W. H. SEARS.

CHIMNEY-DRAFT REGULATOR.

No. 191,722. Patented June 5, 1877.

Fig. 1

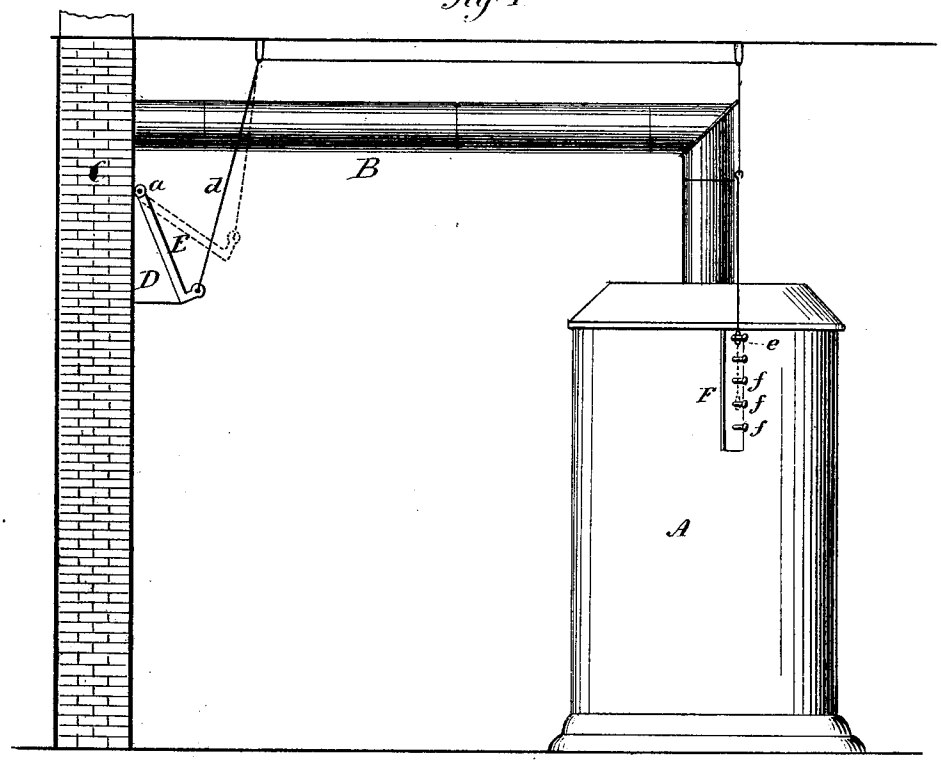
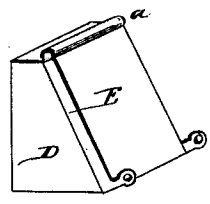


Fig. 2.



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UNITED STATES PATENT OFFICE.

WILLIAM H. SEARS, OF NEW HAVEN, CONNECTICUT.

IMPROVEMENT IN CHIMNEY-DRAFT REGULATORS.

Specification forming part of Letters Patent No. **191,722**, dated June 5, 1877; application filed January 17, 1876.

To all whom it may concern:

Be it known that I, WILLIAM H. SEARS, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Chimney-Draft Regulator; and I do hereby declare the following, when taken in connection with the accompanying drawings, and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent in—

Figure 1, side view, as in operation; Fig. 2, perspective view of the damper, detached.

This invention relates to an improvement in the regulators for the draft of furnaces and other heaters, the object of the invention being to prevent the escape of gas, in consequence of checking the draft, as also to prevent the loss of heat in the chimney; and it consists in a door arranged in the chimney directly beneath the smoke-pipe, and so that the door opens a passage to the flue in the same direction as the passage from the smoke-pipe.

A represents the furnace, which may be of any of the usual constructions. B, the smoke-pipe, leading to the chimney C. D is a casing or mouth, fitted and opening into the chimney, directly below the smoke-pipe, the outer edge of this mouth inclining downward from the chimney, and a cover or door, E, hinged at the top of the mouth, and so as to lie upon the inclined outer edges of the mouth, when in a closed position.

Attached to the cover E, below the hinge, is a chain or cord, *d*, leading to any convenient point, as at F, where it is provided with means for engaging the cord at different positions. (Here represented as by an eye, *e*, on the cord with studs *f* on the furnace.) To check the draft, the cord is pulled to raise and open the door E, as indicated in broken lines. This opening may be to any desired extent, or to any point where the cord is secured. This allows a current of air to enter the chimney directly beneath the smoke-pipe, and thereby check the draft, the extent of the check being governed by the extent of the opening of the door E.

The air thus admitted to check the draft flows in in the same line with the smoke or products of combustion from the smoke-pipe, and, rising, will pass over to the opposite side of the flue from its entrance, and there, turning upward, passes above the bottom of the entrance of the smoke-pipe, and mingles directly with the products of combustion, without any reactionary effect upon the gases in the smoke-pipe, to cause them to get back and escape into the house, the check having no other operation than to check the draft, thereby avoiding the difficulties occasioned by the introduction of air to the flue from an opposite point, or point distant from the entrance of the smoke-pipe.

This inflow of cold air at the same time cools the chimney, and thereby retains within the furnace, for distribution through its connections, all the heat generated therein, a great portion of which would, without this check, pass into the chimney.

The inclination of the door is for the purpose of insuring its perfect closing by its own gravity when desired.

I am aware that it is common to arrange checks for the admission of cold air into the smoke-pipe, and, therefore, I do not wish to be understood as broadly claiming a device for checking the draft by the admission of cold air into the conductor which leads the products of combustion from the furnace; but

What I do claim is—

In combination with the smoke-pipe of a heating apparatus, a vertically-inclined check-door arranged in the chimney directly beneath the smoke-pipe, and opening a regulated passage directly into the chimney in the same direction as the smoke enters, all substantially as described.

WILLIAM H. SEARS.

Witnesses:

JOHN E. EARL,

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