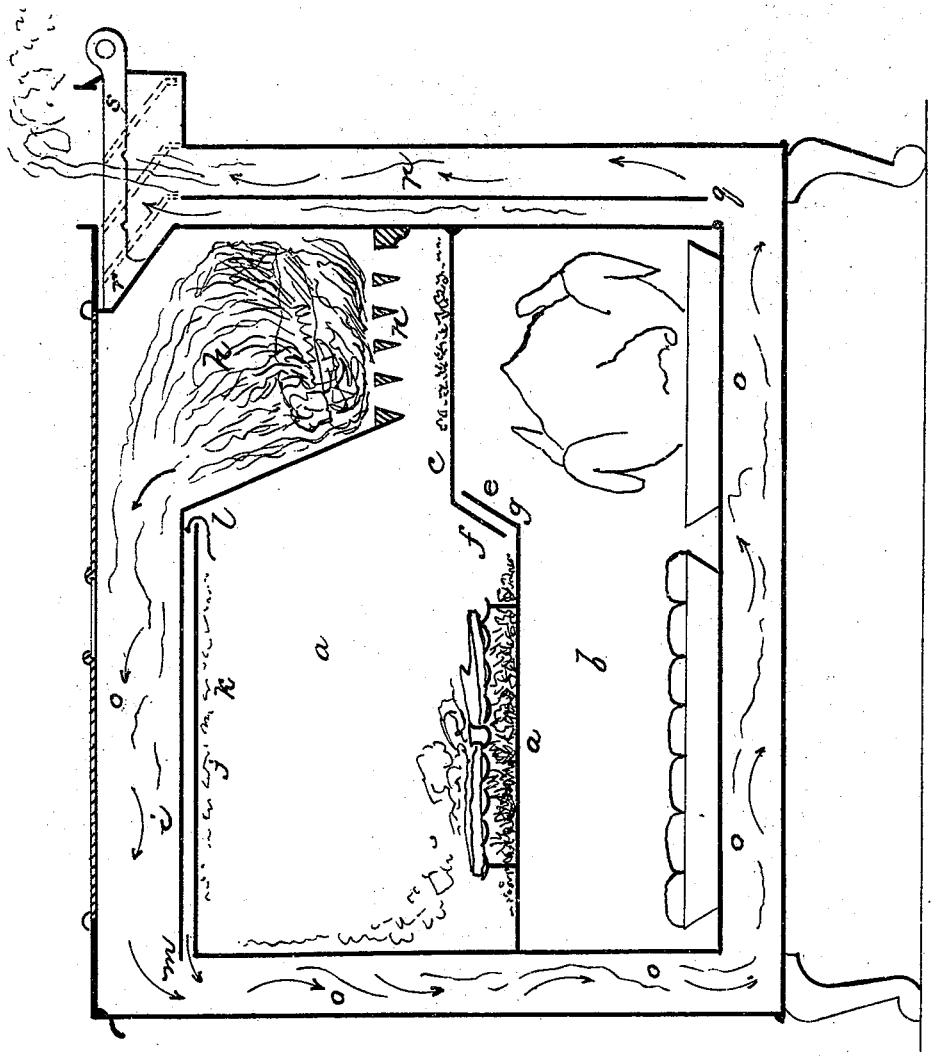
T. G. CLINTON & G. H. & E. H. KNIGHT.

Cooking Stove.

No. 6,798. Patented Oct. 16, 1849.



UNITED STATES PATENT OFFICE.

THOS. G. CLINTON, GEO. H. KNIGHT, AND EDWD. H. KNIGHT, OF CINCINNATI, OHIO.

COOKING-STOVE.

Specification of Letters Patent No. 6,798, dated October 16, 1849.

To all whom it may concern:

Be it known that we, THOMAS G. CLINTON, GEORGE H. KNIGHT, and EDWARD H. KNIGHT, of Cincinnati, Hamilton county, Ohio, have invented new and useful Improvements in Cooking-Stoves; and we do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the annexed drawing, representing a vertical and central section lengthwise of the stove.

The great objects to be attained in a cooking stove, are economy of fuel, extensive boiling facilities, ample oven room, simple arrangement of flues, means of passing off to the stack the effluvia of cooking victuals, and capacity for being regulated with regard to the application or withdrawal of the heat. In our stove we effect these objects by making the stove cubiform, so that no space is lost in apportioning its room to useful purposes. The flue is an open one at top, bottom and ends, the front flue having a vertical division plate which in connection with a damper enables a part of the head of the fire to be applied to the front plate of the lower oven. The fire place is at the upper and front end and has a door at each side of the stove. The bottom of the fire place is grated. The ash pit opens directly into the upper oven. The fire plate passes up from the level of the grated bottom, in the usual way and connects with the bottom plate of the top flue. The top of the upper oven lies a half inch, more or less, below this plate and stops short of the fire plate so that a passage for the fumes of the cooking victuals is provided for their escape at once into the flue as it dips over the corner of these plates. This passage also gives transit to a current of air and thus prevents the overheating of the top of the upper oven and tempers the heat radiated from the fire plate in front of the same oven. The plates dividing the ash pit and upper oven from the lower oven lie at different levels. The floor of the ash pit has a descending flange at its back end, and the floor of the upper oven has an ascending flange at its front end. When fitted to the stove these plates allow a passage between them where they over and underhang each other to the fumes of the victuals cooking in the lower oven. In addition to this the arrangement at the same time that it leaves ample ash pit enlarges the capacity of the front part of the lower oven, and at the back of the stove increases the limits of the upper oven as to height that the upper oven has extraordinary size secured for it. By this arrangement also the cinders can be raked back directly into the upper oven for broiling purposes, without subjecting the lower oven to any inconvenience therefrom. The upper oven is thus made a reverberating oven, the greater portion of the fumes of the cooking victuals and the currents of air being made to hug the ceiling of the same and roll forward till they reach the mouth of the air and escape passage immediately back of the fire bridge. This results in part from the air being admitted to the oven through the ash pit—part of the air being drawn into the reverberating current, and part passed directly up back of the fire plate to the air, effluvia, and steam passage before alluded to. The doors to the ovens, fire place and ash-pit will be on the sides of the stove. The top will be pierced in the usual way for boilers of the usual size and make.

It will be perceived the front flue is so arranged in connection with a vertical division plate and damper, that, in addition to the facility afforded for throwing part of the heat of the fire directly down the front plate of the lower oven, the foot of the damper can be made to rest on the top of the front plate (as it flanges off horizontally so as to make a recess for the reception of the damper) and thus shut off the draft entirely; or, the damper being retracted into this recess the heat can be thrown directly up the stack. To effect these purposes the damper extends entirely athwart the breadth, and rests on ledges on the sides of the stove. It is obvious however that the recess is not absolutely necessary to effect passing the draft directly up the stack. The damper being retracted till its foot is half way between the vertical dividing plate and the front plate of the stove attains the same end but not so effectually.

(*a*) is the reverberating broiling chamber; (*b*) is the lower oven; (*c*) the floor of the ash pit; (*d*) the floor of the broiling chamber; (*e*) the passage for effluvia, steam &c. between the descending flange (*f*) of the former and the ascending flange (*g*) of the latter; (*h*) the fire place; (*i*) the bottom plate of the top flue; (*j*) the top plate of the broiling chamber; (*k*) the passage for air, steam and effluvia left between the plates; (*l*) its mouth and (*m*) its exit into the de-

scending or back flue; (*n*) the grate bars; (*o o o o o*) the top, back and bottom flues; all of them being open flues; (*p*) the front or ascending flue; (*q*) the vertical dividing plate; (*r*) the damper (the dotted lines represent its portions for dividing, shutting off, or throwing the draft directly up the stack;) (*s*) the handle of the damper, notched to serve as a guide in operating the damper. Otherwise this stove is constructed and put together in the usual way. The doors of the ash pit are registered; hearths can be carried around the front part of the stove if desired or be limited to the breadth of the ash pit.

The scale of the drawing is 3 inches to the foot.

Having thus fully described the nature and operation of our invention what we claim therein as new and desire to secure by Letters Patent is—

1. Providing for the escape of the steam and effluvia from the cooking victuals in a reverberating broiling chamber, a channel arranged so as at the same time to isolate the upper oven from the top flue, and by means of the currents keep it cool as well there as where bounded by the fire plate.

2. So forming and arranging the plates dividing the lower from the upper oven and ash-pit with a descending flange to the upper plate and an ascending flange to the lower plate, that a passage to the flues for the fumes of the lower oven is provided without weakening the plates or permitting the ashes to fall through.

3. So arranging a vertical dividing plate in the front flues in connection with a damper that a part of the heat of the fire can be applied more directly to the front plate of the lower oven.

4. So constructing and arranging a damper in connection with the flues dividing plate and stack with or without the recess in the front plate as described, that the draft can be thrown either entirely around the stove or in part down the front of the same, or be entirely shut off, or have direct entry to the stack.

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Attest:
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