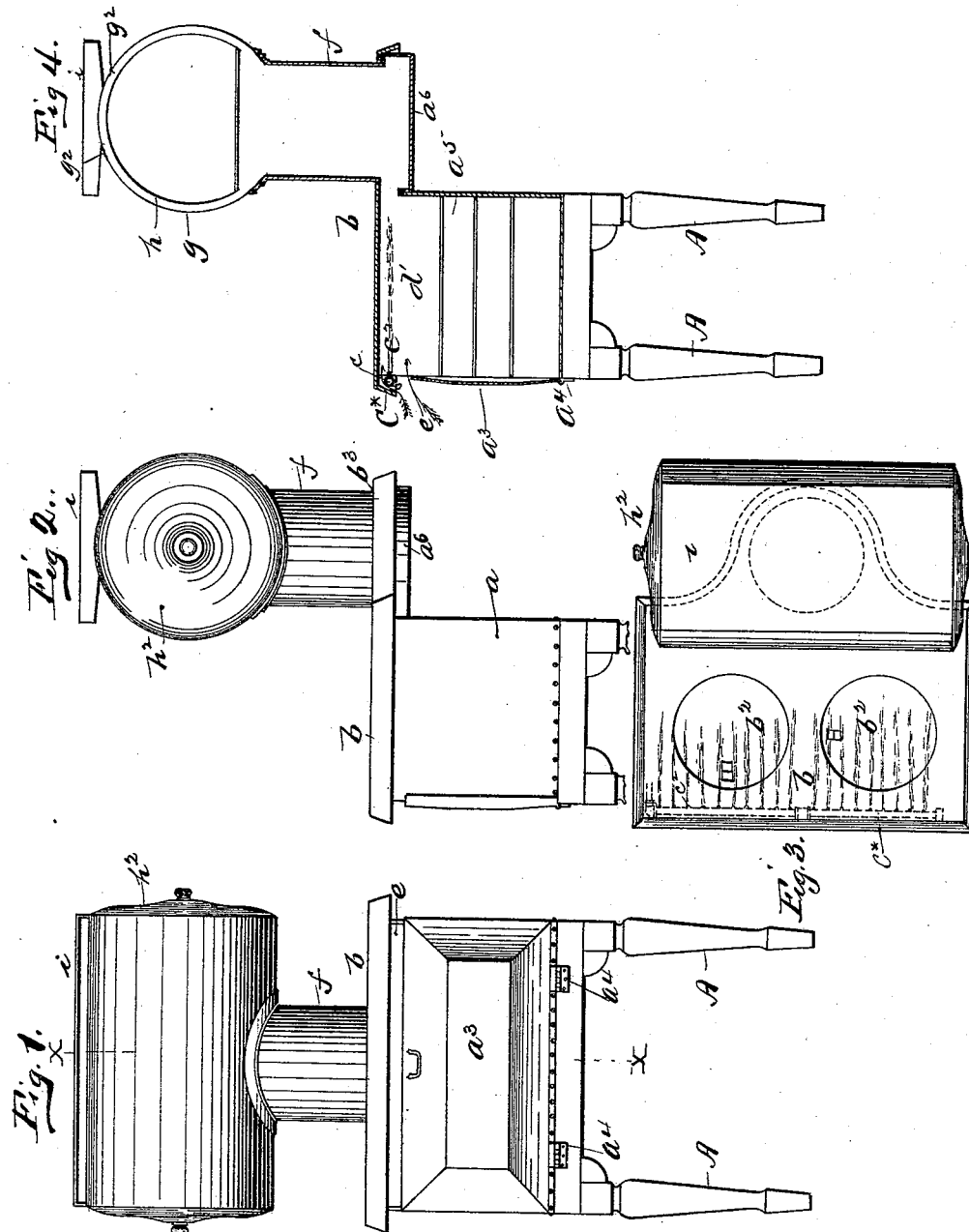


(No Model.)

C. F. SPAULDING.
GAS COOKING STOVE.

No. 457,406.

Patented Aug. 11, 1891.



Witnesses:-

L. C. Fox
J. F. Johnson

Inventor:

Chas. F. Spaulding

By J. N. Kalb,
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UNITED STATES PATENT OFFICE.

CHARLES F. SPAULDING, OF WALTHAM, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO HARRY I. ILLINGWORTH, OF SAME PLACE.

GAS COOKING-STOVE.

SPECIFICATION forming part of Letters Patent No. 457,406, dated August 11, 1891.

Application filed August 2, 1890. Serial No. 360,747. (No model.)

To all whom it may concern:

Be it known that I, CHARLES F. SPAULDING, a citizen of the United States, residing at Waltham, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Gas Cooking-Stoves; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to gas-consuming stoves, and has more especial reference to stoves employed for cooking in which ordinary illuminating-gas is used as fuel.

The primary object of the invention is to avoid the production of disagreeable and noxious odors and gases which arise from the combustion of a mixture of gas and air, and for the accomplishment of this purpose the gas is delivered to the burners in an unmixed condition, ignition and combustion taking place as in the ordinary illumination-jet, but in such position and under such conditions as will be productive of the maximum heating effect procurable from the amount of gas consumed.

In carrying my invention into practice I provide a stove having a large heating chamber or oven and provided with a top like the usual cooking-stove top, and just below the top and along one edge thereof is placed a gas-pipe having numerous fine orifices directed laterally across the upper part of the chamber substantially parallel with the top of the stove. Means are provided for supplying sufficient air exteriorly to the pipe to maintain the proper combustion of the flames, which both heat the stove-top and also act by direct radiation of heat upon any article contained in the heating-chamber beneath them, thus producing a true roasting effect thereupon, and one or more shelves may be provided for this purpose. The products of combustion and heated air accompanying the same are conveyed through a suitable flue and around an oven, in which articles may be baked by the more moderate application of

heat, as distinguished from the roasting effect produced in the main chamber or oven first referred to, where the articles are exposed to the direct radiation of heat from the flame.

The accompanying drawings illustrate what I consider the best means for carrying my invention into practice.

Figure 1 is a front elevation of a gas-stove embodying this invention; Fig. 2, an end elevation thereof; Fig. 3, a plan view thereof; and Fig. 4, a vertical section on line *x*, Fig. 1.

The stove comprises a main chamber *a*, which may be of sheet-iron, and is provided with a top *b*, which may be of cast-iron and substantially such as is used in ordinary cooking-stoves, being provided with stove-holes *b*², as shown in Fig. 3, to receive the usual cooking utensils. Along one edge and near the top of the chamber *a* there is a gas-pipe *c*, provided with numerous fine nozzles or orifices *c*² for the escape of gas, which, when ignited, produce a series of fine tongues of flame, as shown in dotted lines, Figs. 3 and 4, said tongues being parallel with one another and extending across the upper part of the chamber substantially parallel with the top thereof.

A depending lip *C*^{*} along the front of the stove-top, extending below the gas-pipe *c* on the front side, affords a well-defined slit or space for the admission of air in a sheet over the gas-pipe and above the flame circuitous, the track taken by the air around the pipe directing it upward, so that it will not deflect the flame from close juxtaposition with the stove-top, while its even and equal distribution over the whole length of the pipe is productive of a high degree of efficiency in combustion. The longitudinal opening above the door produces the same general effect below the flame.

The front of the oven or chamber *a* is made as a door *a*³, shown as hinged at its lower edge at *a*⁴, so as to afford access to the interior of the oven for the purpose of placing therein the articles to be cooked, and the end walls may be provided with ledges *A*⁵ to support removable shelves or gratings, which may be of convenience in supporting the dishes or articles to be cooked in the oven.

A suitable air-space is afforded adjacent to the gas-pipe *c*, as indicated at *e*, to permit sufficient air to come in contact with the flame so as to properly support combustion, and there is also space above the gas-pipe *c*², as shown in Fig. 4, so that the air may pass to the upper as well as to the under surface of the flame, as indicated by the arrows in Fig. 4. The air-space at *e* is provided by making the door *a*³ terminate a short distance below the stove-top *b*, and the gas-pipe *c* is placed a short distance below the top and at the rear of the depending lip at the front of the stove-top, as shown in Fig. 4, to permit air to pass over the top of the flame. The heated products of combustion and air may pass off through any suitable vent, preferably at the opposite side of the inlet for air, the stove-top being shown in this instance as provided with a rearward extension *b*³, and there being a corresponding rearward extension *a*⁶ from the stove-body, forming a flat space for the reception of the heated products from the stove-body.

The extension *b*³ of the stove-top is provided with an opening, as shown in Fig. 4 and in dotted lines in Fig. 3, for the escape of the heated products, which opening may be merely covered by a grating, if desired, or for the purpose of further utilizing the heat the said opening may be provided with an upwardly-extending passage or flue *f*, leading to a drum-shaped chamber *g*, having supported within it a similar chamber *h*, around which the heated products circulate, escaping finally at perforations near the top of the drum *g*, as indicated at *g*², Fig. 4.

The ends of the chamber or oven *h* are provided with movable doors or covers *h*³, Figs. 1 and 2, so that articles may be placed in the oven for baking.

The outer chamber or jacket *g* surrounding the oven is surmounted by platform or grating *i*, upon which anything requiring a gentle heat—as, for example, a water-reser-

voir—may be placed and will be heated to a moderate degree by the escaping of combustion.

The stove-body is represented as supported on a suitable stand *A*, which brings the stove-top and roasting chamber or oven at a convenient height.

This stove is of very simple construction and inexpensive, is very efficient in operation, and does not produce any objectionable gases when in operation.

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

1. The combination, with a roasting-chamber having a stove-top and a depending lip *C*^{*} along the front edge and provided with a door *a*³, hinged at the bottom and extending a part way up the front, and an oven located at the rear of and above the roasting-chamber and having its entrance located in direct line with the gas-pipe, of a gas-pipe extending along the front edge of the stove behind the lip, having air-spaces above and below it and provided with inward-opening nozzles or jets to throw the flame across the top of the chamber, as set forth.

2. A gas-stove consisting of a roasting-chamber, a gas-supply pipe and burners, a stove-top, a rearward-extending discharge-passage, and an upright flue or passage *f*, a horizontal drum *g*, secured upon the flue and provided with openings *g*² in the top and having a grating or platform on top thereof, and an oven *h* within said drum, having an opening between it and the drum for the passage of heat around it, and doors, as described, on said roasting-chamber and oven.

In testimony whereof I affix my signature in presence of two witnesses.

CHARLES F. SPAULDING.

Witnesses:

GEORGE W. JOHNSON,
ANDREW J. LATHROP.