2 Sheets—Sheet 1.

J. H. BLAKE.

Stove.

No. 205,719. Patented July 9, 1878.

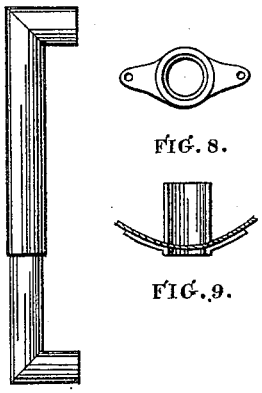

FIG. 10.

FIG. 8.

FIG. 9.

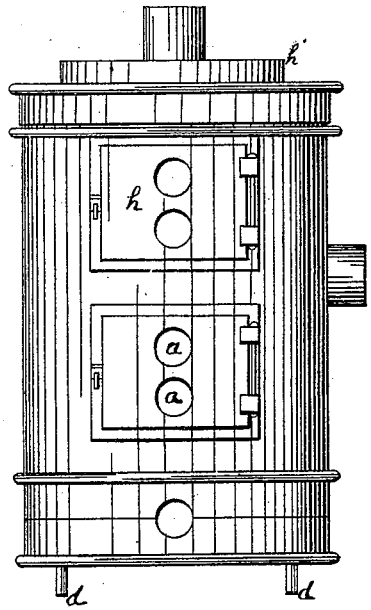

FIG. 1.

FIG. 6.

FIG. 7.

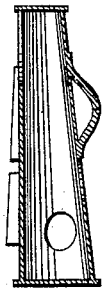

FIG. 4.

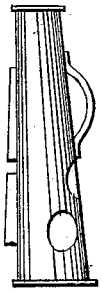

FIG. 5.

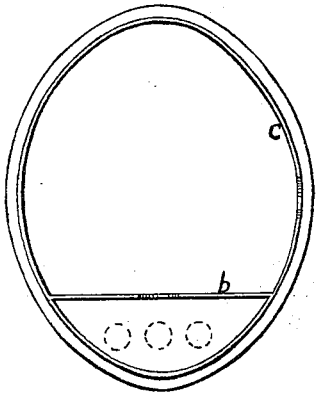

FIG. 2.

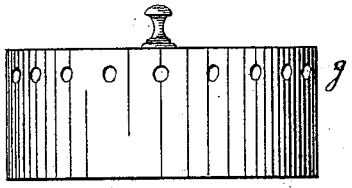

FIG. 3.

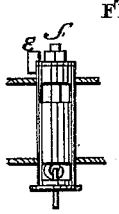

FIG. 11.

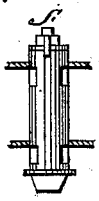

FIG. 12.

WITNESSES:

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INVENTOR:

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Per atty.

William Henry Clifford

J. H. BLAKE.

Stove.

No. 205,719. Patented July 9, 1878.

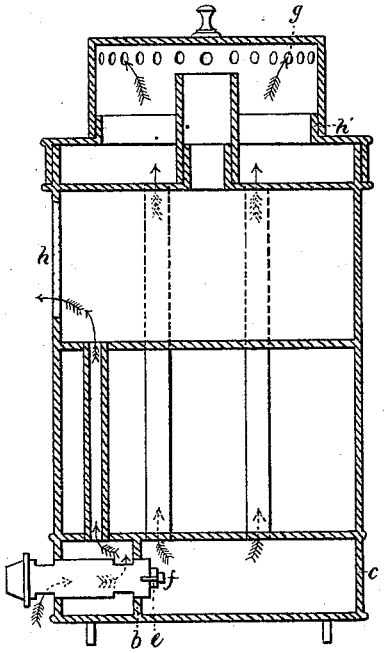

FIG. 13.

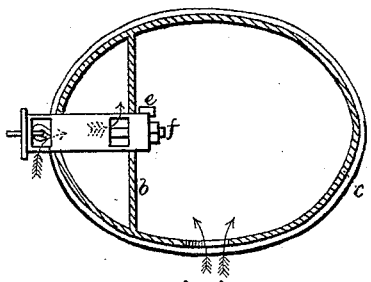

FIG. 14.

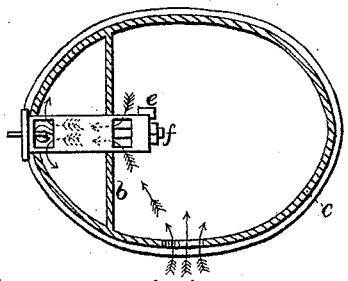

FIG. 15.

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UNITED STATES PATENT OFFICE.

JOHN HENRY BLAKE, OF NORTH AUBURN, MAINE.

IMPROVEMENT IN STOVES.

Specification forming part of Letters Patent No. **205,719**, dated July 9, 1878; application filed December 22, 1877.

To all whom it may concern:

Be it known that I, JOHN HENRY BLAKE, of North Auburn, in the county of Androscoggin and State of Maine, have invented certain new and useful Improvements in Stoves; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

Figure 1 is a front elevation. Fig. 2 is a plan of the bottom piece. Fig. 3 is a side view of the top piece. Figs. 4 and 5 are inside and outside views of a ventilator. Figs. 6 and 7 are stops in registers to fit apertures like *a*. Figs. 8 and 9 show the sockets or short tubes that fit into apertures *a*. Fig. 10 shows an air-conductor. Figs. 11 and 12 are views of the double bottom register. Fig. 13 is a vertical section of the stove, to show the positions of the pipes leading to the oven and those leading to the top of the stove, and the drafts. Fig. 14 is a plan to the drafts when the device, Figs. 11 and 12, is drawn outwardly; Fig. 15, the same, to show the draft when the said device is pressed inwardly.

Same letters show like parts.

Letters Patent of the United States No. 158,195, dated December 29, 1874, have been granted to me for certain improvements in stoves, and my present application is to cover certain improvements upon the article embraced in the patent referred to.

My improvement is provided with a base-piece, Fig. 2. This has the partition *b*. The raised edge or rim *c* of this base, as well as the partition *b*, has recesses to receive a double register or valve, Figs. 11 and 12. The two positions of this device are shown in Figs. 11 and 12.

The double register is designed to change the source from which the air comes into the smaller compartment of the base, and thence upward through the pipes into the oven.

The valve or double register is contrived to regulate the flow or admission of air into the small compartment of the base, Fig. 2, when placed under the stove.

d shows ears on the bottom of the body of the stove, intended to pass inside of the rim *c* and hold the stove-body and the base-piece in proper relative positions. When thus placed together a chamber or space is formed, which is divided by the partition *b*.

The valve slides in and out for a certain distance. It is prevented from being pulled wholly out by the stud *e* on its inner end striking the partition *b*. It is closed *at* each end. A screw-rod runs through it, connected with the ends, and is tightened by the nut *f* on the end. Push this valve in so that its outer end will close the aperture in the base of the stove, and the entrance of air is cut off through it. Draw it partly out, and air entering at the outer aperture of the tube will pass into the smaller compartment in the base, up through tubes into the oven, and then be diffused through the registers into the room. Draw out the valve or tube as far as it will slide, and the air is admitted into the smaller of the two compartments, thence through tubes into the oven or upper space *h*.

When the register is so pushed that its outer ends will close the aperture of the base, the air will come from the larger compartment, and, passing through the register, enter the smaller compartment.

The drawing out of the register as far as it can be drawn closes the aperture in the partition of the base, and the air is then drawn from near the floor of the room into the smaller compartment.

Fig. 3 shows the cap or top piece, which fits down over the rim *h'*. Within it are the apertures or mouths of certain tubes leading from the base up through the fire-box of the stove, and discharging hot air into said top piece. With it also are certain receivers, into which rise hot air and gases and other products of combustion, and aid to heat the air in the top piece. The position of the rim *h'* shows that a portion of the top of the stove is covered in. This is so made in order to protect the mouths

of the tubes opening up into the cap, Fig. 3, from being choked by articles dropping into them.

Holes and valves are supplied to the doors of the oven. Here they are employed as hot-air registers, through which the air of the oven makes its exit; or they may be employed by inserting a pipe or pipes, leading from without the room, to conduct cold air directly into the oven, or to conduct hot air from the oven to another room. The oven may also be used as an ordinary oven. Sockets to receive these valves are provided, and shown in Figs. 8 and 9. These have ears, so as to admit of ready attachment to the outsides of the doors.

Figs. 4 and 5 show a ventilator or device by the use of which the heavy and foul air near the floor of the room may be drawn with great force into the fire-box. It is only to be set against the fire-door, with either the fire or ventilating register, or both of them, open, or with either or both of them removed. It admits air through apertures near the bottom, from which it is drawn up into the fire-box with all the force of the lifting-power of the hot air in the chimney. It is intended for use in school-houses, in rooms where there is contagious disease, and all rooms where free ventilation is required.

The structure of this device is clearly shown in the drawings, Fig. 4 being a vertical sectional, and Fig. 5 an outside, view. Handles are provided for the easy use of the device. This can be used in conjunction with the valves shown in Figs. 6 and 7, so that the amount of draft can be accurately regulated.

This device is made of tin or any sheet metal proper for the purpose, is hollow and concave, or otherwise shaped on the inner side so as to fit up to the stove to which it is applied. It is convex on the outside, being made to project sufficiently far to take in the air and conduct it and accomplish the object for which it is designed. It is made flat on the bottom, so as to rest upon the floor or other support.

Fig. 10 shows a pipe with a sliding joint, to be used only when the greatest possible amount of heat and fresh air are required. This will take the air from the base to the oven, and, being larger than the other pipe, conveys a large quantity of air. The oven, being directly over the fire, heats the air quickly, and it then has free exit through the registers in the oven-doors.

The other uses to which this combination pipe is devoted are as follows, viz: By drawing the pipe out a few inches, one end of it may be placed in the lower register-opening in the back oven-door, and the other end passed under the base of the stove. Cold air will then be taken from the floor and carried up into the oven, warmed, and discharged through the registers. The two parts of the pipe may be drawn apart, and the short arm of the longest piece being inserted into the opening for the ventilating-register in the fire-door, the room will be ventilated by taking the air directly from the floor.

By inserting the short arm of the shortest piece into the place of the fire-register, ventilation will go on, and the draft of the fire supplied by air taken from the floor. The pipe thus conducts air from the base or from the floor into the oven, and from the floor into the ventilating-opening or into the fire-opening in the fire-door. For these reasons the tube or pipe is made adjustable.

Thus it will be seen that a stove with a very large radiating-surface is produced, and one that is efficient for ventilating purposes. The cold air is drawn into the hollow base or compartment by pipe. (See Fig. 1.) From this the air passes in part up into the oven and part into the place, Fig. 3, from which it passes into the room. From the oven it passes into the room through the holes in the door.

The upper holes in the doors are ventilating-registers. The lower ones can be used when it is desired to excite the fire to increased action.

Certain of the tubes, as before stated, lead into the oven, and others into the air-box at the top of the stove. The smoke and gases, &c., pass around the oven, between it and the wall of the stove.

Air may be conducted from the oven into an apartment other than the one where the stove is placed.

Thus my improved stove, with the appliances named, enables the user to obtain any desired draft, and to use the stove as a means of keeping the air of rooms pure by carrying the impure air into the stove, with or without causing the current to increase the action of the fire. It promotes steady warmth and equable temperature. The room is warmed throughout without excessive heat near the stove. This uniform state of the air produced by my invention makes it useful to invalid and aged persons.

The three circles in the smaller compartment of Fig. 2 show the position of the tubes that lead from this compartment up into the oven, passing, of course, up through the body of the stove.

When the stud *e* is turned exactly downwardly it will pass through a slot in the partition *b*, and the register can, if desired, be drawn wholly out.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The valve or register, Figs. 11 and 12, in combination with the base-piece, Fig. 2, as set forth.

2. The base-piece, with its compartments

and aperture, in combination with the valves or registers, Figs. 11 and 12, as herein described.

3. The ventilator, Figs. 4 and 5, as herein described, when employed as set forth.

4. In combination with the ventilating and fire registers of the fire and oven doors, the pipe, Fig. 10, operating as set forth.

5. The combination of the smaller compartment in the base, Fig. 2, the registers, Figs. 11 and 12, the tubes, whose position is indicated in Fig. 2, and the oven, Fig. 1, as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

JOHN HENRY BLAKE.

Witnesses:

A. C. HOWARD,

A. MILLETT.