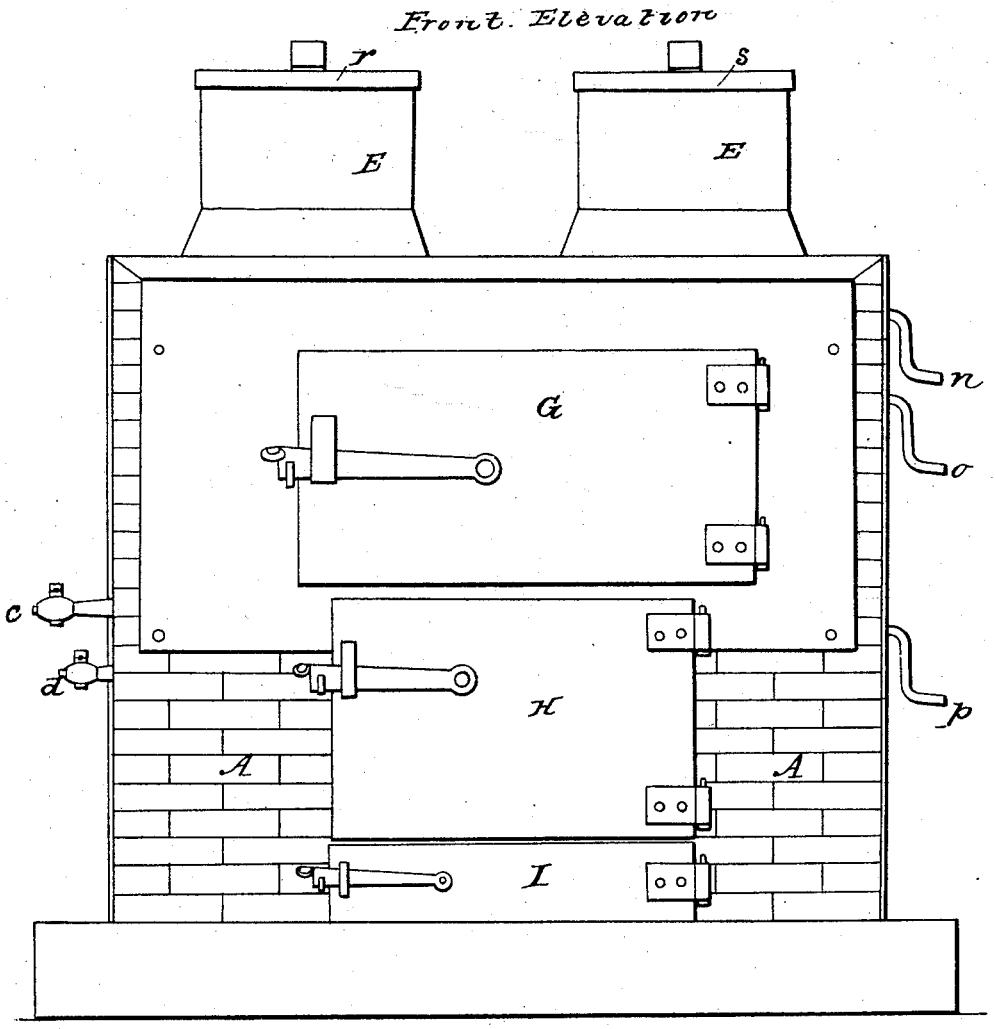
3 Sheets—Sheet 1.

J. HURD.

Reservoir Cooking Stove.

No. 806. Patented June 23, 1838.



3 Sheets—Sheet 2.

J. HURD.

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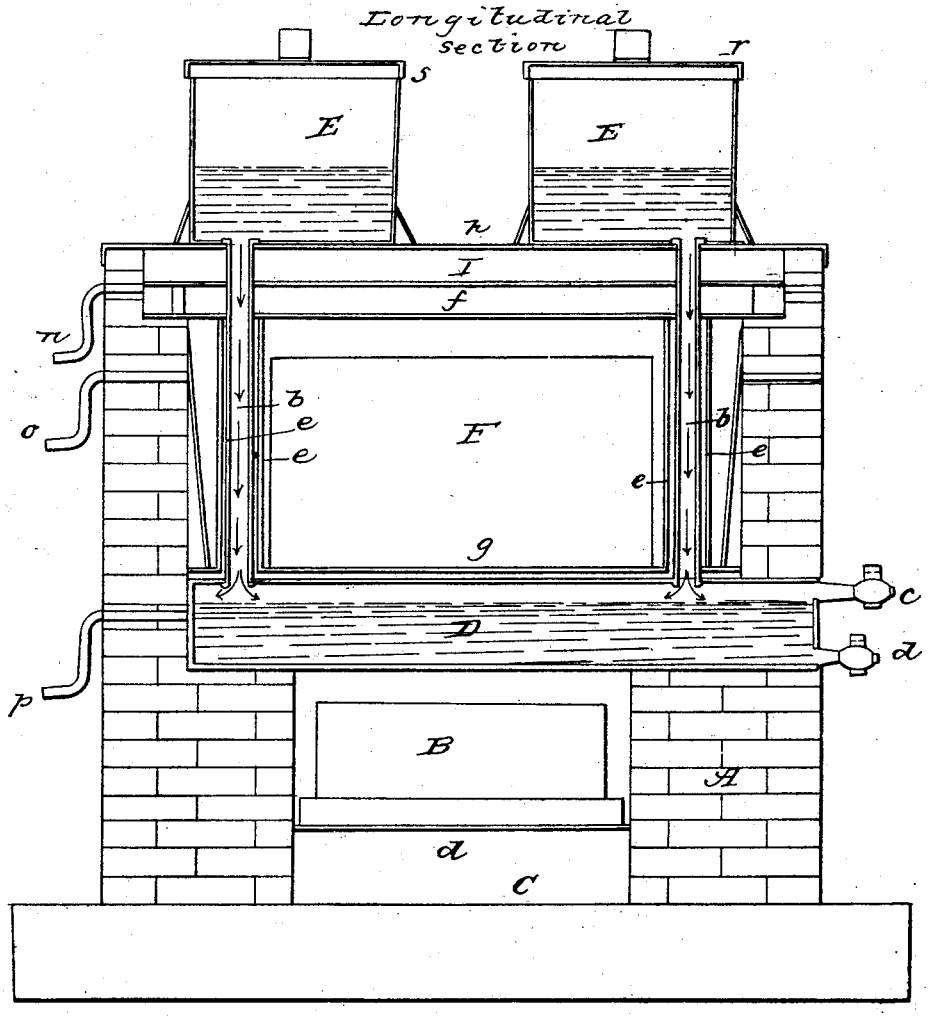

3 Sheets—Sheet 3.

J. HURD.

Reservoir Cooking Stove.

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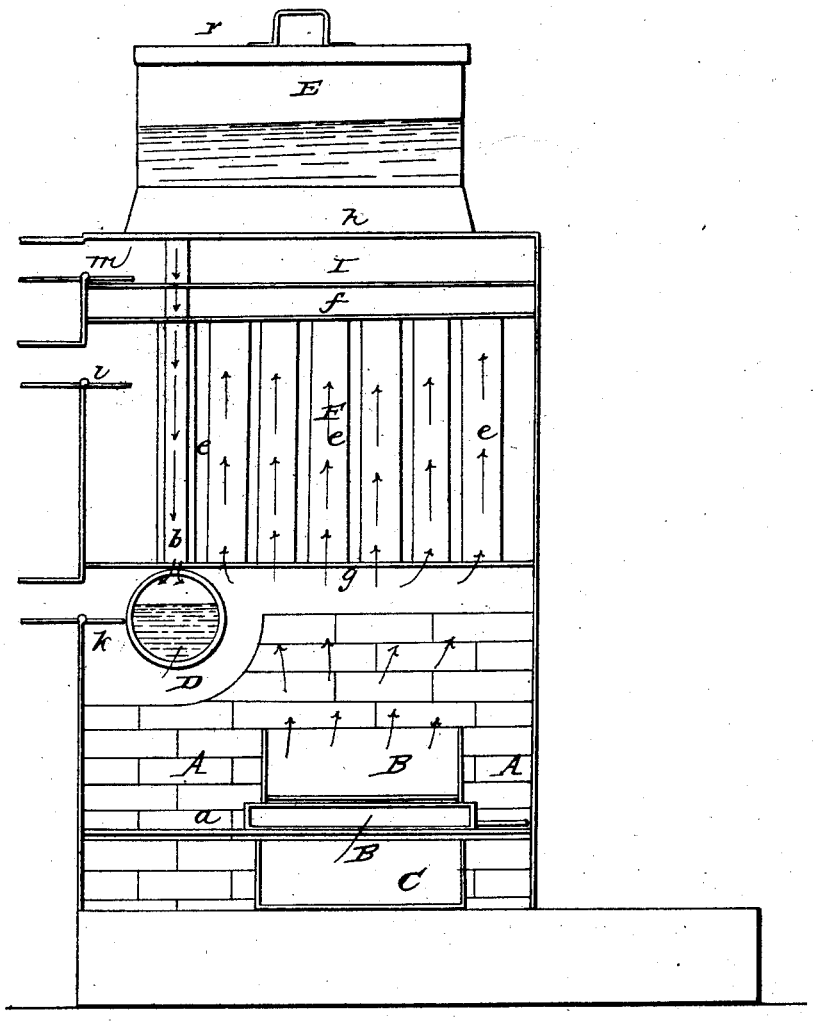
Transverse Section



UNITED STATES PATENT OFFICE.

JOSEPH HURD, JR., OF STONEHAM, MASSACHUSETTS.

CONSTRUCTION OF STOVES AND FIREPLACES.

Specification of Letters Patent No. 806, dated June 23, 1838.

To all whom it may concern:

Be it known that I, JOSEPH HURD, junior, of Stoneham, county of Middlesex, and State of Massachusetts, have invented a new and useful Improvement in the Construction of Fireplaces and Stoves for Cooking or other Purposes to Which the Same May be Applied.

This improvement, the principle thereof and mode in which I have contemplated the application of that principle or character by which it may be distinguished from other inventions; together with such parts, improvements or combinations which I claim as my invention, I have set forth and described in the following specification and accompanying drawings referred to herein.

The general features of my improvement consist in such an arrangement of the oven, boiling apparatus, fireplace and flues, that the operations of baking, boiling and steaming, may be carried on at one and the same time by the same fire, or separately, whenever occasion may require. By so doing I economize heat, or in other words create a great saving of fuel.

The particulars of my said invention and improvement are represented by Plates 1, 2, 3.

A, A, A, is the brickwork surrounding and sustaining the oven and fireplace with the grate. This may be constructed as shown in the drawings, or otherwise built up as circumstances may require.

B represents a sliding box, having a grate in its bottom to sustain the coals. This box rests and can be pushed in, or drawn out upon a horizontal shelf or plate of iron A. The plate *a* has a square hole of sufficient size formed therein, over which the box B may be placed, so that the ashes from the grate may fall through the same into the ash box C.

D, is a small cylindrical boiler of iron or other suitable metal, placed in the upper part of the fireplace, and having its ends secured in brickwork. Near each extremity of the boiler D, a pipe *b*, *b*, is inserted and passes up and is properly connected with a steam vessel E, E. The boiler D has two cocks *c d* inserted in one of its ends, for the purpose of ascertaining the quantity of water or steam therein whenever necessary.

F, is an oven directly over the fireplace, the sides of which are formed of metallic tubes *e*, *e*, *e*, which pass through the top *f*, and bottom *g*, serving as so many flues for the passage of the smoke and heated air from the fireplace, and thus expose a large heated surface to the air in the oven. Between the plate *f*, which forms the upper part of the oven, and the plate *h*, which serves to support the steam vessels E, E, is another plate *i* having a square aperture near its center. As the smoke passes up the tubes *e*, *e*, it impinges against the underside of the plate *i* and is reflected against the top *f* of the oven and passes through the aperture in the plate *i* into the chimney where it escapes into the atmosphere.

k, is a damper or flue valve, in the back of the fireplace, which on being opened, admits the smoke and heated air to pass directly into the chimney, instead of circulating through the pipes *e*, *e*, *e*. *l* is another damper, or flue valve, in the back part of the oven, which on being opened suffers the vapor formed during the process of baking, to escape into the chimney, so that when the lower damper is closed, the smoke rises through the pipe *e*, *e*, and passes into the chimney through the aperture in the damper *m*. These dampers may be opened at pleasure, by means of the bent rods *n o p* proceeding therefrom.

G, H, I, are doors to the oven, fire place and ash-pit.

By means of the sliding furnace, to be used in connection with the oven, the fire may be placed within a few inches of the bottom of the boiler, or the oven, or in such situation as to produce the greatest effect. It may be withdrawn at pleasure to receive fuel, and also when the heat may be too powerful for the oven or boiler.

When the furnace is in place, the fire door is closed, which prevents any cold air gaining access to the coals except through the grate. The tubes *e*, *e*, materially assist the draft, while from their situation, they also cause the hot air from the furnace to spread equally over the under surface of the oven before passing off through them. The heat is thus very equally diffused throughout the oven, this being a great desideratum in the process of baking. Water being poured into one of the steam vessels E, passes down the tube which connects it with the boiler D, and rises through the other tube into the opposite steam vessel, and as the water becomes heated in the boiler it ascends into the steam vessel. On opening the lower

cock *d*, hot water may at any time be drawn from the boiler. The tops *r*, *s*, of the steam vessels may be removed at pleasure. The steam vessels may be constructed of tinned iron, copper or other suitable material, and also of such strength, and with tops so closely fitted and formed, as to answer the purpose of digesters for softening bones, or such other purposes to which the same may be applicable. The number of the tubes *e e*, their size, together with the dimensions of the boiler and other parts of the apparatus may be varied at pleasure. Instead of the whole being set in brickwork, it may be surrounded by a casing of sheet or cast iron, or other proper metal, this forming a stove which may be removed at pleasure.

Having described such parts of my improvement as I believe new and useful I now set forth my claim as follows.

1. The combination of the tubular oven with the boiling and steaming apparatus and fireplace, arranged and acting together as I have herein described.

2. I claim separately, an oven constructed with tubular flues passing through the same from bottom to top, and so situated that the smoke and heated air from the furnace shall pass through the same on both sides, and impart heat to the interior of the oven.

In testimony that the above is a true specification of my invention and improvement I have hereto set my hand this first day of October in the year of our Lord, one thousand eight hundred and thirty seven.

JOSEPH HURD, JR. [L. S.]

Witnesses:
R. H. EDDY,
FRANKLIN DARRACOTT.