

# CLINTON, KNIGHT & KNIGHT.

Cooking Stove.

No. 7,595.

Patented Aug. 27, 1850.

Fig. 1.

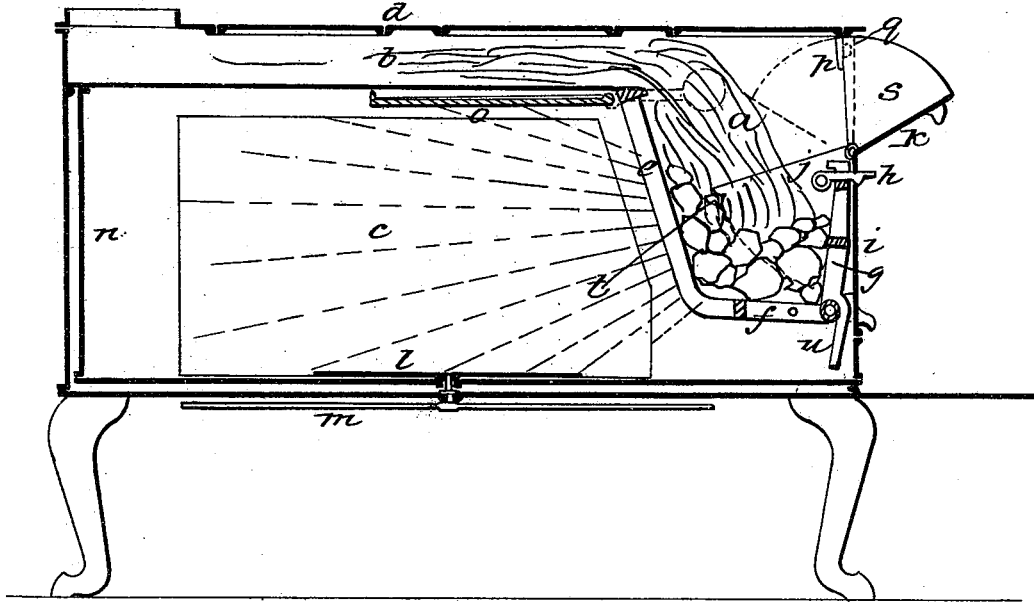
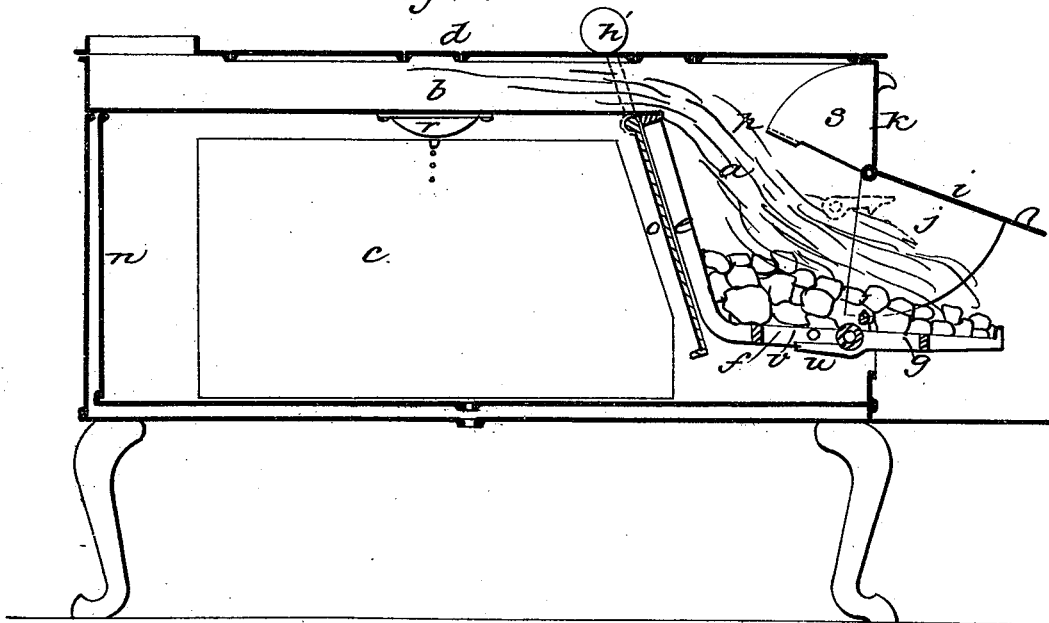


Fig. 2.



# UNITED STATES PATENT OFFICE.

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## COAL-STOVE FOR ROASTING, BAKING, AND BROILING.

Specification of Letters Patent No. 7,595, dated August 27, 1850.

*To all whom it may concern:*

Be it known that we, THOMAS G. CLINTON, GEO. H. KNIGHT, and ED. H. KNIGHT, of Cincinnati, Hamilton county, Ohio, have invented new and useful Improvements in Cooking-Stoves; and we hereby declare the following to be a full, clear, and exact description of the nature, construction, and operation of our invention, reference being had to the annexed drawings, making part of this specification, Figure 1 in said drawings being a vertical section lengthwise of the stove as it is used in roasting, and Fig. 2 being a similar section of the stove as it is used in broiling or baking.

The great cheapness in many places, of coal as a fuel in comparison of wood, has long caused a coal cooking stove to be considered a desideratum. Yet none as far as known to us, has yet been successfully introduced. The chief difficulty appears to be, the comparative sluggishness of combustion in coal, disqualifying it for the creation of draft sufficient to consume the gaseous products retarded as they are by the prolonged arrangement of flues, deemed necessary to the efficient heating of the ovens on the present system, the evil being with bituminous coal still farther aggravated by the rapid deposition of soot consequent on such imperfect combustion. It therefore follows: (Seeing that any artificial source of draft is inadmissible in the case) that the remedy—if any—must be found in some more efficient application of the heat itself from the limited surface which can be made available. This more efficient application we have sought for, and careful experiments convince us that we have found in the employment of the direct radiation or in plain English the application of the old fashioned roasting process to the interior of a stove.

The detrimental effects upon the flavor, &c., incident to a close oven are avoided, by the thorough ventilation which exists in a stove of the plan here proposed, which besides all this has the implied sanction of some of the most erudite writers upon dietetics of the present time who assert that neither boiling nor baking develop either the amount of flavor or the nourishing virtues of the meat that are elaborated in the good old process of roasting. Another serious impediment to the employment of coal in stoves, arises out of the difficulty of procuring an incandescent surface suit-

able for broiling purposes. That presented in the ordinary fire chamber being insufficient, and a bed of cinders formed by raking out onto the hearth losing too much heat in the operation.

The objects therefore aimed at in our broiling arrangements have been to present facilities for the attainment of a sufficient broiling surface in which the embers while accessible on all sides to the air also retain as much as possible the heat which they possessed in the fire chamber.

Other parts of our invention consist in: facilities for regulating the amount of roasting action above alluded to, arrangements for turning of the joint without opening the oven, self acting provisions for basting or lubricating the joint, and in the peculiar hopperlike construction of the fire doors for the several objects hereinafter stated.

In order to effect the requisite facility of draft we simply conduct the smoke away from the fire chamber (*a*), by a straight flue (*b*) between the oven (*c*) and the stove top or boiling plate (*d*).

The fire place is formed by two grates (*e, f*), and (*g*). (*e, f*), being a grate consisting of bent bars part of them nearly vertical (*e*) forming the oven side of the fire place, and a part horizontal (*f*) forming the bottom thereof (*g*) is a swinging grate pivoted at its junction with the horizontal one, and capable of being either held up in the position shown by a latch (*h*) or of being dropped down (see Fig. 2) for broiling purposes, in which case part of the fire is spread out upon the grate *g*, and a bank of embers is presented which retains nearly all the heat it possessed in the fire place.

The grate *g* may be held to its lower or extended position by a tang *u* falling up against a stud *v* in the stove side or in the grate *f*.

(*i*) is a swinging door with hopper sides (*j*) and which can be held in the position indicated in Fig. 2 by a notch *t* in the edge of one of its sides, and thus form a canopy for the conduction of the effluvia when the grate is let down for broiling, or give place to a toasting surface when the grate is allowed to remain up.

(*k*) is a similar appendage in a reverse position (being a door with hopper side *s*) and constituting a funnel for the introduction of fuel to the center of the fire without incurring the danger of either the creation

of smoke or spilling the contents of the fire chamber. This door is held shut by the weight of its hopper sides and is prevented from dropping too far by a shoulder *p* and  
 5 a stud *g* on the stove side or other suitable device.

(*l*) is a turntable operated by arms (*m*) extending underneath the bottom and a little beyond the sides of the stove so that  
 10 the joint can be shifted in the oven without the necessity of opening the door. This table can be so fixed as to be let down flush with the oven floor when desired or can be removable, and replaced with a lid, or can  
 15 simply have a hole through the bottom just sufficient to pass a pin on which it turns. The table can be turned if desired by clock work.

(*r*) is a can for containing grease &c. for  
 20 basting.

(*n*) is a concave reflecting plate.

(*o*) is a swinging damper (which may be balanced by a tumbler (*p'*) without the stove,) whereby the radiating surface may  
 25 be closed or opened at pleasure. The handle of this damper may have a click dropping into a row of notches concentric with the axis of the damper so as to hold the latter in any given position. Or the damper may  
 30 consist of a range of bars corresponding to the openings of the grate (*e*) and slidable along its face. The back and bottom of the stove may be double plated inclosing an air space for the retention of heat. The grate  
 35 (*e*) can be made to drop down in the same manner as the grate (*g*). The oven doors may either drop down flush with the oven floor or slide along ways lengthwise of the stove. The basting can may be hung to the  
 40 under side of the damper or to the ceiling of the oven, and may be made to swing

upon a pivot as well as slide in and out of ways or grooves on the said damper or oven ceiling.

The damper *o* becomes useful in kindling 45 the fire and also when the direct radiation of the fire into the oven is not desired.

The relative position of the stud *g* with its shoulder *p* and the stud *v* with its tang  
 50 *u* and of the hopper sides of the doors with respect to the stove sides and each other will depend on circumstances and experience and are not intended to be definitely fixed in the present illustration.

What we claim herein as new and desire 55 to secure by Letters Patent is—

1. The arrangement after the manner and for the purposes herein described of a grated or other more or less open fire back whereby a roasting surface is presented to  
 60 the interior of a stove.

2. The provision substantially as described of dampers whereby the roasting surface may be regulated or entirely closed  
 65 up or opened at pleasure.

3. The falling grate *g* arranged and constructed substantially as described so as to enable the extension horizontally of the body of the fire for a broiling surface.

4. The fire door having hopper sides and 70 forming when extended a canopy for the conduction of effluvia.

5. The hopper or funnel shaped door as arranged and here applied for the insertion of fuel.

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Witnesses:

E. SINGER,  
 I. H. FISSE.