

No. 654,944.

M. B. CARMODY.
GAS BURNER.

Patented July 31, 1900.

(Application filed Apr. 2, 1900.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

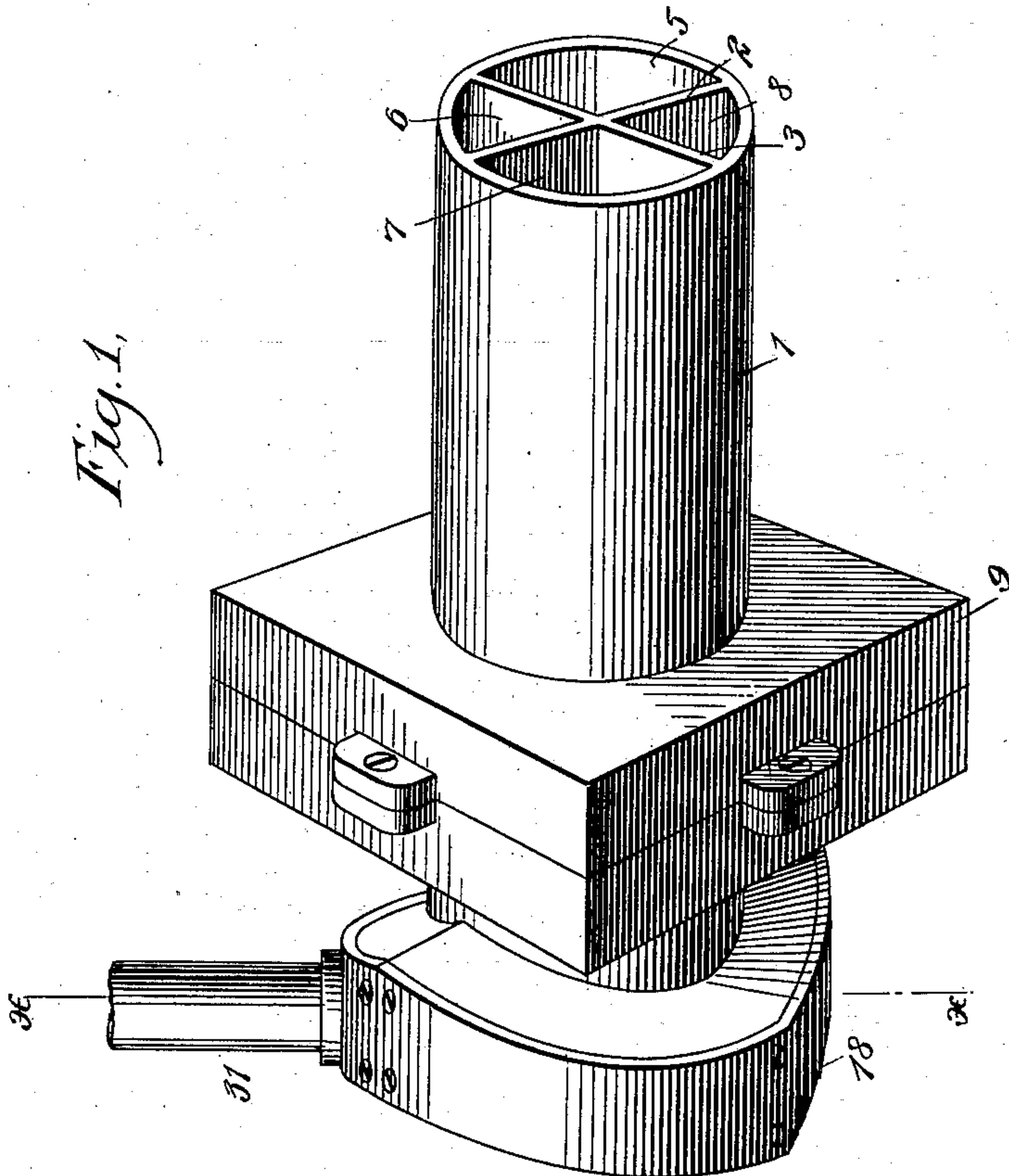
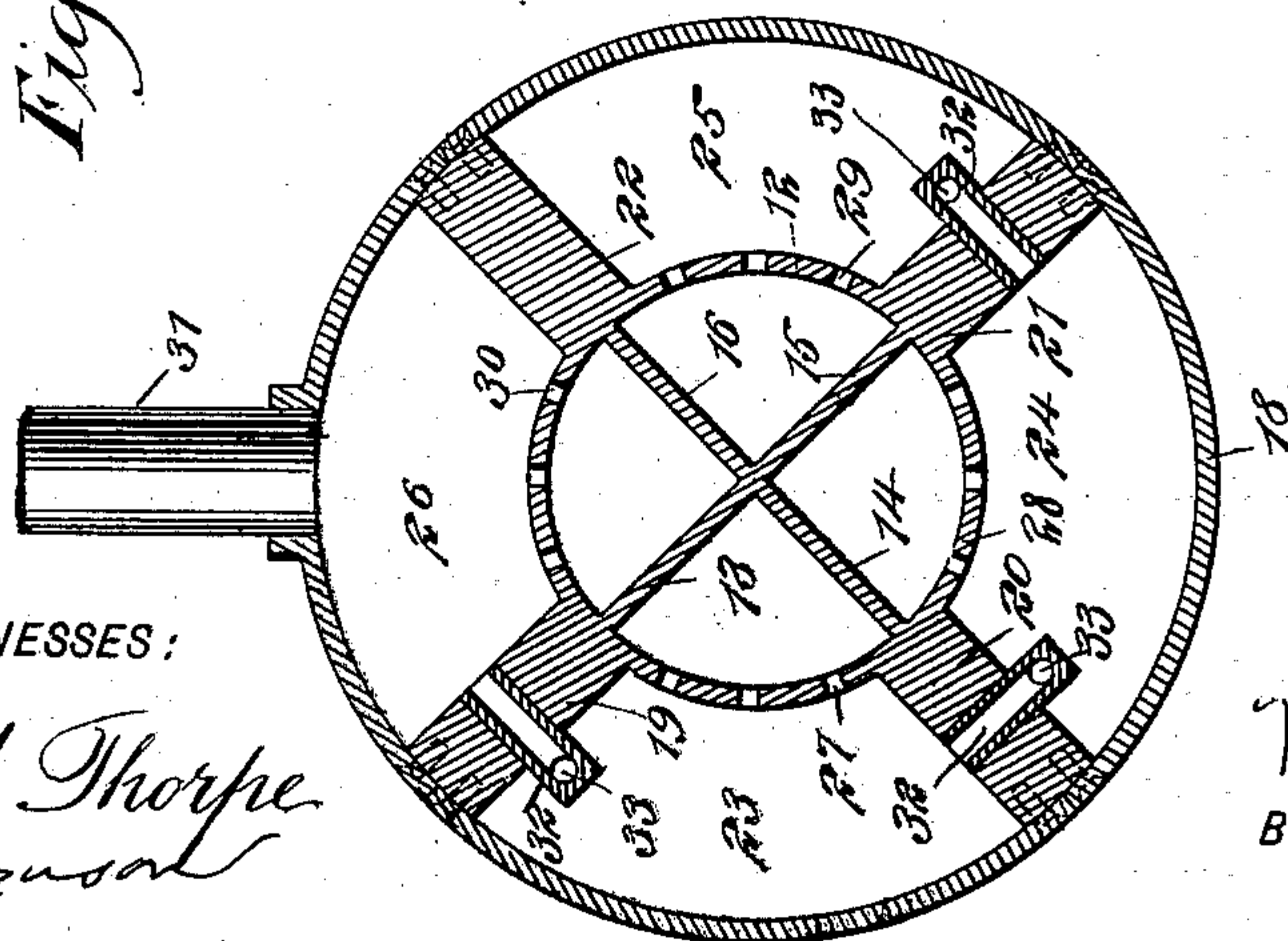


Fig. 2.



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Fig. 3.

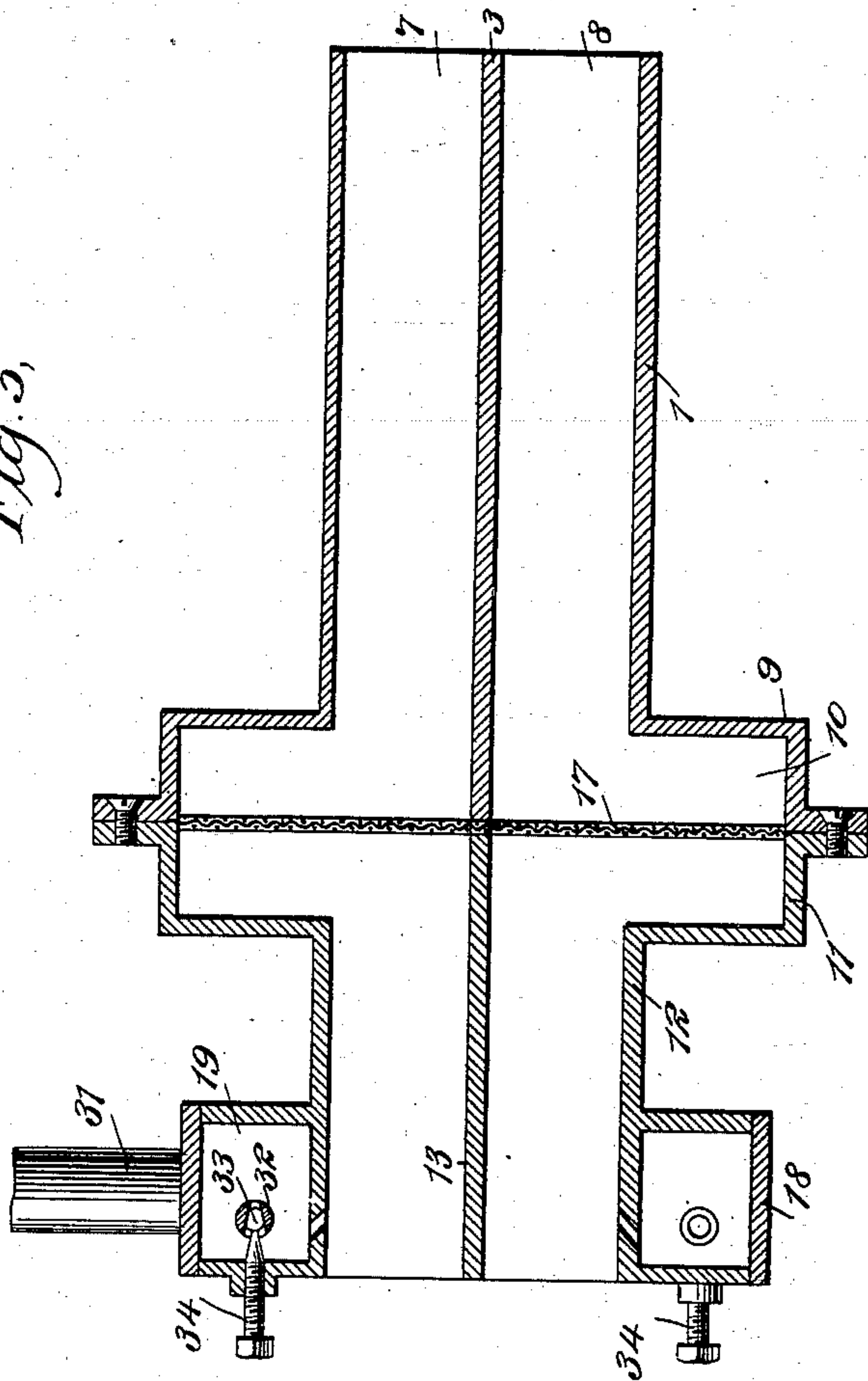
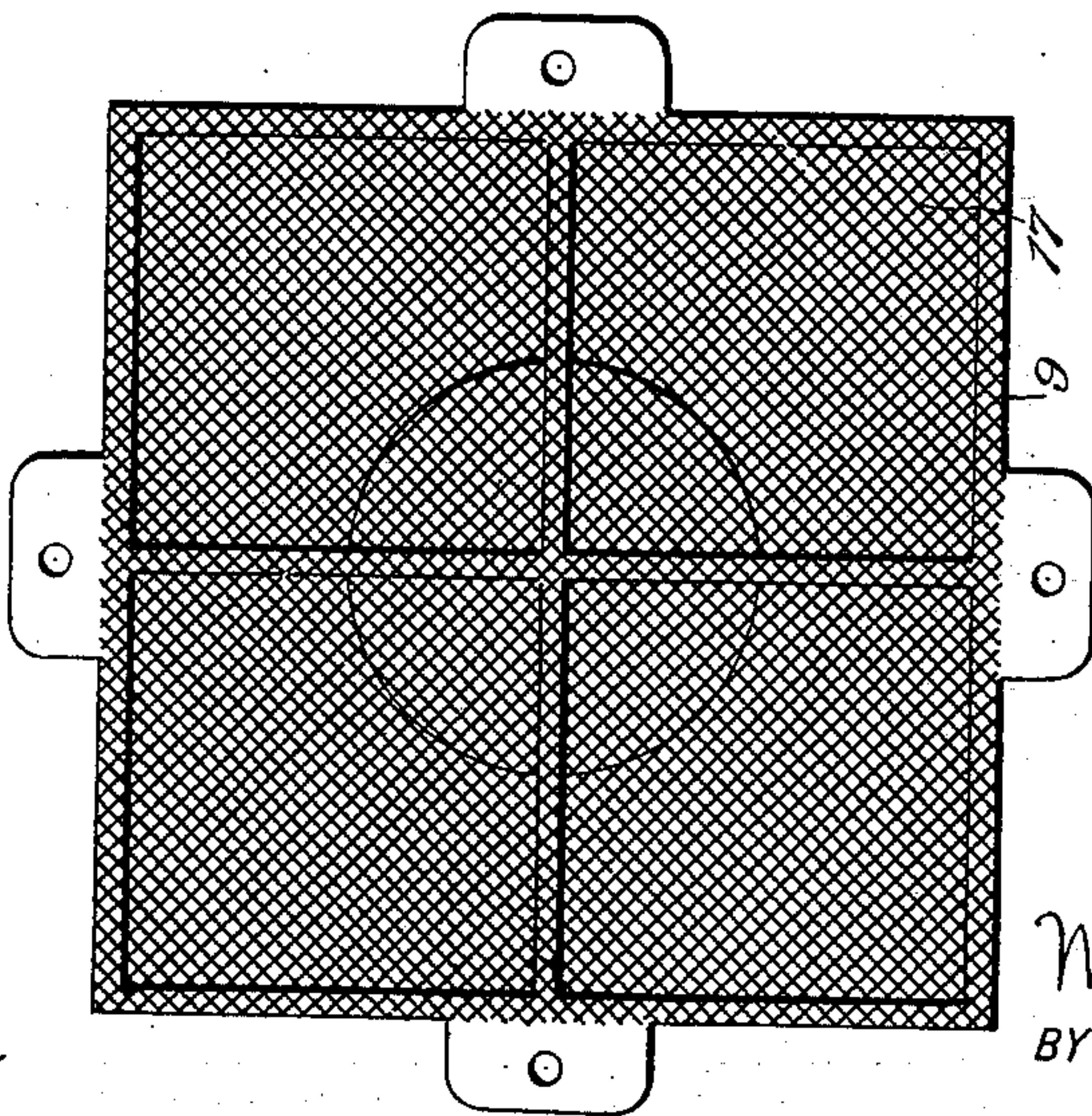


Fig. 4.



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UNITED STATES PATENT OFFICE.

MICHAEL B. CARMODY, OF ZANESVILLE, OHIO.

GAS-BURNER.

SPECIFICATION forming part of Letters Patent No. 654,944, dated July 31, 1900.

Application filed April 2, 1900. Serial No. 11,177. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL B. CARMODY, a citizen of the United States, and a resident of Zanesville, in the county of Muskingum and State of Ohio, have invented a new and Improved Gas-Burner, of which the following is a full, clear, and exact description.

This invention relates to improvements in sectional burners for gas employed as a fuel; and the object is to provide a simple burner in which the gas and air will be thoroughly mixed before reaching the point of combustion and in which the gas-supply may be readily regulated.

I will describe a gas-burner embodying my invention and then point out the novel features in the appended claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of a burner embodying my invention. Fig. 2 is a section on the line *xx* of Fig. 1. Fig. 3 is a horizontal section, and Fig. 4 is a plan view, of a portion of the mixing-chamber.

Referring to the drawings, 1 designates a burner and mixing-tube divided by cross-partitions 2 3 into four chambers 5, 6, 7, and 8. A portion of the tube 1 is enlarged, as at 9, to form a portion of a mixing-chamber 10, the other portion of said mixing-chamber being provided with an enlarged portion 11 on a mixing-tube 12, having partitions 13, 14, 15, and 16, which divide the mixing-tube into chambers which register with the chambers in the rear portion of tube 1. The parts 9 and 10 are suitably secured together, and arranged in the mixing-chamber is a strainer 17, designed to thoroughly mix the air and gas passing through the same. By making an enlarged mixing-chamber the gas and air will be caused to spread over a large area of strainer material, so that the same will not only be thoroughly mixed, but will first divide in a comparatively-small sheet.

Surrounding the tube 12 is a gas-receiver comprising a casing 18, divided by partitions 19, 20, 21, and 22 into chambers 23, 24, 25, and 26. Within the casing 18 the tube 12 is provided with ports 27 for the passage of gas from the chamber 23 to the chamber between the

partitions 13 and 14. Ports 28 provide communication between the chamber 24 and the chamber between the partitions 14 and 15. Ports 29 provide communication between the chamber 25 and the chamber between the partitions 15 and 16, while ports 30 provide communication between the chamber 26 and the chamber between the partitions 16 and 13. A gas-supply pipe 31 leads into one of the chambers, (here shown as the chamber 26,) and it is intended that the gas may be supplied from one chamber, from two chambers, or from all the chambers, as may be desired. I preferably provide the partitions 19, 20, and 21 each with a tube 32, providing communication from one chamber to another. The portion of each tube projecting into a chamber is provided with an outlet or port 33, which has a valve-seat for a pin-valve 34, adjustable through a wall of the casing 18, as plainly indicated in Fig. 3, in which the pin-valve is shown as having its screw-threaded shank engaging in a tapped hole in the said wall of the casing. The air of course will be drawn into the front end of the tube 12.

In operation should it be desired to use a small amount of gas the valve in the tube 32 through the partition 19 is to be closed. Then the gas will pass from the chamber 26 through the ports 30 and thence through the screen or strainer, where gas and air will be thoroughly mixed before passing to the point of combustion or to the inlet of the tube 1. When there is a large volume of gas required, the several valves 34 are to be opened. Then of course gas will pass into the several chambers of the casing 18 and thence into the chambers formed in the tubes.

The advantage of this sectional burner is in the manipulation—that is, each section may be cut off and by so doing will prevent the combustion from flying back and taking place at a point near where the gas and air come together. The device is durable, practicable, and economical for gas-fuel burners especially adapted for glass-houses, boilers, and other places where large volumes of gas are employed.

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

1. A gas-burner, comprising an inlet-sec-

tion divided into longitudinal chambers, an outlet-section divided into longitudinal chambers and registering with the first-named chambers, a mixing-chamber between the two sections, a strainer in said mixing-chamber, and means for regulating the supply of gas to one or more of the chambers in the outlet-section of the burner, substantially as specified.

2. A gas-burner, comprising an inlet-tube section, partitions longitudinally arranged in said tube-section and forming chambers, an outlet-tube section also having partitions providing chambers communicating with the first-named chambers, the adjacent ends of the two sections being enlarged to form a mixing-chamber, a screen or spreader in said mixing-chamber, a gas-receiver attached to the outlet-section, and comprising a casing divided into a series of chambers having communication with the chambers in the outlet-section of the burner, and means for controlling a supply of gas to one or more of the chambers in the gas-receiver, substantially as specified.

3. A gas-burner, comprising an inlet-section divided into longitudinal chambers, an outlet-section divided into longitudinal chambers communicating with the first-named chambers, a strainer or spreader arranged between the two sections, a gas-receiver attached to the outlet-section of the burner and comprising a casing, partitions in said casing dividing it into chambers having communication with the chambers in the outlet-section of the burner, tubes extended through certain of the partitions, valves for controlling

the passage of gas through said tubes, and a gas-supply pipe leading into one of the chambers, substantially as specified.

4. A burner for fuel-gas, comprising an inlet tubular section, divided into separate chambers, an outlet tubular section divided into separate chambers, the adjacent ends of the two sections being enlarged to form a gas and air mixing chamber, a strainer or spreader in said enlarged portion, a gas-receiver surrounding the outlet-section, partitions in said gas-receiver, dividing it into chambers, ports providing communication between said chambers in the gas-receiver and the chambers in the outlet-section of the burner, tubes extended through certain of the partitions, pin-valves adjustable through a wall of the receiver and adapted to control the outlet of gas through said tubes, and a gas-supply pipe having communication with one of the chambers in the gas-receiver, substantially as specified.

5. A gas-burner, comprising a tube having a plurality of outlet-chambers, a plurality of receiving-chambers having communication with the outlet-chambers, means for providing communication between two or more of said receiving-chambers, and a supply-pipe common to all of the receiving-chambers, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

MICHAEL B. CARMODY.

Witnesses:

ROSEMARY OSHE,
THOMAS J. McDERMOTT.