2 Sheets—Sheet 1.

W. WICKE.

Cook-Stove.

No. 211,678. Patented Jan. 28, 1879.

Fig. 1.

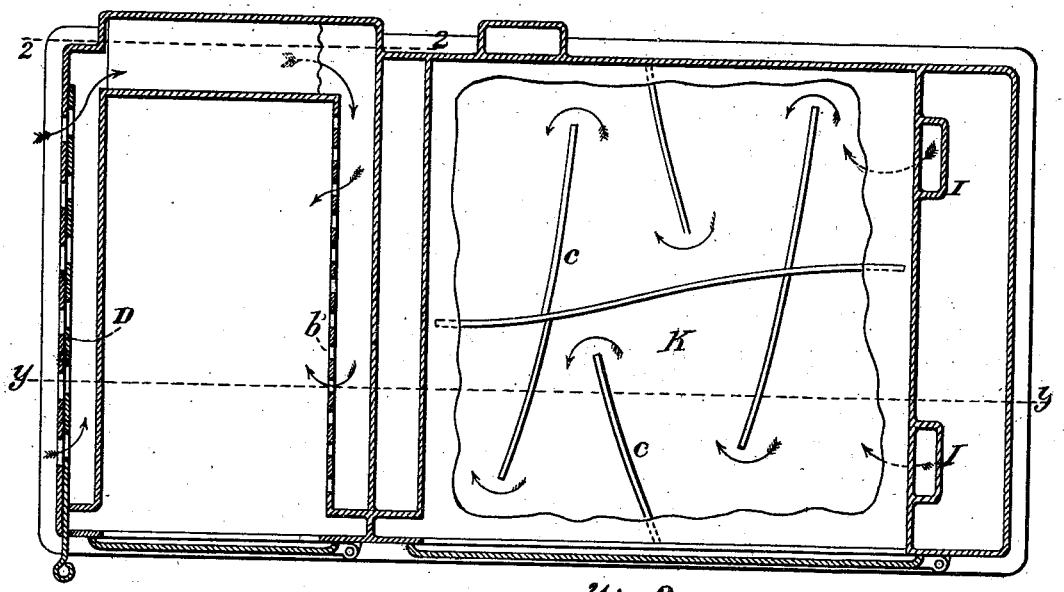
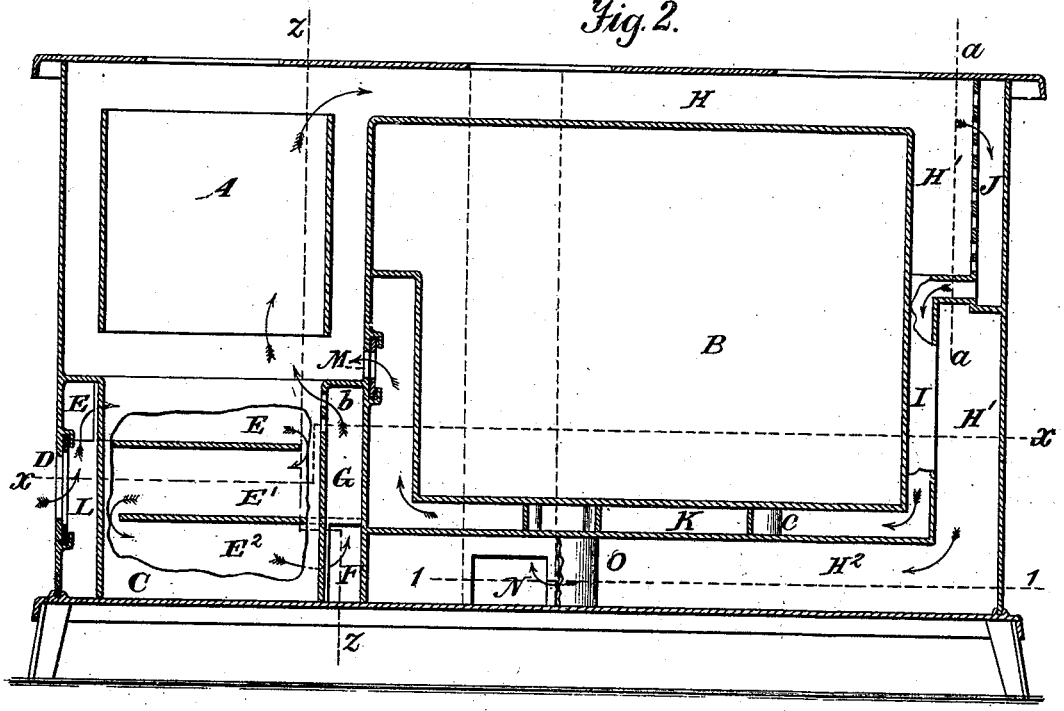


Fig. 2.



Witnesses.
A. Ruppert,
C. C. Lusby

Inventor:
Wilhelm Wicke
By Theodor Munger,
Attorney.

W. WICKE.

Cook-Stove.

No. 211,678. Patented Jan. 28, 1879.

Fig. 3.

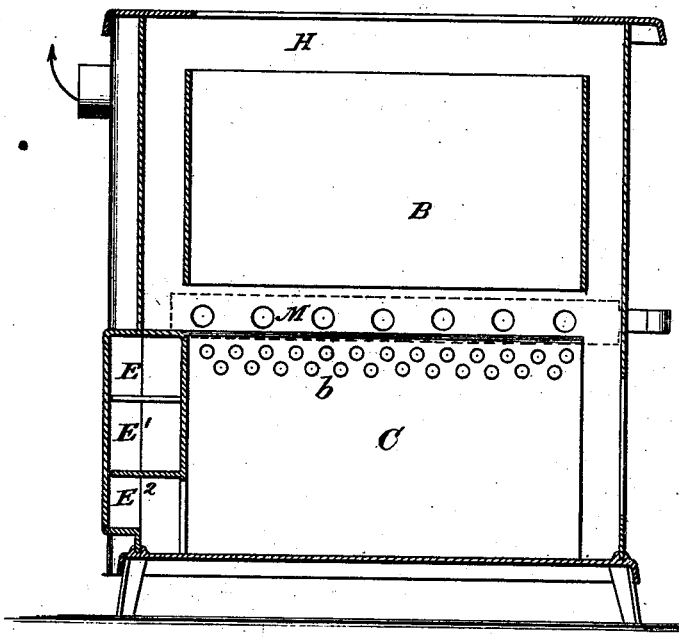


Fig. 6.

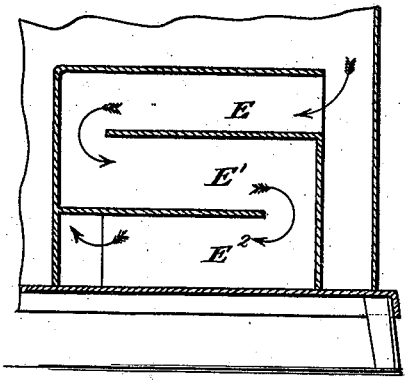


Fig. 4.

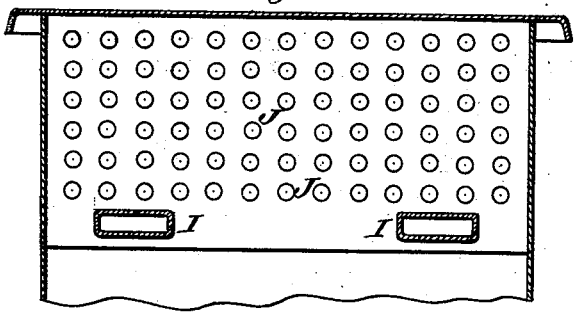
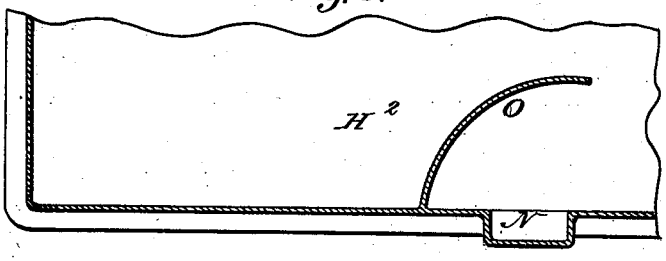


Fig. 5.



Witnesses.
A. Ruppert.
L. E. Busby

Inventor:
Wilhelm Wicke,
By Theodore Mungen,
Attorney.

UNITED STATES PATENT OFFICE.

WILHELM WICKE, OF STUYVESANT, NEW YORK.

IMPROVEMENT IN COOK-STOVES.

Specification forming part of Letters Patent No. **211,678**, dated January 28, 1879; application filed December 2, 1878.

To all whom it may concern:

Be it known that I, WILHELM WICKE, of Stuyvesant, in the county of Columbia and State of New York, have invented certain new and useful Improvements in Cook-Stoves; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a sectional plan view taken through line *x x* in Fig. 2. Fig. 2 is a vertical sectional view taken through line *y y* in Fig. 1. Fig. 3 is a vertical sectional view taken through line *z z* in Fig. 2. Fig. 4 is a vertical sectional view taken through line *a a* in Fig. 2. Fig. 5 is a sectional detail plan view taken through line 1 1 in Fig. 2; and Fig. 6 is a sectional view, taken through line 2 2 in Fig. 1, of the flues which conduct cold air from the register to the fire-box.

This invention has relation to cook-stoves; and consists in the improvements in the construction of the same hereinafter fully described, and particularly pointed out in the claims.

Referring to the drawings, A represents the fire-box; B, the oven; C, the ash-pit, and D the cold-air register or damper. E E^1 E^2 represent flues, located at the rear of the ash-pit C. The stove is provided, in front of the ash-pit C, with an air-space, L, to which cold air is admitted through the register D, whence it passes to the flue E, thence to E^1, thence to flue E^2, thence through cross-flues F and G, the latter being perforated at *b*, up into the fire-box A, as indicated by arrows. The cold air in its passage to the fire-box becomes very highly heated, so that when it reaches the fire-box it very materially aids combustion of the fuel therein.

The oven C is located in the rear of the fire-box and ash-pit, has a space, H, above it, and two short vertical flues, I I, in the rear of it. A perforated plate, J, above said flues I I, divides the smoke-space H^1 in the rear of the oven.

The flues I I lead to a gas-chamber, K, immediately beneath the oven. This gas-chamber K extends upward at the front of the oven, and is provided, near the top, with a perforated damper, M, which may be opened to cause a draft from the gas-chamber K to the fire-box A. The gas-chamber K is partitioned to correspond with the flues I I, and has lateral flues *c c*, to cause the products of combustion to take a circuitous route when admitted to said chamber.

H^2 is a continuation of the smoke-space, leading from the fire-box to the exit-flue N. O represents a guard, placed in front of the exit-flue N, with the space or chamber H^2, to prevent the too rapid escape of the products of combustion.

Cold air, as before stated, is admitted to the space L through the register or damper D, and, circulating through the flues E, E^1, E^2, F, and G *b*, enters the fire-box A, and passes off through H, H^1, H^2, and N when the perforated damper M is closed, and it is usually closed when only the ordinary heat produced by the stove is desired to be utilized. When, however, intense heat in the oven is required, the damper M is opened, and the products of combustion—such as gas, sulphur, and tar—are drawn by the draft created in the gas-chamber K through the perforated plate J, down the flues I I, through the gas-chamber K, and back into the fire-box, where they are consumed, thus greatly increasing the heating power of the stove, and at the same time saving fuel.

Either hard or soft coal may be burned, and in both cases the circulation of the sulphur, gas, &c., evolved therefrom, from the fire-box back again to the fire-box, will increase the heating power of the stove, and will result in a saving of fuel. Besides this, the arrangement of the flues at the end of the ash-pit causes the cold air to be very highly heated before reaching the fire-box—that is, after the fire has been started; and these flues may be in operation at all times.

I am aware that a register and flues have been employed in stoves to conduct cold air to the fire-pot, and I do not claim them broadly.

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

1. In a cook-stove, the combination of the

space L, having register D, with the flues E E^1 E^2, flues F and G, the latter having perforations *b*, with the fire-box A, substantially as and for the purpose set forth.

2. In a cook-stove, the combination, with the flues H, H^1, H^2, and N, of the perforated plate J, flues I and K *c*, and the damper M, substantially as and for the purposes set forth.

3. In a cook-stove, the combination, with the fire-box A and oven B, of the flues H H^1 H^2, perforated plate J, flues I I, gas-chamber K *c*, and damper M, substantially as and for the purposes set forth.

In testimony that I claim the foregoing improvements, as above described, I have hereunto set my hand and seal.

WILHELM WICKE. [L. S.]

Witnesses:

CHARLES F. WISE,

THEO. MUNGEN.