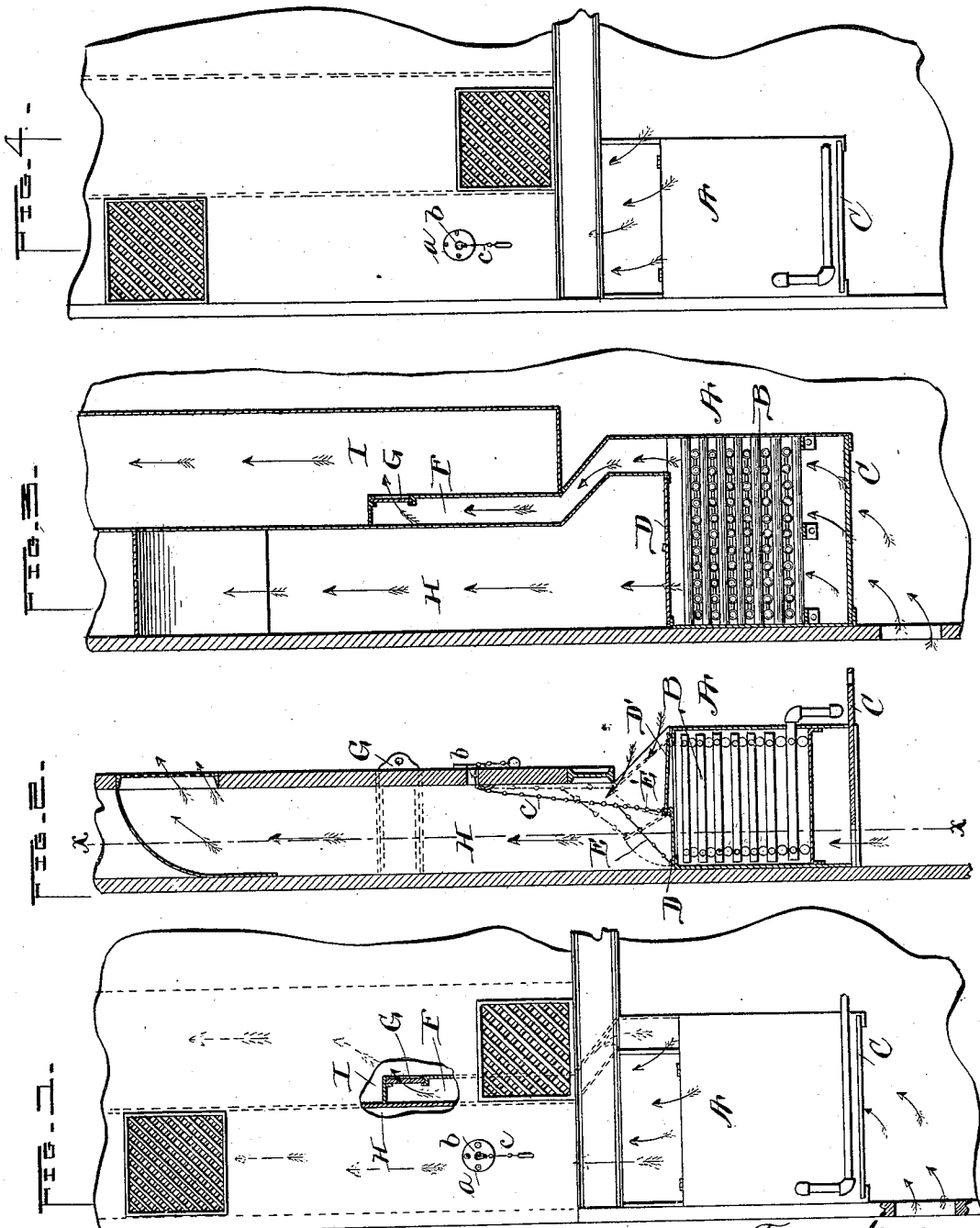


(No Model.)

W. D. DICKSON.
SYSTEM FOR HEATING AND VENTILATING.

No. 579,703.

Patented Mar. 30, 1897.



Witnesses:-

Chas. H. La Porte.
J. M. Richards

Inventor:-

William D. Dickson
By J. V. Duff atty.

UNITED STATES PATENT OFFICE.

WILLIAM D. DICKSON, OF PEORIA, ILLINOIS.

SYSTEM FOR HEATING AND VENTILATING.

SPECIFICATION forming part of Letters Patent No. 579,703, dated March 30, 1897.

Application filed April 21, 1894. Serial No. 508,493. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM D. DICKSON, a citizen of the United States, residing at Peoria, in the county of Peoria and State of Illinois, have invented certain new and useful Improvements in Systems for Heating and Ventilating; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements for heating and ventilating houses. By means of my improvements, used in connection with the system, very beneficial results are obtained.

My invention relates principally to the provision in connection with a heat-flue of a coil-box and air-inlet opening and of certain auxiliary parts.

My invention consists, essentially, of a case or box, in the lower portion of which there are provided steam-coils and the upper portion of which connects with the flue and forms, substantially, a portion thereof; of doors for closing the top of the coil-box, one of which is adapted also for closing an opening in the top portion of the said case or box, which, as before said, forms substantially a portion of the flue; of an air-inlet opening in the top of the coil-box proper, which may be provided with a slide, means for raising the doors, for closing the top of the coil-box, and other minor details of construction not particularly essential, but hereinafter more particularly pointed out in the specification.

That my invention may be more fully understood reference is had to the accompanying drawings.

Figure 1 shows an elevation of flues with my coil-box attached. Fig. 2 is a section through a flue and the coil. Fig. 3 is a section through the line in Fig. 2. Fig. 4 is also an elevation showing coil-box connected with a flue.

In the figures, A refers to coil-box proper, and B to coils carried therein. C is the slide in the bottom of said box.

H is a flue into which the upper portion of the box or case opens. I is also a flue occupying a position side by side with flue H.

F is a supplemental duct opening out of the coil-box proper and into the flue I.

D D' are doors suitably hinged to the box or case and forming substantially the top of the coil-box proper.

E E' are chains connected, respectively, with doors D D', said chains being connected with chain e, as shown in Fig. 2, which is carried upwardly within flue H and out through the keyway b, within which said keyway the chain is designed to be engaged for purposes of holding the doors D D' in the desired positions.

As noted in the general statement, an opening is provided in the upper portion of the case or box A, as shown in the drawings, which said opening may be provided in the flue proper in the event that the said flue is carried entirely down upon the top of the coil-box itself, the opening being provided for the admission of cold or cool air, and the door D' of the coil-box is hinged below the inlet-opening and so arranged relative thereto as to close the said opening when raised.

It is proposed that the coil box or case which I have shown and described may be attached to a flue, or a number of them may be attached or connected with a series of flues, one coil-box being designed for connection with one flue, but they may be arranged so that one coil-box or the coils therein may supply heat for a series of flues, and in case the flues be constructed with a view of using my device, as herein shown, the lower portion of the flue may be provided with the necessary inlet-opening and thus do away with the provision of the upper portion of the coil box or case.

The coil-box may be used in connection with heating-flues alone and for supplying heat to said heating-flues, or they may be provided with supplemental ducts, as F, as shown in the drawings, opening out of said coil box or boxes and into a ventilating-flue. This supplemental duct may or may not be used as desired, its provision or omission in no wise affecting the operation of my device.

In the operation of the various systems for heating and ventilating great difficulty is met in regulating the same and tempering the heat from the flues so as to render the

same not oppressive and at the same time not too cold. By the provision of my improvements, added to systems for heating and ventilating, that is by adding my coil-box, I am enabled to regulate the temperature. I do it by passing the air through the coil-box proper to heat the same and thence upwardly through the flues and into the room, the quantity of air permitted to pass through the coil-box being regulated by the slide in the bottom of the coil-box or in any other convenient part thereof. In the event that the air passing through the coil-box is too hot the same may be tempered by admitting air through the inlet-opening in the top of the coil box or case or in the lower portion of the flue. The amount of hot air passing upwardly into flue may be regulated by the doors D D'. It may be permitted to flow freely therethrough by raising the doors entirely, and in the event of such raising of the doors the inlet-opening in the upper portion of the case or in the lower portion of the flue proper will be closed by the door D', and when the doors occupy this position the maximum amount of heat will be obtained from the heat-box.

The heat may be entirely shut off from the flue by closing the top of the coil-box, by letting the doors down so that they rest upon the top portion thereof, and in so closing the doors the opening in the upper portion of the case or in the lower portion of the flue will admit cool or cold air into the said flue. The air is tempered simply by partially raising the doors D D' to admit both hot air and cool or cold air, the degree of opening of said doors, of course, controlling the quantity of

hot or cold air, this raising or lowering of the doors being effected through and by means of the chain e, conveniently entering the room or compartment desired to be heated and connecting with the doors through the chains E E'.

Instead of using the doors D D', I may use a single door, or I may use any number of doors, but if a single door is used it must be arranged relative to the opening in the upper portion of the case or lower portion of the flue so as to close the same as well as to close the top of the coil-box.

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

In a system for heating and ventilating, the combination with the base of a heat-flue provided with a cold-air-inlet opening of the coil-box A, containing steam-coils and provided with an opening in the bottom thereof, having the slide C for opening and closing the same, the hinged doors D, D' adapted for closing the top of the coil-box, and the door D' also adapted for closing the cold-air-inlet opening into the flue and provided with means for raising and lowering said doors and for maintaining them in their maximum raised or lowered positions or at intermediate points, all substantially as described and shown.

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

WILLIAM D. DICKSON.

Witnesses:

W. V. TEFT,
MINNIE HALEY.