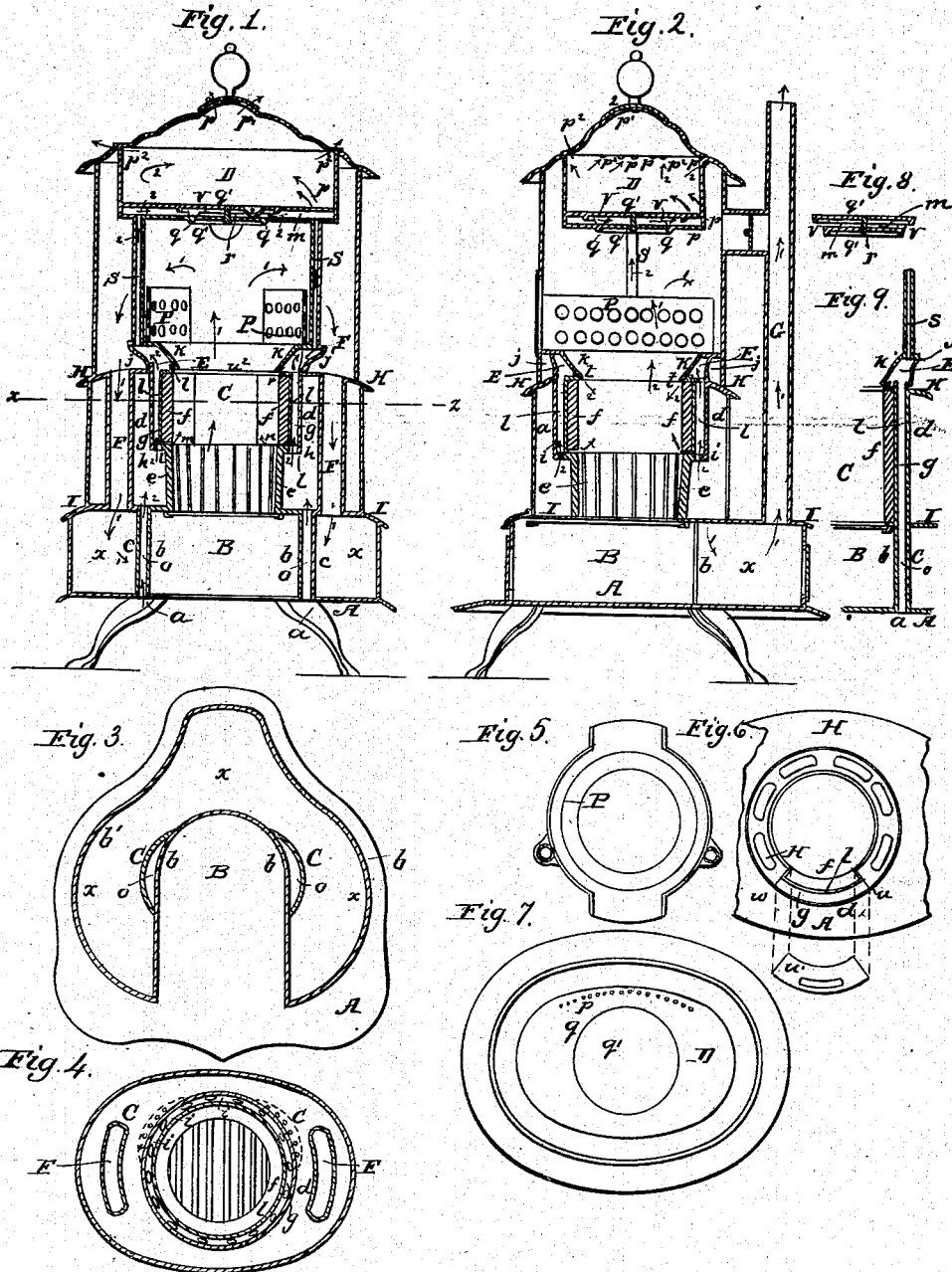


W. B. TREADWELL.

Coal Stove.

No. 48,115.

Patented June 6, 1865.



Witnesses.

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W. B. TREADWELL, OF ALBANY, NEW YORK.

## COAL-STOVE.

Specification forming part of Letters Patent No. 48,115, dated June 6, 1865.

*To all whom it may concern:*

Be it known that I, W. B. TREADWELL, of the city and county of Albany, and State of New York, have invented a new and Improved Parlor Coal Heating-Stove; 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 the specification, in which—

Figure 1 is a diametrical section through the stove. Fig. 2 is a similar section, but in a plane at right angles to the plane of the vertical section, Fig. 1. Fig. 3 is a horizontal section through the base of the stove. Fig. 4 is also a horizontal section taken at the point indicated by the red line *xx* in Fig. 1. Fig. 5 is a top view of the double-walled ring which caps the air-chamber outside of the fire-pot. Fig. 6 is a broken top view of the plate which caps the fire-brick and outside air-chamber of the fire-pot, and also sustains the other upper portion of the stove. Fig. 7 is a top view of the oven of the stove, the top or cover of the stove and oven being removed. Fig. 8 is a cross-section of the skillet or pot hole closer used at the bottom of the oven. Fig. 9 is a broken vertical section of my stove modified in a slight degree.

This arrangement of the brick lining is not claimed as a new plan when disconnected from my particular arrangement of stove.

The same letters of reference in the several figures indicate corresponding or similar parts.

The nature of my invention consists, first, in a novel construction of parlor coal heating-stoves, with an oven for cooking purposes arranged in its top portion, the construction being such that the effects of the intense heat of the fire below the oven are not so destructive as in stoves constructed in ordinary ways; and, beside this, I am enabled to introduce heated air into the oven, and thus equalize the baking process, and to ventilate or carry off vapors which arise from the food being cooked.

It consists, second, in a novel construction of the fire-pot, whereby it is surrounded by air, and is capable of jetting air into the burning mass of coals at different points between its upper and lower ends, this construction being employed in connection with a double-

wall ring, capping the air-chamber of the fire-pot, and in connection with air-passages extending up through the ash-pit of the stove.

It consists, third, in a capping-plate to the fire-brick and air-chamber of the fire-pot, said plate being constructed with a removable capping section in such manner that the bricks from any part of the cylinder-pot can be removed by slipping them around to the point where this removable capping-section is located, and then raising them through the space left vacant by the removal of said section.

It consists, fourth, in constructing the oven, which is a component part of the stove, and gives it the characteristic of a "parlor-cook," with double bottom, double-walled hole-coverer, and ventilating-passages, all as will be hereinafter described.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

A is the bottom plate of the stove, through which openings *a a* are made for the admission of cold air at points outside of the ash-pit.

B is the ash-pit section of the stove, the upper plate, I, of which forms a bearing to the fire-pot and the grate. The vertical plate *b b* of the ash-pit, in connection with the vertical plate *b' b'* and the plates A I, form a chamber, X, within said ash-pit section but outside of the ash-pit. Now, to conduct the cold air which enters at *a a* through the chamber X at given points plates *c c*, of concave shape, are arranged against the plate *b b* and between the plates A and I, as represented by dotted lines in Fig. 4 and by full lines in Fig. 1. Thus I form cold-air flues *o o*, leading from the openings *a a* to a point above the plate I.

C is the fire-chamber, the lower section, *e e*, of which is made of cast-iron, and the upper section, *f f*, is made of fire-brick, which, in position, stand against and are supported by the plate or cylinder *l*. The cast-iron section *e e* has a brim, *h h*, with flanges formed upon it to hold in position the plates or cylinders *d l*, and through which brim-openings *i i* are formed for the purpose of admitting cold air into cavity *g*. Grooves or channels are formed in the upper surface of the brim, through which air

is conveyed underneath the brick into the fire at points *n n*, to assist in the burning of the gases.

E, Figs. 1 and 2, is a cast-iron ring formed of two plates, *j k*, which, in position, stand upon the capping-plate H, so as to cover or inclose the air-openings in the same and come directly over the cavity *g*, and so that the air in its passage from said cavity shall be received between the plates *j k*, as represented. The chambered ring thus constructed and arranged becomes a receiver of cold air, and portions of the air are jetted from it into the fire-chamber through the crevice *t*, to aid in the burning of the gases. There might be a close fit at *t* between the parts and small channels formed for the passage of air into the fire-chamber, the same as at *n n*.

The plate H extends, with a slight inclination, if desirable, over the top ends of the fire-brick, and at *u* a portion of the plate H is made removable, as illustrated in Fig. 6. This removable portion *u'* is of a length equal to the breadth of a fire-brick, and when it is moved out of the space *u* the brick which was covered by it can be lifted out of its place, and by moving the other bricks around to this space they also can be lifted out of the fire-pot. By this means the bricks can be inserted without removing or separating the main sections of the stove. Ample room for the repairing or relining of the stove with fire-brick is afforded by the removal of simply the receiver E and opening the aperture *u*, as described.

P P are plates placed crosswise of the stove, so as to compel the products of combustion to go higher, and also to prevent coals from getting into the flues F F, which descend from the plate H and connect with the reverberatory chamber X, said chamber connecting with the main draft-flue G, as shown in Fig. 2.

D is an oven with a double bottom. The two plates forming this double bottom are arranged so as to form a cavity, *m m*, between them. Tubes *s s* connect the cavity *m m* with the ring or receiver E, and through these tubes air, which is heated, is carried or conducted into the cavity. Openings (one or more) are made in the upper plate of the oven's bottom, also through the top or cover of the oven, as at *p p'*. There may be channels or holes at *p''*. By this means the heated air will have a chance to circulate through the oven and to carry off all moisture or gases rising from the cooking meats, and thus save the articles from becoming "sobby." An opening, *q*, is formed in the bottom of the oven to receive a kettle or pot for the purposes of heating water. The cover *q'* to close the opening *q* is formed double, so as to allow air to circulate between its component plates. To make this double cover two plates are set apart by stops *v v*, and connected by a bolt, *r*, in the center, as shown in the drawings, Fig. 8. In order that the hot air may circulate be-

tween these plates in its passage through the oven's bottom, an opening all round the metal inclosing the hole *q*, and also the circumference of the cover is provided, as represented in Figs. 1, 2, and 8.

Mystove, constructed as above described, operates as follows: The cold air passes through the openings *a a* in the bottom of the stove, and in ascending it passes through the flues *o o* and cavity *g g* into the ring or receiver E, thence is carried through the tubes *s s* into the cavity *m m* of the oven's bottom and between the plates of the cover *q'* of kettle-hole *q*. From thence it passes into the oven and out into the room, as indicated by the arrows. Instead of passing it into the room a pipe might be made to conduct it into the main flue G. The air in its passage becomes heated before it enters the oven, and thus heated it equalizes the baking in the oven and ventilates the oven. The circulating of air in the cavity *m m* and between the plates of the cover *q'* prevents the said plates and the bottom of the oven from being destroyed rapidly by the intense heat; and, further, in the stove as thus constructed the products of combustion in ascending from the fire-chamber are carried over the plates P P; thence they are carried through flues F F descending into chamber X in the ash-pit section, and thence off into the flue G behind the stove.

I would state that I prefer to make the fire-pot with the lower section not lined, as represented in Figs. 1 and 2, as this construction radiates more heat at the lower part of the stove; but in some cases the fire-pot may be made entirely of fire-brick, as illustrated in Fig. 9. With this arrangement the brick are removed in just the same manner as they are with the arrangement shown in Figs. 1 and 2, excepting that they require to be raised to a greater height before they can be passed out through the door, in which case the plates or cylinders *d l* will be made a little longer than in Figs. 1 and 2, so as to extend down to the plate L, upon which the fire-pot rests. Then the cold-air passages formed by the plate *b b*, with the plate *c c*, will connect at the top directly with the cavity *g g*, which cavity surrounds the fire-pot, as shown in Fig. 9.

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

1. A parlor-heating stove with an oven for cooking purposes, so constructed that hot air circulates in a chamber formed in the bottom of the oven, and also through the chamber of the body of the oven, substantially as and for the purposes described.
2. The construction of the oven, which is a component part of a stove, with a double bottom, a double walled hole-coverer, and circulating-passages for hot air, substantially as and for the purposes described.
3. The fire-pot or chamber C *e l f*, con-

structed as represented in Figs. 1 and 2, and substantially as herein described, for the purpose set forth.

4. The combination of the plate H with removable section *u'*, and a fire-pot having a removable sectional lining, *f*, substantially in the manner and for the purpose described.

5. The combination of fire-chamber C, cavity *g g*, cold-air passage *o o*, and receiver E, substantially in the manner and for the purpose described.

6. The cold-air passage formed by means of plates *b b* and *c*, connected with cavity *g g*, in combination with the ring or receiver E, tubes *s s*, and oven D, all constructed and arranged substantially as described.

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Witnesses:

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