J. H. WILKINSON.

Stove.

No. 21,103. Patented Aug. 3, 1858.

Fig. 1,

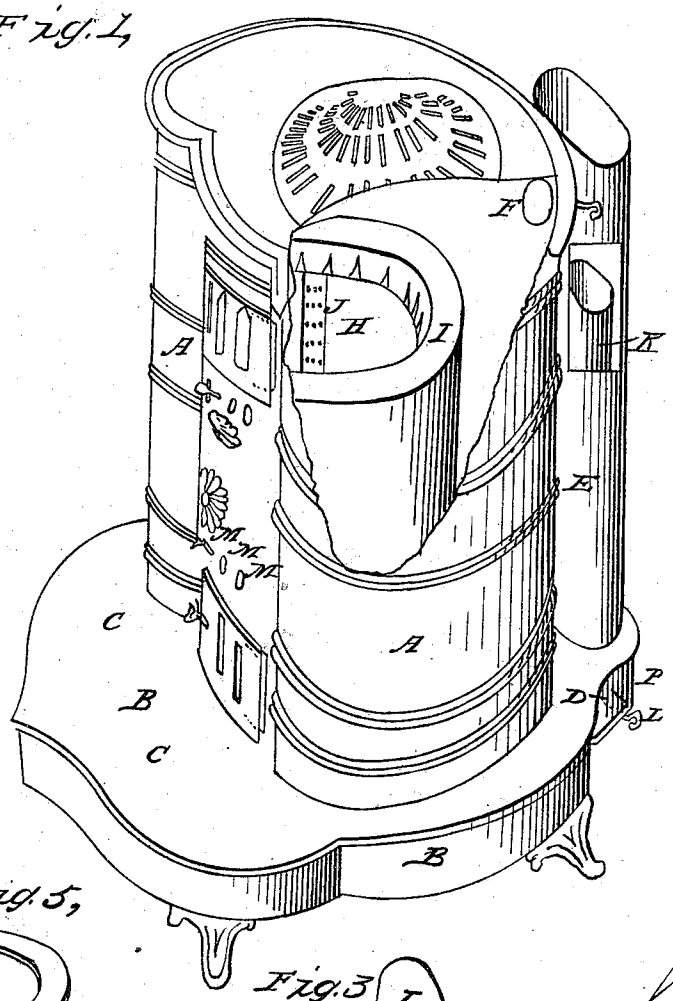



Fig. 5,

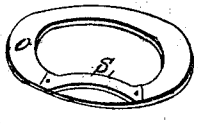



Fig. 3

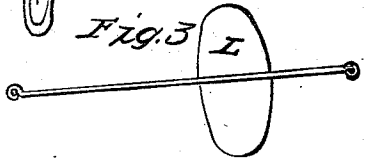



Fig. 4,

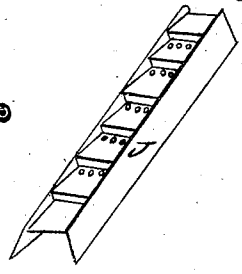
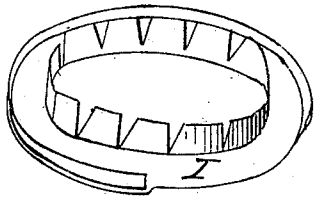



Fig. 2,



# UNITED STATES PATENT OFFICE.

J. H. WILKINSON, OF CONCORD, NEW HAMPSHIRE.

## STOVE.

Specification of Letters Patent No. 21,103, dated August 3, 1858.

*To all whom it may concern:*

Be it known that I, JOSEPH HANDFORTH WILKINSON, of Concord, Merrimack county, State of New Hampshire, have invented a new and Improved Stove for Warming and Ventilating Apartments, and that the following is a full and true description of the same, reference being had to the accompanying drawings.

A, (Figure 1,) is the outer casing or body of the stove, surrounding a flame-chamber or fire pot.

B, (Fig. 1,) is the base of the stove formed of two plates about four inches apart, having two vertical plates running from C, to D; by this arrangement the heat is thrown to the front of the stove, thence through the center to exit pipe E, (Fig. 1,) thus warming the whole bottom of the stove, which is very desirable.

E is the exit pipe; it will be seen that there is a connection between the body of the stove and exit pipe having in a damper F, (Fig. 1,) this is only to be used while kindling the fire.

H, is the flame chamber or fire pot; it will be seen that there is a space between this and the outer casing forming a flue for the passage of smoke and heat to the bottom or base B, and thus to the exit pipe E.

I, (Fig. 2,) is an air chamber formed at the top of the linings for the purpose of admitting oxygen immediately on the top of the coals through the notches in said chamber I; this chamber is supplied at inlet *x x x x*.

J, (Fig. 4,) is a chamber with inlets under the projections also for the purpose of admitting oxygen so that as the coals burn down low in the pot, the oxygen will still be brought in contact with the fire. The projections serve to keep the ashes from filling up the holes.

K, is the ventilating pipe, having its inlet at the extreme bottom of the stove; this pipe runs about $\frac{2}{3}$ the distance up the inside of pipe E.

L, (Fig. 3,) is a damper for regulating the amount of ventilation.

M, M, M, M, are a series of holes for the purpose of entering a straight poker, to clean the grate of ashes.

O, (Fig. 5,) is the bed-plate on which the linings and grate rest. This is formed of an annular piece of iron having an arch S, (for the linings to rest upon) opposite the holes M, M, M, M, so that a straight poker can be put in the holes, M, M, M, M, above the grate and thus clear it of the ashes.

Having thus fully described my stove, your petitioner will now state what he regards as being its merits over all others. Your petitioner is aware that several plans have been introduced for the purpose of ventilating rooms by means of stoves; in fact every stove does this in some measure. James McGregor, Jr., of Wilton, N. Y., has in his stove introduced a slide at point P, which when open opens directly into the base. The objection to this plan is that the gases come into the room when the slide is open. John Magee, of Lawrence, Mass., has introduced in his stove a similar plan, only uses a damper in place of slide; this is open to the same objection with the addition that the damper being in the pipe, and above the base it is in closer proximity to the heated part of the stove and thus drains off the warm air the stove has made. Your petitioner hopes he has overcome these objections by connecting the pipe K, with the inlet at the bottom of the stove. It will be seen that the smoke and other matter passing up pipe E cannot escape at ventilation inlet, for to do so, it would have to descend pipe K; this it will not do, as the inlet to the chimney is nearer than the ventilation inlet; and again it is unnatural for the gases to descend. It will further be seen that the ventilation must be more perfect first from the position or location of the ventilating inlet being at the extreme bottom of the stove, and secondly from the fact that the heat passing around the pipe K the air in said pipe becomes rarefied and thus the current will be greater. The pipe K also serves another purpose—that of impinging the heat passing up pipe E to the outside surface, thus getting more radiation in the room.

Your petitioner is also aware that many plans have been adopted for burning the gases by introducing oxygen into the flame-chamber; but all known to your petitioner have supplied the chambers at the top or over the coals from the ash-pit; this necessarily requires the ash-pit door to be open and thus combustion goes on through the coals when it might be desirable that it should not.

Your petitioner has found great objection to the manner in which the grate is cleared of ashes in the stoves in common use; the

common practice is to use a hooked poker from the ash-pit; the objection to this is, that the door being open, the light dust or ashes come into the room; to avoid this your petitioner has introduced holes M, M, so that by using a straight poker the grate can be cleared of ashes without the door being open.

Your petitioner does not claim a ventilating stove or a stove for burning the gases by admitting oxygen.

What I claim as my invention is—

1. The arrangement of pipe K within pipe E and damper L, constructed and operating as and for the purpose described.

2. I claim inserting the air chambers J, J, (constructed as described) in the linings of the fire-pot for the purpose set forth.

3. I claim the holes M, M, in connection with the bed plate O, provided with the arch piece S, or their equivalents for the purposes substantially as set forth.

JOSEPH H. WILKINSON.

In presence of—

JOHN C. BRIGGS,

E. L. CHILDS.