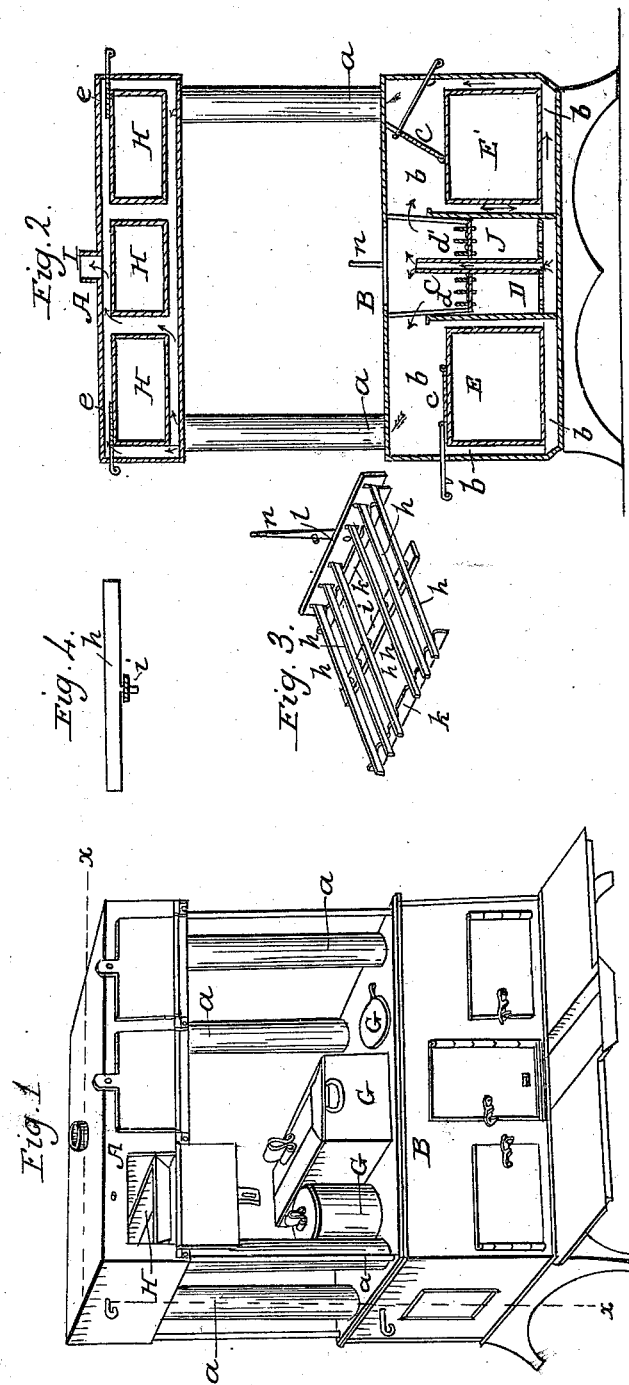


A. KEENEY.

Coal Grate.

No. 7,245.

Patented April 2 1850.



UNITED STATES PATENT OFFICE.

ABEL KEENEY, OF CARLISLE, PENNSYLVANIA.

AGITATING COAL-GRATES.

Specification of Letters Patent No. 7,245, dated April 2, 1850.

To all whom it may concern:

Be it known that I, ABEL KEENEY, of Carlisle, in the county of Cumberland and State of Pennsylvania, have invented a new and useful Improvement in Stoves, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, which forms part of this specification and in which—

Figure 1 represents a view in perspective of my cooking stove, Fig. 2 is a vertical section through the same at the line *x x* of Fig. 1, and Figs. 3 and 4 are views of the grate bars detached from the stove.

My stove is constructed to burn the fuel to the greatest advantage by supplying heated air to the inflammable gases generated by the combustion. It is also constructed in such a manner that the clinkers and ashes can be detached from the burning fuel, and discharged into the ash pit by a peculiar movement imparted to the grate-bars.

The stove as represented in the drawing is composed mainly of two cases A, B, connected by four hollow columns *a a a a*. The lower case B contains the grate C, with its ashpit D, and appurtenances, and two ovens E, E', around which the flame of the burning fuel is conveyed by flues *b, b*. The top of the lower case is furnished with pot holes of various sizes to which cooking utensils G, G, G, of various descriptions can be applied. The upper case contains three ovens H, H, H, surrounded by flues and it is furnished with a pipe I by which the spent gases are conveyed to a chimney.

The flues of the lower ovens are fitted with dampers *e, e*, by the action of which the flame can be conducted directly to the hollow columns *a* as at E or can be forced first to pass around the oven as at E'. The hollow columns conduct the flame to the flues of the upper case, which are also fitted with dampers *e e* to equalize the distribution of the heat around the ovens.

The grate is divided into two portions *d, d'*, by an air feeder J; the latter extends from a chamber formed beneath the bottom of the ash pit to within a short distance of the top of the lower case; it serves to convey air, which is highly heated in its passage through that portion of the feeder between the two masses of burning fuel, to the inflammable gases given off by the fire, thus completing their combustion and saving the heat that would otherwise be lost by their escape to the chimney in an unconsumed state.

The grate of the stove as represented in Figs. 3 and 4 is composed of grate bars *h, h, h*, pivoted at their middle to a cross bar *i* and resting at their extremities upon two rack-plates *k, k*, the extremities of all the bars at one end of the grate are connected by a perforated plate *l* to which a reciprocating motion can be imparted by a hand lever *n* pivoted to the outside of the stove. As the lever is worked to and fro both extremities of the grate-bars rise and fall over the indentations and protuberances of the rack plates while at the same time they are moved to and fro horizontally in opposite directions. The peculiar motion thus imparted to them detaches the clinkers and by raising and shaking the coals frees them from ashes in the most thorough manner.

What I claim in the above described stove as new and desire to secure by Letters Patent is—

Giving the compound vertical and horizontal oscillating motion to the grate-bars as herein set forth.

In testimony whereof I have hereunto subscribed my name.

ABEL KEENEY.

Witnesses:

E. S. RENWICK,
P. H. WATSON.