

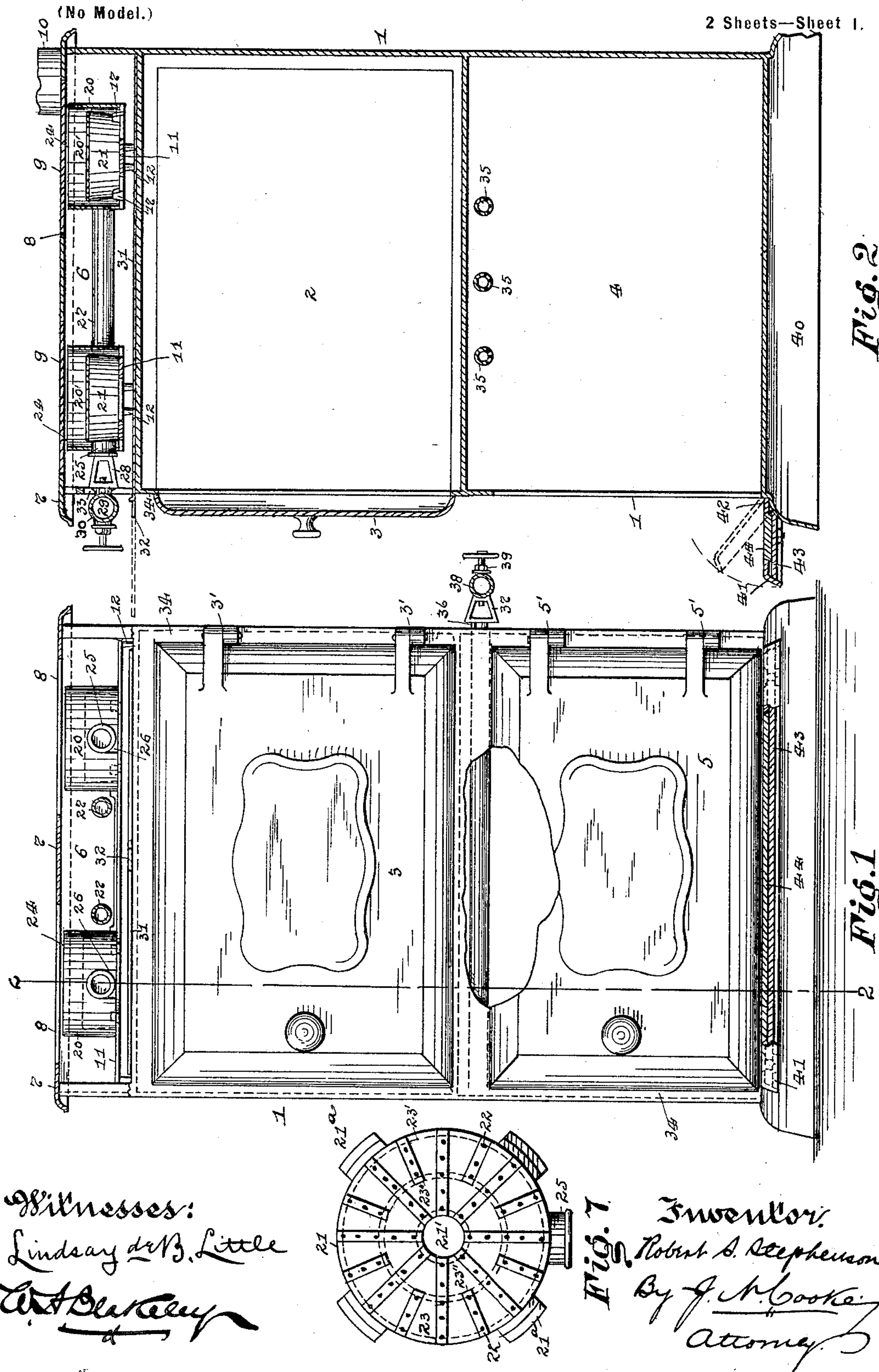
No. 630,126.

Patented Aug. 1, 1899.

R. S. STEPHENSON.
STOVE OR RANGE.

(Application filed Nov. 11, 1898.)

2 Sheets—Sheet 1.



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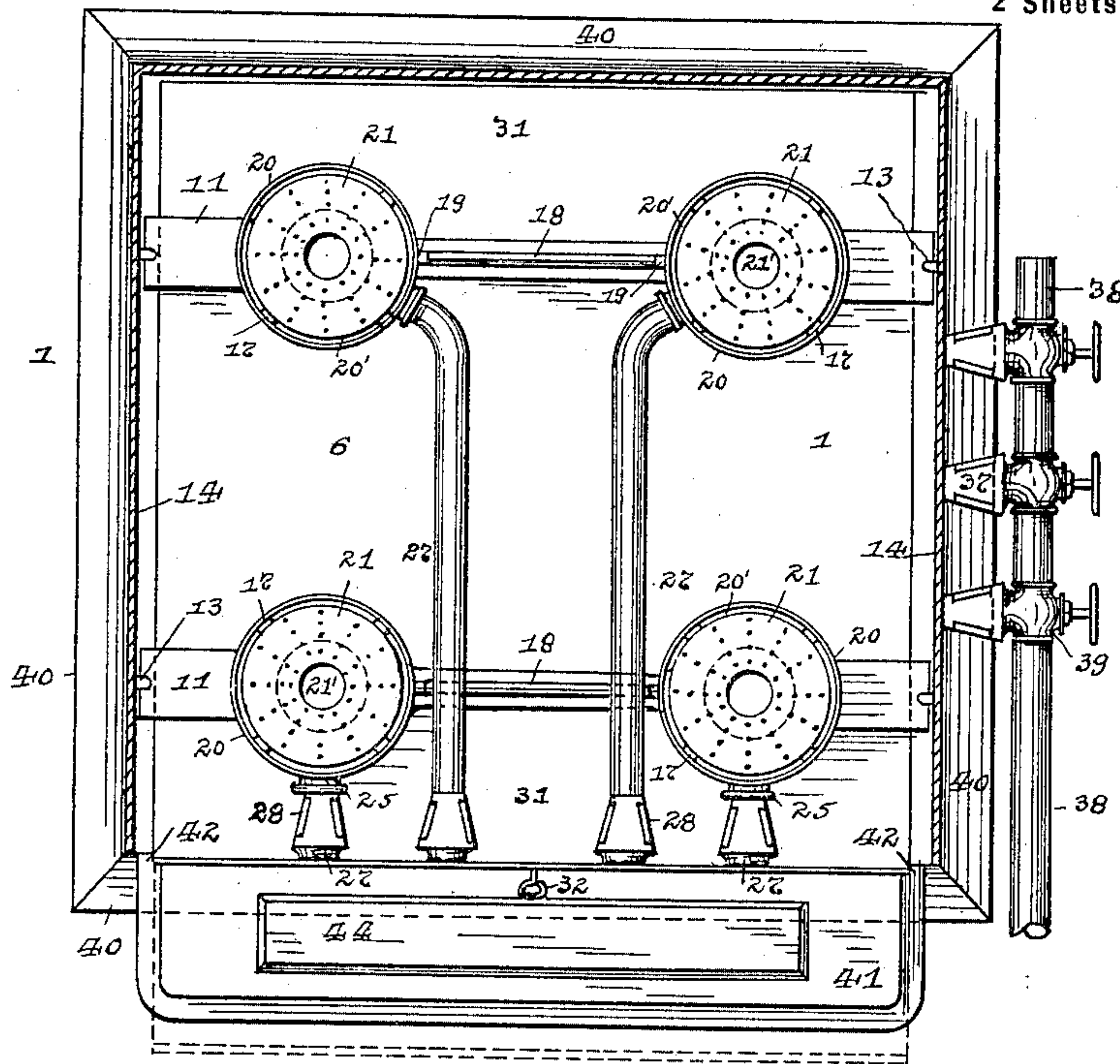


Fig. 3

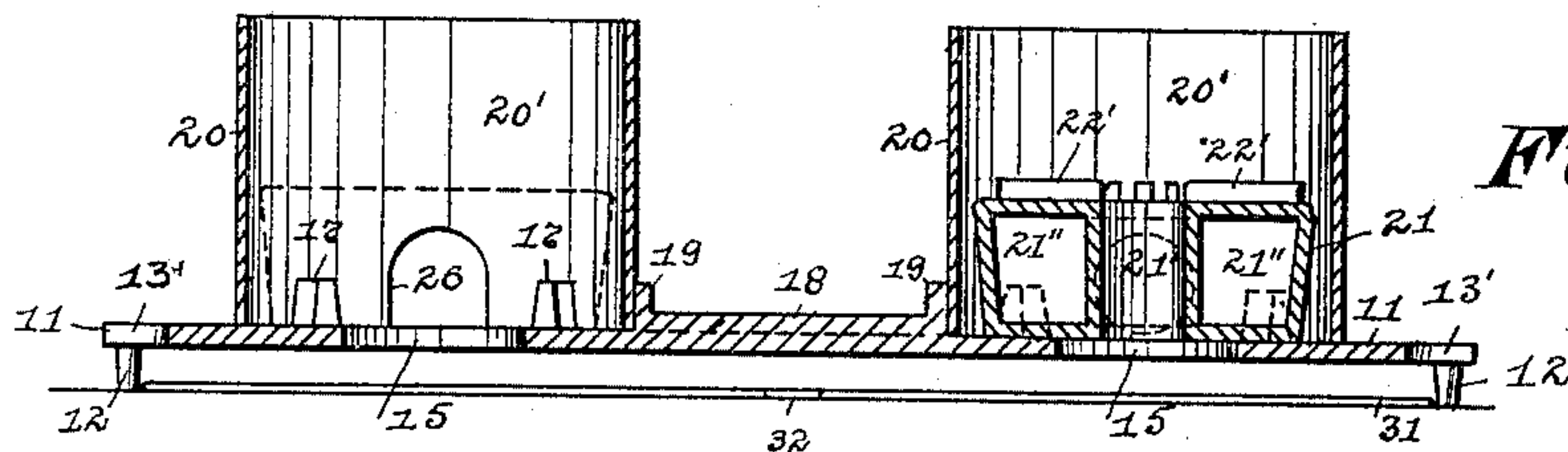


Fig. 5

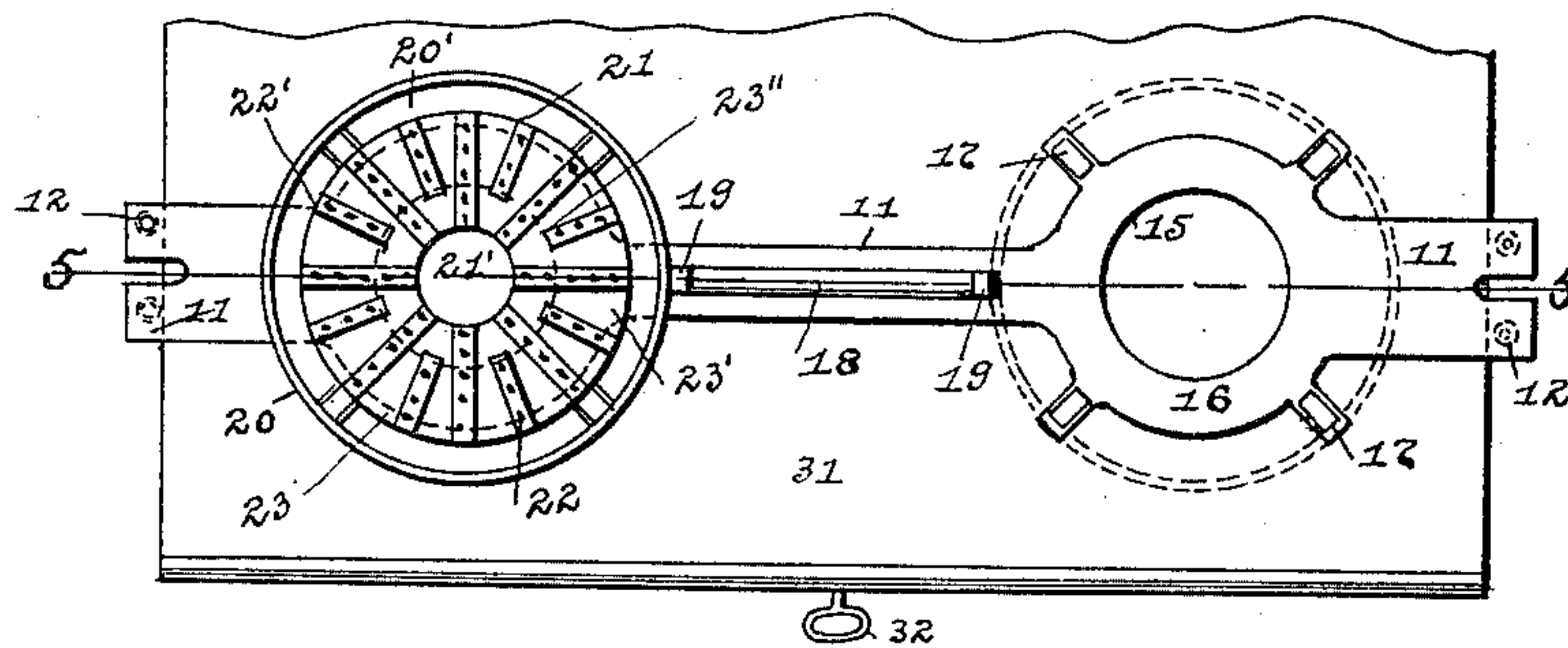


Fig. 4

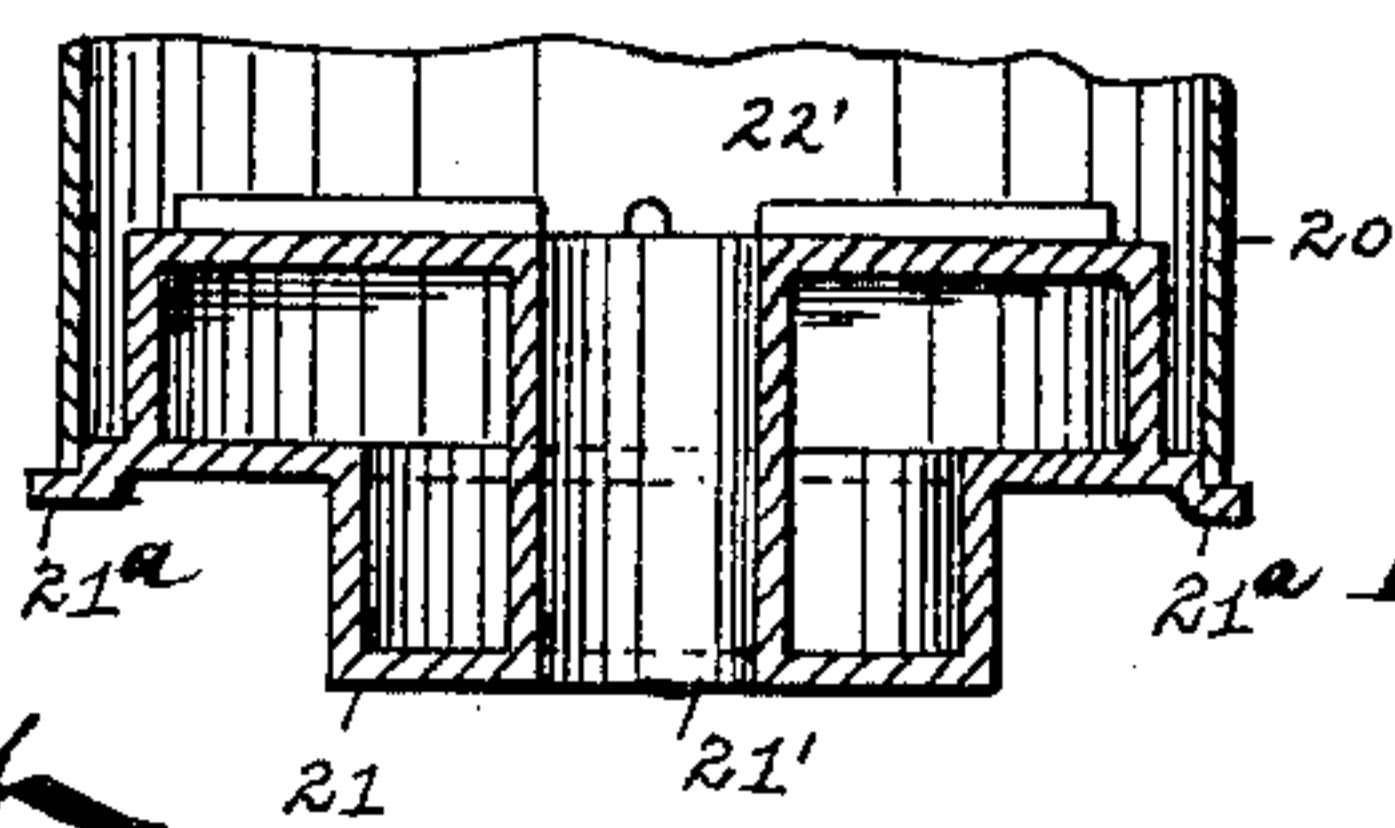


Fig. 6

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UNITED STATES PATENT OFFICE.

ROBERT S. STEPHENSON, OF ALLEGHENY, PENNSYLVANIA, ASSIGNOR OF ONE-HALF TO JOHN S. GRAHAM, OF SAME PLACE, AND SAMUEL R. BALDWIN, OF NEW CASTLE, PENNSYLVANIA.

STOVE OR RANGE.

SPECIFICATION forming part of Letters Patent No. 630,126, dated August 1, 1899.

Application filed November 11, 1898. Serial No. 696,178. (No model.)

To all whom it may concern:

Be it known that I, ROBERT S. STEPHENSON, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented a certain new and useful Improvement in Stoves or Ranges, of which the following is a specification.

My invention relates to stoves and ranges; and its object is to provide a stove or range having a construction of gas-burners therein which will increase the efficiency and economy of the stove and which are so situated and arranged as to permit the easy operation of other parts of the stove.

A further object of my invention is to provide means for enabling a person to see the condition of the burners within the oven of the stove without compelling him to stoop or to place himself in uncomfortable and inconvenient positions.

My invention consists, generally stated, in the novel arrangement, combination, and construction of parts, as hereinafter more particularly set forth and described, and particularly pointed out in the claims.

To enable others skilled in the art to which the invention appertains to construct and use the same, I shall describe it more fully, referring to the accompanying drawings, in which—

Figure 1 is a side view of a range having my invention applied thereto and showing some parts thereof in section. Fig. 2 is a vertical section on the line 2 2 of Fig. 1. Fig. 3 is a top view showing the top plate removed. Fig. 4 is an enlarged plan view of a portion of the range, showing the burners. Fig. 5 is an enlarged detail sectional view of the same on the line 5 5 of Fig. 4; and Figs. 6 and 7 are views of the burners, showing one manner of supporting the casing.

Like symbols of reference indicate like parts in each figure.

My improved stove or range 1 is provided with an upper oven 2, having a door 3 hinged at 3', and a lower oven 4, having a door 5 hinged at 5'. Formed above the upper oven 2 is the heating-chamber 6, which is closed by a top plate 7, fitting over the stove 1 and

provided with holes 8 for lids 9, the plate 7 being also provided with a pipe 10 for carrying away the products of combustion from the chamber 6. Within the chamber 6 are the bridge-plates 11, which are provided with lugs or legs 12 for supporting them on the top of the oven 2. The bridge-plates 11 are held in place within the chamber 6 by means of lugs 13, formed on the sides 14 of the stove and adapted to fit within seats 13' in the ends of the plates. The plates 11 are provided with enlargements 16, having air-openings 15 and having also a series of upwardly-projecting lugs 17 extending around said openings. A rib 18 extends along each plate 11 and has at each end an upwardly-extending lug 19, against which rest the burner-casings 20, which are supported on the plates 11 around the enlargements 16 against the outer portions of the lugs 17, so as to form spaces for the passage of air. Fitting within the casings 20 over the air-openings 15 and against the inner portions of the lugs 17 are the burners 21, each of which is provided with an air-opening 21' therein and a series of perforations 22 formed in raised portions 22' of the top surface 23 for the passage of gas from the gas-chamber 21' into the combustion-chamber 20' of the casing. Between the raised portions 22' are the air-spaces 23', and every alternate one of the portions 22' is shortened near the air-opening 21', as at 23'', so as to admit air freely from the air-opening 21' to the jets issuing from the perforations 22. The casings 20 extend up to within a short distance of the lids 9, leaving a space 24 for the passage of the products of combustion into the heating-chamber 6. The burners 21 are provided with the pipe connections 25, connecting with the gas-chambers thereof and extending out through the sides of the casings through slots 26 and being connected with pipes 27, provided with air and gas mixers 28, the pipes 27 connecting with the main supply-pipe 29, provided with valves 30 for regulating the supply of gas. Fitting under the bridge-plates 11, burner-casings 20, and burners 21 is the dust-pan 31, which preferably rests and is adapted to slide upon the top of the upper oven 2 within the

heating-chamber 6 and is provided with the handle 32 for withdrawing it from the chamber 6 through the air-opening 33 in the front wall 34 of the stove, there being a space for the passage of air to the burners between the dust-pan 31 and the bridge-plates 11.

In the upper part of the lower oven 4 are provided perforated burner-pipes 35, which are supported in the sides 14 of the stove, one end being connected to pipes 36, having air and gas mixers 37, and connected to a main supply-pipe 38, with valves 39 for regulating the supply of gas. The stove or range is supported upon a base plate or plates 40, which has a swinging plate 41 pivoted at 42 below the door 5 of the oven 4, said plate 41 being provided with plate 43, carrying mirror 44, secured thereto in any suitable manner.

The operation of my improved stove or range when all the parts are assembled in place is as follows: The gas from the main supply-pipe 29 will pass through the pipes 27 into the gas-chambers 21' of the burners 21 and out through the perforations 22 into the combustion-chambers 20' and up against the lids 9 in the top plate or against the articles in the openings 8, whence they are led by the draft through the space 24 to the escape-flue 10. The air to aid combustion is taken into the heating-chamber 6 through the opening 33 in the front wall 34 and is drawn through the air-openings 21' in the burners 21 and around the outside of the burners through the spaces between the burners and the casings into the chambers 20', where it mingles with the gases from the burners 21.

When from any cause it is found necessary, the dust-pan 31 may be withdrawn from the chamber 6 by simply grasping the handle 32 and pulling on the same, the pan sliding freely without hindrance or coming in contact with any of the other parts in the chamber 6.

When it is desired to examine the condition of the flames issuing from the burner-pipes 35, the operator opens the door 5 and with some article or with his foot raises the swinging plate 41 to the required angle, when the burner-pipes 35 will be reflected within the mirror 44 so as to be clearly seen by the operator, who is thus enabled to regulate the supply of gas thereto without the necessity of assuming a stooping or uncomfortable position. If desired, the burners 21 may, as shown in Figs. 6 and 7, be provided with flanges 21^a, formed on the sides thereof, for supporting the burner-casings 20, instead of said casings resting directly upon the bridge-plates.

It is evident that any one or all of the burners 21 or 35 can be used when desired by means of the valves 30 and 39. My improved range or stove will thus be seen to be cheap and simple in its construction and operation, and its construction and arrangement will permit the gas-burners in the heating-chamber to highly heat the heating-chamber and enable any article placed upon the top of the

stove or within the upper oven to be heated to the condition desired. Practical experience has proved that the stove is strong and durable in its parts and effective and economical in its operation.

Various modifications in the construction and arrangement of the various parts may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

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

1. A gas stove or range having a burner-chamber, a bridge-plate for supporting the burners having recesses in its ends, said bridge-plate being supported in the burner-chamber by means of legs thereon resting on the bottom of said chamber, and lugs on the sides of said burner-chamber for engaging with said recesses in the bridge-plate to prevent horizontal movement of the latter.

2. In a gas stove or range, the combination of a stove-top, a heating-chamber below the stove-top having an air opening or openings communicating therewith, a bridge-plate supported within the heating-chamber, gas-chambers having burner-outlets therein supported on said bridge-plate and connected with a gas-supply pipe, an air-opening through each of the gas-chambers communicating with an air-opening in the bridge-plate, and casings supported around the gas-chambers adapted to form mixing-chambers and having air-ports communicating therewith.

3. In a gas stove or range, the combination of a stove-top, a heating-chamber below the stove-top having an air-opening communicating therewith, a bridge-plate supported within the heating-chamber, gas-chambers having burner-outlets therein supported on said bridge-plate and connected to a gas-supply pipe, an opening through each of the gas-chambers communicating with an air-opening in the bridge-plate, and casings supported on lugs or flanges around the gas-chambers adapted to form mixing-chambers and having air-ports communicating therewith.

4. In a gas stove or range, the combination of a stove-top, a heating-chamber below the stove-top having an air-opening communicating therewith, a bridge-plate supported within the heating-chamber, enlargements on said bridge-plate each having an air-opening therein, gas-chambers each having burner-outlets therein supported on said bridge-plate and connected with a gas-supply pipe, an air-opening through each of the gas-chambers communicating with the air-opening in each of the enlargements on the bridge-plate, and casings supported around the gas-chambers adapted to form mixing-chambers and having air-ports communicating therewith.

5. In a gas stove or range, the combination of a stove-top, a heating-chamber below the stove-top having an air-opening communicating therewith, a bridge-plate supported within the heating-chamber, enlargements on said

bridge-plate having an air-opening in each, lugs or flanges on said enlargements, gas-chambers having burner-outlets therein fitting between and against said lugs or flanges
 5 on the bridge-plate and connected to a gas-supply pipe, an air-opening through each of the gas-chambers communicating with the air-opening in each of the enlargements on the bridge-plate, and casings supported around
 10 the gas-chambers adapted to form mixing-chambers and having air-ports communicating therewith.

6. A base-plate for a gas-stove adapted to support a closed oven having a door, and a
 15 plate having a reflecting-surface pivotally connected to the base-plate and extending horizontally along the same below the lower edge of said oven-door when the oven is in position on the base-plate.

20 7. A gas-burner having a gas-chamber therein connected to a gas-supply, an air-opening within the gas-burner, a series of ribs or raised portions having perforations therein for the escape of the gas on the top surface of the
 25 burner, extending from the outer surface of the burner to the air-opening, and a series of like ribs or raised portions between said first-named ribs or raised portions extending from

the outer surface of the burner to a point near said air-opening to form air-spaces adjacent
 30 to said air-opening.

8. A gas-burner having a gas-chamber therein connected to a gas-supply pipe and provided with burner-outlets therein, a central air-opening in the burner, and a burner-casing
 35 separate from the burner supported around said gas-burner and extending from the base of the burner to above its top, said casing having an open top and bottom and imperforate sides, there being bottom air-ports be-
 40 tween the burner and the casing.

9. A gas-burner having a chamber therein connected to a gas-supply and provided with burner-outlets therein, a central air-opening in said burner, lugs or flanges on the burner,
 45 and a burner-casing supported on said lugs or flanges, air-ports being formed between the casing and the burner.

In testimony whereof I have hereunto set my hand at Pittsburg, in the county of Alle-
 50 gheny and State of Pennsylvania, on this 2d day of November, A. D. 1898.

ROBERT S. STEPHENSON.

Witnesses:

JNO. C. BASH,
 J. N. COOKE.