P. N. BURKE.

Cooking Stove.

No. 24,791. Patented July 19, 1859.

Fig. 2.

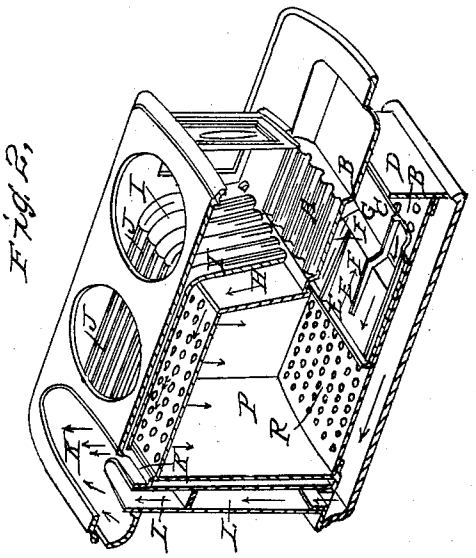


Fig. 3.

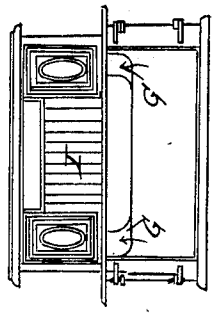


Fig. 1.

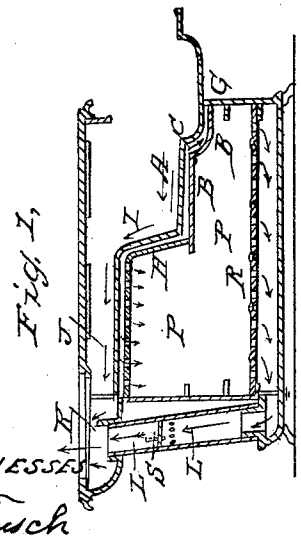
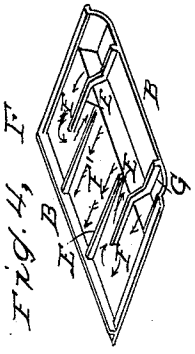


Fig. 4.



WITNESSES:

Wm. Tusch

J. H. Coombs.

INVENTOR:

Peter N. Burke

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UNITED STATES PATENT OFFICE.

PETER N. BURKE, OF BUFFALO, NEW YORK.

IMPROVEMENT IN STOVES.

Specification forming part of Letters Patent No. **24,791**, dated July 6, 1859.

To all whom it may concern:

Be it known that I, PETER N. BURKE, of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Cooking-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, and to the letters of reference marked thereon, of which—

Figure 1 represents a vertical longitudinal section through a stove. Fig. 2 is a perspective view showing one-half of the same and the direction of the currents by red and black arrows. Fig. 3 exhibits the front of the stove, showing the registers through which air passes into the flues. Fig. 4 represents the lower plate for forming the flue-chamber underneath the hearth-plate and fire-hearth.

The following description will illustrate the application of my principle to the common form of wood cook-stove. The same principle may be also applied to various forms and descriptions of stoves, ranges, and ovens with only a slight alteration of the form and dimensions of the plates equivalently, the same principle being preserved throughout.

By reference to the drawings the fire-hearth is represented by A, which is a corrugated plate. Below this hearth is arranged a plate B, which, in connection with hearth A, forms an intermediate space C. The lower plate B, which abuts against the front plates D of the stove, has arranged upon its surface partitions E, which, when the two plates A B are brought together, form compartments or flue-spaces F, which direct the current of air as it is drawn in through the register-openings G to the rear part of the plate and return it to the central passage F′, from whence it passes into the flue H, the outer plate of which is corrugated, as in the hearth-plate. This flue-space directs the air upward, as indicated by the red arrows, and submits it to the heating-surface of the fire-guard I, where it is dispensed over the perforated plate and equally diffused throughout the oven or ovens, as the case may be, as hereinafter described.

The products of combustion are carried over the corrugated plate J and to the rear part of the stove, where they are brought in contact with the heated air rising from the oven through the hot-air pipe L, as indicated by the red and black arrows, these showing the direction of the two currents through the stove. These currents, both tending to the common smoke-pipe, (not shown by the drawings,) meet in the chamber K, where the smoke, &c., is exposed to the highly-heated air, and thus consumed and passed off through a direct smoke-pipe; or it may then be employed to heat water which is contained in a boiler (not shown) partially surrounded with a jacket or casing, through which the heated air passes in communicating with the smoke-pipe connected with the top of this boiler. The air, having been subjected to the heating-surfaces of plates A, I, and J, passes down through the perforations in horizontal plate N and into the oven P of the stove and over and around the articles to be cooked, and thence through apertures in the oven-plate R and to the rear of the stove, where the air passes up through the pipe L into chamber K, as above specified. The arrangement and construction of these plates are very peculiar, in order to effect the desired purpose—viz., the equitable diffusion of the hot air throughout the entire oven from the time it commences to descend or pass through the perforations of plate N. I therefore arrange the perforations in the upper plate so as to compensate for the different degrees of draft over its surface by making the perforations smallest where the draft is greatest and enlarging them where there is the least draft. In this manner the hot air passes over the plate N to its rear end and is equally distributed in its descent and diffused throughout the entire oven. The lower plate R is also perforated, but the order of perforations is reversed, the largest holes being placed where the draft would be the least and the smaller holes at the rear of the oven immediately below the larger perforations of the upper plate N. In this manner the temperature of air passing through the stove is not only increased, but the air is more economically distributed or diffused throughout the oven.

The regulation of the passage of air through the stove is effected by common registers placed below and on each side of the hearth, and when it is desired to radiate the heated air into the room the damper S in the hot-air pipe L is closed, when the air passes out through apertures in said pipe arranged be-

low the damper, as indicated by red arrows of Fig. 1 in the drawings.

I do not claim, broadly, the introduction of hot air into the oven, nor do I claim any part or feature seen in the patents granted to C. W. Gannis, February 1, 1847, and M. L. Horton, June 1, 1858; but,

Having described my invention, I claim and desire to secure by Letters Patent—

The arrangement and combination of the perforated plates N R, the partitional plate B, the flue H, the fire-guard I, hot-air pipe L, and chamber K, as and for the purpose herein shown and described.

PETER N. BURKE.

Witnesses:

WM. TUSCH,

R. S. SPENCER.