards, its upper end coming beneath said flue and its lower end projecting out from the top of the grate to act as a deflector, substantially as described. 70

5. In a grate, the combination, with the grate-bars, of a pair of standards having grooved feet, a key for securing the same in place, a blower pivoted to said standards, and a flexible catch secured to one of said standards, substantially as described. 75

6. In a grate, the combination, with the grate-bars, of a pair of standards having inclined grooves in their outer lower portions and journal-bearings on their upper ends, a beveled key for securing the standards to the grate-bars, a blower having a damper in its upper portion and a pivoted lever for operating the same, and a spring-catch secured to one of the standards having ratchet-teeth on its side adjacent to the blower, substantially as described. 85

In testimony whereof I affix my signature in presence of two witnesses. 90

CHARLES M. CURRIER.

Witnesses:

WM. C. WOOD,
FRANK J. WHITE.