(No Model.) 2 Sheets—Sheet 1.

R. S. STEPHENSON.

GAS RANGE.

No. 560,330. Patented May 19, 1896.

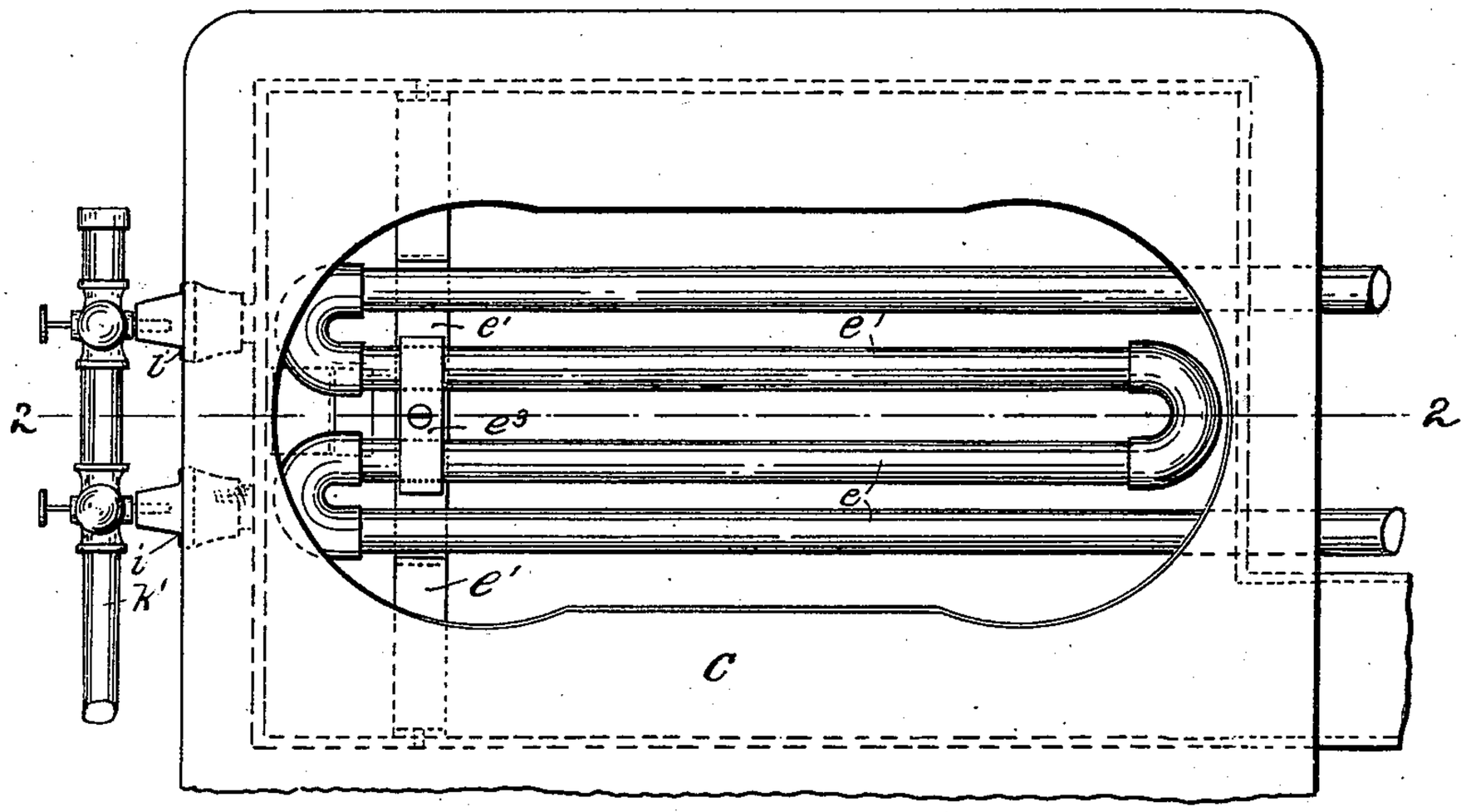

Fig. 2.

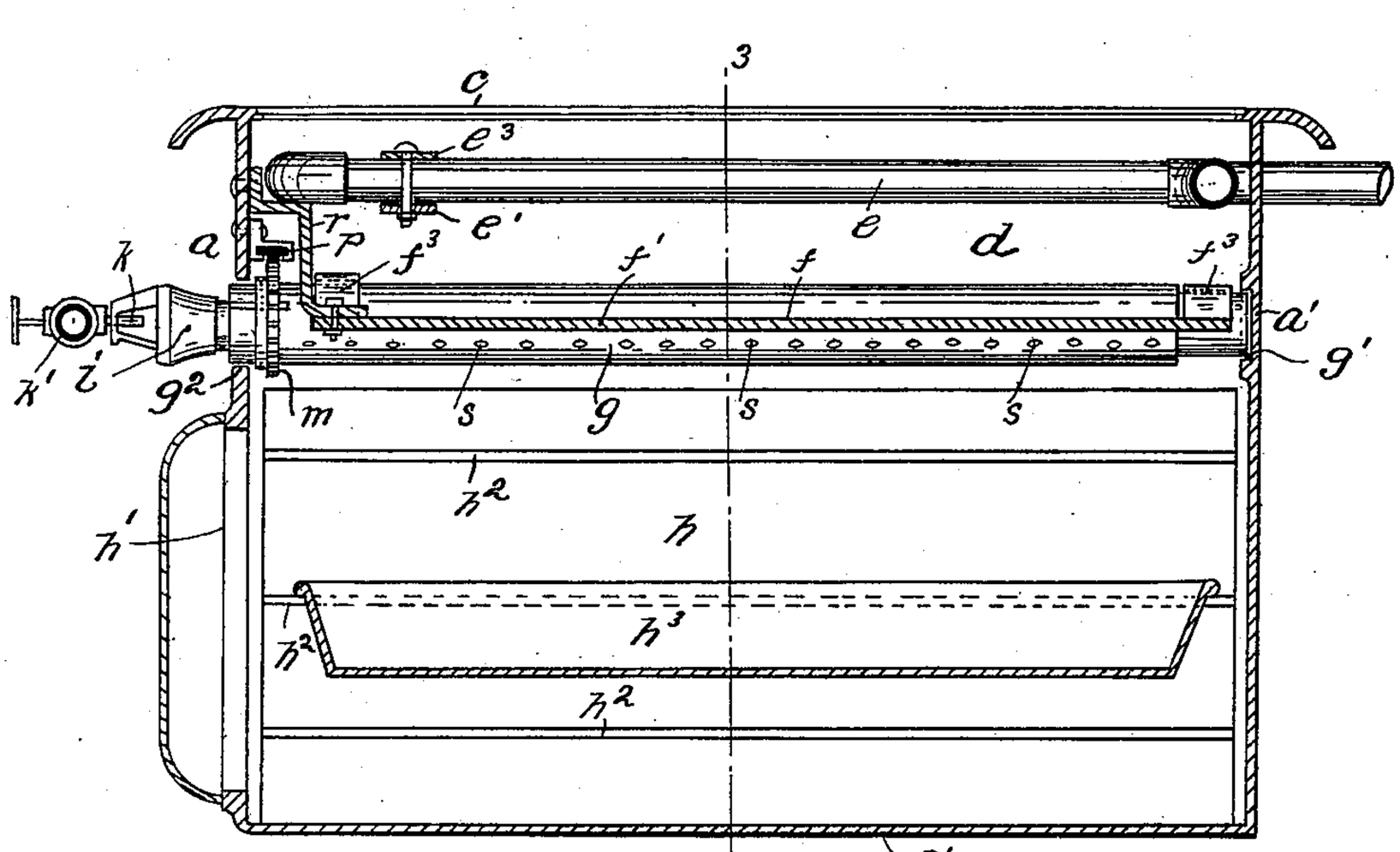

Fig. 1.

Witnesses.
Chas. J. Farrar.
Walter Famariss

Inventor.
Robert S. Stephenson
By Kay & Gotten
Attorneys.

(No Model.) 2 Sheets—Sheet 2.

R. S. STEPHENSON.

GAS RANGE.

No. 560,330. Patented May 19, 1896.

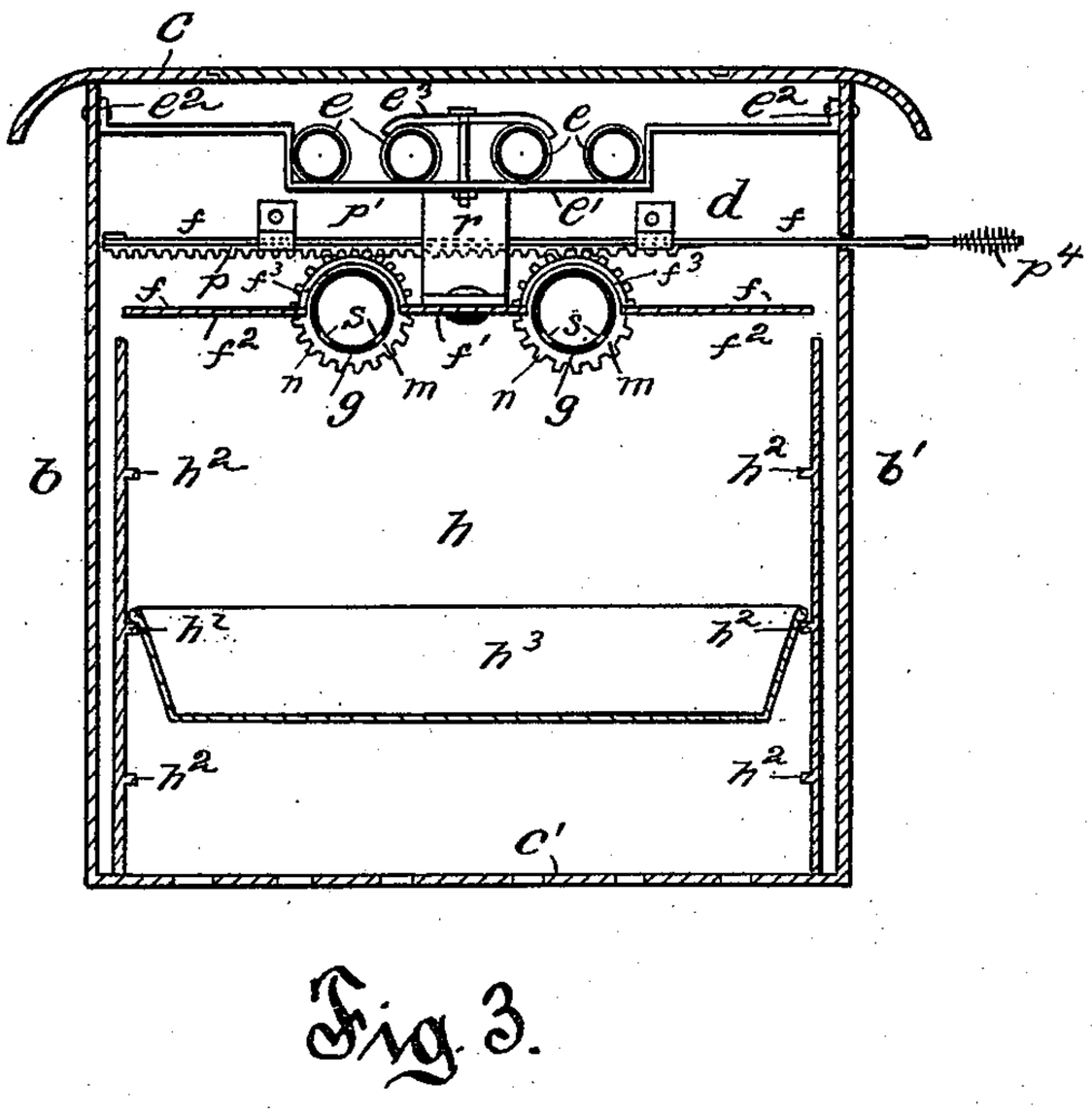

Fig. 3.

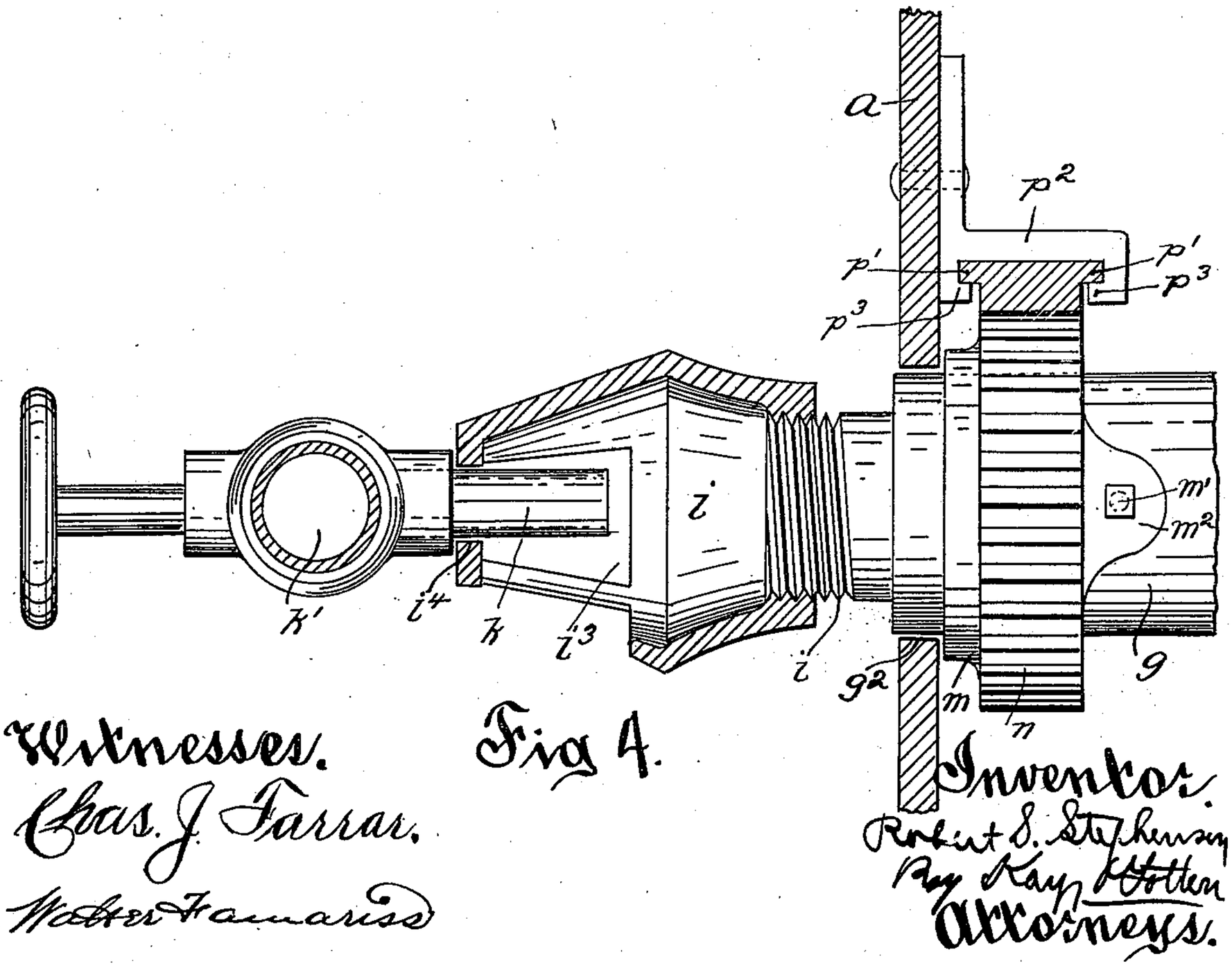

Fig 4.

Witnesses.
Chas. J. Farrar.
Walter Famariss

Inventor:
Robert S. Stephenson
By Kay & Totten
Attorneys.

UNITED STATES PATENT OFFICE.

ROBERT S. STEPHENSON, OF ALLEGHENY, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO BALDWIN & GRAHAM, OF PITTSBURG, PENNSYLVANIA.

GAS-RANGE.

SPECIFICATION forming part of Letters Patent No. 560,330, dated May 19, 1896.

Application filed October 30, 1895. Serial No. 567,425. (No model.)

To all whom it may concern:

Be it known that I, ROBERT S. STEPHENSON, a resident of Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Gas-Ranges; and I do hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to gas-stoves—that is, to the class of stoves heated by gaseous fuel—either a permanent gas or a gas or vapor generated from hydrocarbons in connection with the stove itself.

The object of the invention is to form a compact stove and reduce the number of burners and cost necessary for heating the different parts, such as for broiling, heating water, and the ordinary cooking operations.

My invention comprises certain details of construction, all of which will be fully hereinafter set forth and claimed.

To enable others skilled in the art to make and use my invention, I will describe the same more fully, referring to the accompanying drawings, in which—

Figure 1 is a longitudinal section on the line 2 2, Fig. 2, illustrating the invention. Fig. 2 is a top or plan view of the same. Fig. 3 is a cross-section on the line 3 3, Fig. 1; and Fig. 4 is an enlarged view of the connection between the burner and the stove-body.

Like letters indicate like parts in each.

The invention is illustrated in connection with the end portion of an ordinary gas stove or range, only that portion containing the particular parts being shown or the part shown forming in itself the entire stove, if desired. The stove has the body portion having the front and back walls a a', side walls b b', top wall c, and bottom wall c', the top being formed of the regular top plate for the stove, and being either open or closed for cooking operations as found desirable. Below the top plate is the chamber d, which contains the water-heating coil e, formed of a series of return-pipes extending in through the back wall a' toward the front wall a and having any desired number of bends, the coil being supported by passing through holes in the back wall and being held by a suitable bridge e', which, in the preferred construction, is attached to the side walls b b' at e^2 by suitable screws or bolts, the coil being held thereto by a suitable clamp-plate e^3 bolted to the bridge. Below the chamber d and separated therefrom by the deflecting-plates f and burners g is the broiling-chamber h, the chamber having the doors h' and having a series of supporting-ribs h^2, providing for the support of the broiler h^3 at any desired height. The burners g are mounted between the water-heating chamber and the broiler-chamber, and are what might be termed "revolving burners," being horizontal cylindrical burners so mounted that their jet-orifices can be turned into one or the other chamber, so that their heat may be applied directly to the water-heating coil or used directly for broiling in the lower chamber.

The burners are illustrated as mounted in the following way: In the back wall or back plate a' is the seat or depressed annular bearing g', while extending through the front wall is the bearing g^2, and the rear end of the burner is mounted in the seat g', while its front end extends out through the bearing g^2 and carries the mixing-chamber i, the end of the burner being threaded, as at i', and the mixing-chamber screwed thereon outside of the stove-body, so that when the burner is turned or rotated the mixing-chamber is turned with it. The mixing-chamber has the ordinary air-inlet openings i^3 and has the central opening i^4, through which the jet-pipe k leading from the gas-supply pipe k' passes, the gas-supply pipe with its jet-pipe being supported by any suitable brackets from the stove-body and the mixing-chamber turning around the jet-pipe as the burner is turned to bring its jet-openings in one or the other chamber. To rotate the burner, as well as to secure it in place, I employ the collar m, which engages with the end of the cylindrical burner by means of a key fitting in a keyway, and is held from longitudinal movement by means of a bolt m' passing through a lip m^2 on the collar, the collar being slipped onto the burner, the forward end of the burner passed through the bearing g^2 and the rear end then slipped into the seat g', and the col-

lar then slipped along, so as to bear against the inner face of the front plate *a*, and being held in place by the bolt *m'*, so preventing the burner from slipping out of the rear seat *g'*. The mixer *i* can then be secured upon the burner and the gas-supply pipe adjusted in place. The collar *m* has the cogged face *n*, with which the rack-bar *p* engages, the rack-bar having on each side of its racked or cogged face guide-faces *p'* and brackets p^2 with inwardly-projecting lips p^3, being secured to the stove-body and supporting the rack-bar *p* in proper position over the burners, so that it will engage therewith, and as the bar is moved longitudinally will in turn impart to the burners a partial revolution, which will bring the jet-orifices into the upper or the lower chamber as desired, the rack-bar extending out through the end wall *b* and having the handle p^4.

In order to hold the heat within the lower or broiling chamber, and to provide for the spreading or deflecting of the flame from the gas-jets in such way as to insure the proper deflecting of the heat from the flame down upon the meat or other substance supported on the broiler, I employ the deflecting-plate *f*, which, as shown, fits between the burners *g* and on the outer sides thereof for practically the full width of the broiler-chamber. When the jets are turned down so that the flame is within the broiler-chamber, the flame strikes upon this plate and spreads out over the same so as to give a flame-surface for almost the full width of the broiler-chamber, so utilizing the full heat for broiling, and, as shown by practical use, largely increasing the heating action of the gases for broiling purposes. The deflecting-plate may be made in sections and supported in any suitable way, but it is preferable to cast it to shape and to connect the inner section *f* and outer sections f^2 by means of curved straps f^3 extending over the cylindrical bodies of the burners, as shown in Figs. 1 and 3. To support the plate, I employ brackets *r* at each end, which are secured to the inner section *f'*.

When my improved stove is in use, the normal position of the burners is with their jet-orifices *s* in the upper chamber *d*, so that the flame strikes directly upon the water-heating coil *e* and provides for the heating of the water, the heat from the flame or the flame itself, when it is turned sufficiently high, passing through the coil and rising to the top plate *c* or through the cooking-openings therein, so providing for both the heating of the water and for the ordinary cooking operations on the top of the stove by means of the same burner. When it is desired to broil or perform like cooking operations in the chamber *h*, it is only necessary to push or pull upon the rack-bar *p*, which, by its engagement with the cogged faces of the collars secured to to cylindrical burners, causes the partial revolution or turning of the burners, so as to bring the jet-orifices *s* within the lower or broiling chamber *h*. The flame from the burners is then spread out along the under face of the deflecting-plate *f*, and on acccount of the breadth of the flame provides for a much more even heating of the broiler-chamber and deflection of the heat down upon the meat or other substances within said chamber, while the deflecting-plate by holding the flame within the chamber causes a large increase of heat therein in proportion to the amount of gas burned, none of the heat being lost except that which passes by conduction through the deflecting-plate, and such heat as it rises within the water-heating chamber *d* acting to heat the water in the coil located therein. As so arranged, I am therefore enabled to utilize the single burner or set of burners for performing the three operations of broiling, water-heating, and the ordinary cooking on the top plate, and I therefore do away with the necessity of separate burners for one or the other purpose and reduce the size of the stove while improving it in adaptability to the various uses required.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A gas-stove having a revolving cylindrical gas-burner mounted in bearings therein, said burner having openings within one-half of its circumference, a deflecting-plate on each side of said burner in line with the diameter thereof, substantially as set forth.

2. A gas-stove having two cylindrical horizontal revolving burners mounted therein, said burners having openings formed therein within one-half of their circumferences, and a deflecting-plate formed in sections fitting between and on the outer sides of the burners in line with the diameter thereof, curved straps connecting the sections, and brackets secured to the plate and to the stove-body, substantially as set forth.

In testimony whereof I, the said ROBERT S. STEPHENSON, have hereunto set my hand.

ROBERT S. STEPHENSON.

Witnesses:
JOHN S. GRAHAM,
JAMES I. KAY.