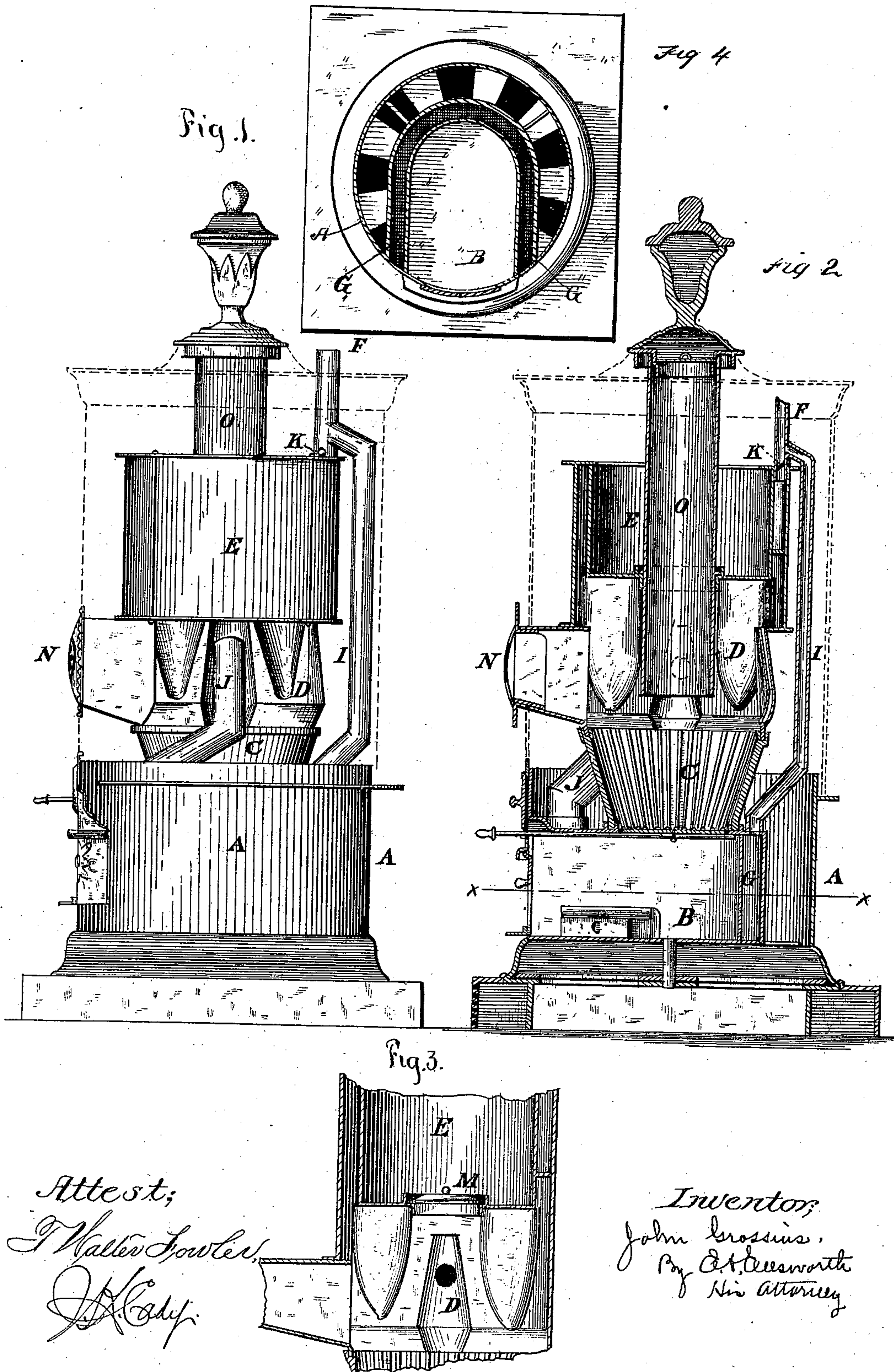


J. GROSSIUS.
School-House Stove.

No. 227,766.

Patented May 18, 1880.



UNITED STATES PATENT OFFICE.

JOHN GROSSIUS, OF CINCINNATI, OHIO.

SCHOOL-HOUSE STOVE.

SPECIFICATION forming part of Letters Patent No. 227,766, dated May 18, 1880.

Application filed December 29, 1879.

To all whom it may concern:

Be it known that I, JOHN GROSSIUS, of the city of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in School-House Ventilating-Stoves; and I do hereby declare the following to be a full, clear, concise, and exact description thereof, sufficient to enable others skilled in the art to which my invention belongs to make and use the same, reference being had to the accompanying drawings, forming part of this specification, wherein—

Figure 1 is a side elevation of the stove with the jacket removed. Fig. 2 is a vertical central section of the same. Fig. 3 is a sectional view of the draft-section, showing the arrangement of the stove for a front feed. Fig. 4 is a transverse section through the base of the stove.

Similar letters of reference in the accompanying drawings denote the same parts.

My invention relates to the school-house ventilating-stove for which Letters Patent of the United States No. 104,581 were granted and issued to me, dated June 21, A. D. 1870; and it has for its object to provide means for directing the draft either through the base of the stove or up through the drum to the discharge-pipe without passing through the base.

To the accomplishment of this object my improvement consists in connecting the sides of the stove below the annular drum with the base around the ash-pit by means of down-draft flues, and in connecting said base at the rear by an up-draft flue with the discharge-pipe at the top of the annular drum. By this means, together with a damper placed in the discharge-pipe below its junction with the up-draft flue, the draft can be directed through the base of the stove around the ash-pit, or it can be shut off from the base and passed directly through the annular drum to the discharge-pipe.

In the accompanying drawings, A represents the base of the stove surrounding the ash-pit B; C, the fire-pot mounted upon the base; D, the flue-section on the fire-pot; E, the annular drum supported upon the flue-section, and F the smoke or discharge pipe at the top and rear of the drum.

The flue-section communicates with the interior of the drum at several different points, and between these points it is recessed to form vertical flues for the passage of heated air upward through the space surrounded by the drum. This structure is surrounded by a sheet-metal jacket, which may be provided with a bottom register placed over an opening in the floor for admitting fresh air to the space between the jacket and stove, side registers for discharging the heated air into the room, a top register for a like purpose, and suitable doors at the front for permitting access to the ash-pit and interior of the stove. These parts constitute the general features of the stove to which my present improvements are applied.

In carrying out my improvement I construct the base A with double side and back walls to form a large flue, G, partially encircling the ash-pit. The back of this flue is connected by a pipe, I, with the discharge-pipe F above the annular drum, and its front ends, upon each side of the ash-pit, are connected to opposite sides of the flue-section, below the drum, by angular or inclined pipes J.

A damper, K, having its handle extending to the outside of the jacket, is placed in the discharge-pipe below its junction with the pipe I, as shown in the drawings.

By opening the damper the draft from the stove is through the flue-connections between the flue-sections and drum, and thence through the drum to the discharge-pipe, thus forming a direct draft. If, however, the damper is closed, the draft is downward from the sides of the flue-section, through the down-draft flues J, into the base-flue G, and thence upward through the up-draft flue I to the discharge-pipe above the damper. This arrangement provides the stove with additional heat-radiating surfaces, due to the down and up draft flues, and it constitutes a very important improvement in the stove, for the reason that fresh air flowing in through the bottom register is first heated at the base of the stove preparatory to being discharged into the room through the side registers at points near the floor, while such portions as are discharged through the top register are more highly heated because of their contact with the heat-

ing-surfaces from the points of entrance to those of discharge from the jacket.

The top of the flue-section is cast with a central circular opening directly over the fire-
5 pot.

In case a front feed is desired, the opening is closed by a cast-iron cover, M, as shown in Fig. 3, and the fuel is applied to the stove through the front door, N; but in case a continuous feed is desired, the cover M is removed
10 and a long tube, O, is inserted in the opening, so that its lower end shall project into the fire-pot and its upper end terminate in the central opening of the top register, as shown in
15 Fig. 2, where it is closed by a suitable cover.

By this means the stove is convertible at any time, as circumstances may require, either into a front-feed or into a magazine stove.

Having thus described my invention, what I claim is—

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In a school-house ventilating-stove, the combination, with the flue-section and its annular drum, of the flue G, the down-draft flues J, and up-draft flue I, substantially as described, for the purpose specified.

JOHN GROSSIUS.

Witnesses:

E. A. ELLSWORTH,
JOHN DOSSMANN.