J. WATCH.

Heating Stove.

No. 27,488. Patented March 13, 1860.

Fig. 3.

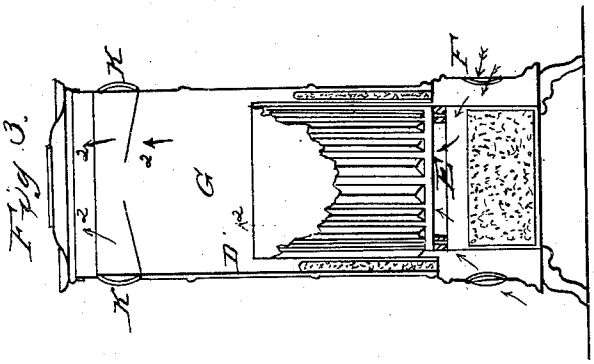


Fig. 6.

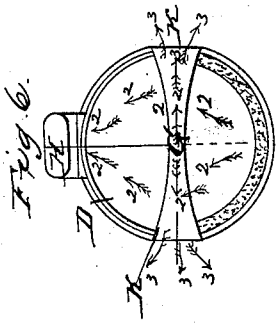


Fig. 1.

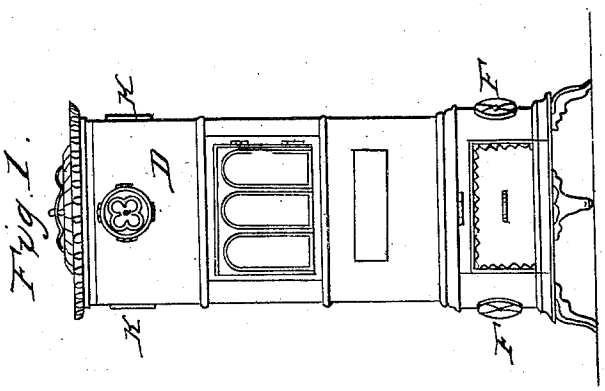


Fig. 5.

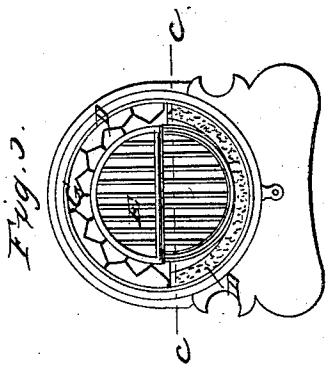


Fig. 2.

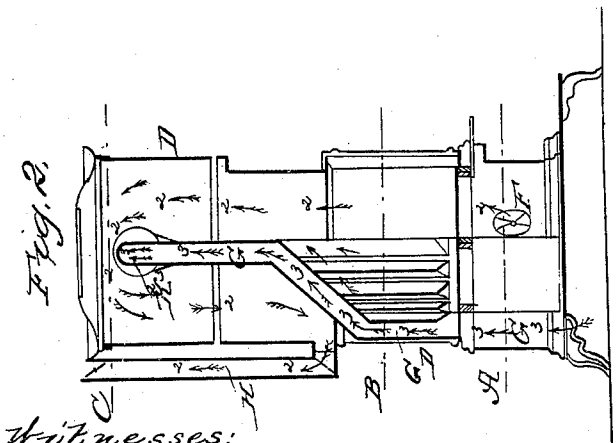
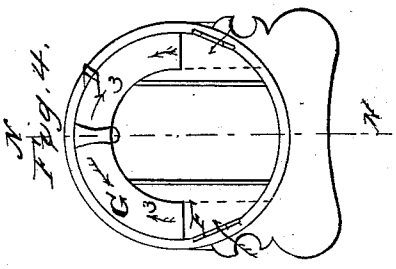


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN WALCH, OF NEW YORK, N. Y.

STOVE.

Specification of Letters Patent No. 27,488, dated March 13, 1860.

To all whom it may concern:

Be it known that I, JOHN WALCH, of New York, in the county and State of New York, have invented a new and Improved Calorific Air-Chamber for Stoves or Open Fireplaces; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

Figure I represents a front elevation. Fig. II shows a section through the line, N N, Fig. IV. Fig. III shows a section in the direction of line, O O, Fig. V. Fig. IV is a horizontal section at the line A Fig. II. Fig. V is a horizontal section at the line B Fig. II, and Fig. VI is a horizontal section at the line, C, Fig. II.

Similar letters represent similar parts.

The nature of my invention consists in the arrangement of a calorific air chamber in the stove or fireplace in such a manner that said chamber forms partly the back and sides of the fireplace, then turns upward, connected to the sides of the stove, so as to form a distinct division in the stove, to force the flame or gases up on the front, over the top, and down on the rear of said chamber to the smokepipe. This chamber has an opening at or near the bottom of the stove for the cold air to enter, to be heated while passing through said chamber, and the heated or hot air escapes again at or near the top of the stove.

The accompanying drawings represent the improvement applied to a close stove but it will readily be seen that the same arrangement may be made in an open fireplace or open stove.

D represents the outer casing of a stove with a fire grate, E, near the bottom in the usual manner. Below the firegrate doors or openings, F, are made for the admission of the required air to the fire.

Behind the firegrating an air chamber G is made in the stove extending about one half around the stove (if made circular) and forming the back of the fireplace. This chamber extends downward to the bottom of the stove, where it is open, for the admission of the air into said chamber. The outside of this chamber below and opposite the fireplace is formed by the casing of the stove, and the inner side of said chamber opposite the fire is made either corrugated or lined with firebrick.

Above the fire this chamber turns toward the central part of the stove, and is carried then upward in the shape of a flat box, connected on both sides with the sides or casing of the stove, so as to divide the upper part of the stove in two parts, until within a short distance from the top, where the said chamber is closed, so as to allow the flame and smoke to pass over it, and to the back part of the same, and into the smoke pipe H as indicated by the arrows (2). At or near the upper end of the air chamber, G, openings, K, are made from this chamber, G, through the casing D of the stove, to allow the air which passes through this chamber to escape again into the room after having in its passage been heated.

Instead of letting the heated air escape at the sides of the stove, as here described, a branch may be carried from the top of the air chamber toward the front of the stove or the air may be allowed to escape through the top of the same and then conducted to any other apartment which requires to be heated, care being taken to give sufficient passage over the top of the air chamber, G, for the flame, gases and smoke from the fire to pass toward the smokepipe H. The cold and damp atmosphere enters at the bottom of the stove into this air chamber G, and after being heated during its passage through the same, passes out again, as indicated by the arrows marked, 3, near the top of the stove into the room, producing thereby a perfect purified ventilation of the apartment.

This air chaimber does not take away much of the actual heating surface of the stove, and rather increases the same, giving at the same time a healthy ventilation, without increasing the consumption of fuel.

I do not claim a chamber in a stove into which air is supplied by pipes, and which is open through the top of the stove, nor do I claim a chamber suspended in the central part of the stove, and surrounded by fire, the air being supplied through the stove-base and escaping at the top, but I am not aware that in any previous instance an air chamber has been fitted to a stove or fireplace which forms first partly the back and sides of the fireplace or firepot, and then in the upper part a distinct division in the stove, rising direct from the bottom or stove-base until within a short distance of the top of the stove, so as to force the flame and gases

up the front part, over the top, and down at the rear of said chamber to the smokepipe, said chamber having an opening at the bottom and outlets for the air at the upper part of the stove, and

I claim therefore as my invention and desire to secure by Letters Patent—

The application and combination with a stove of an air chamber constructed and arranged as described, said chamber rising directly from the lower part of the stove base until within a short distance of the top of the stove and forming first the backpart of the fireplace or firepot and then a distinct division in the stove, from one side to the other side of the stove, whereby the flame and gases are made to pass up on the front, over the top, and down on the rear of said chamber to the smokepipe in the manner and for the purpose substantially as specified.

JOHN WALCH.

Witnesses:

HENRY E. ROEDER,

JAMES H. DAVIDSON.