No. 847,210. PATENTED MAR. 12, 1907.

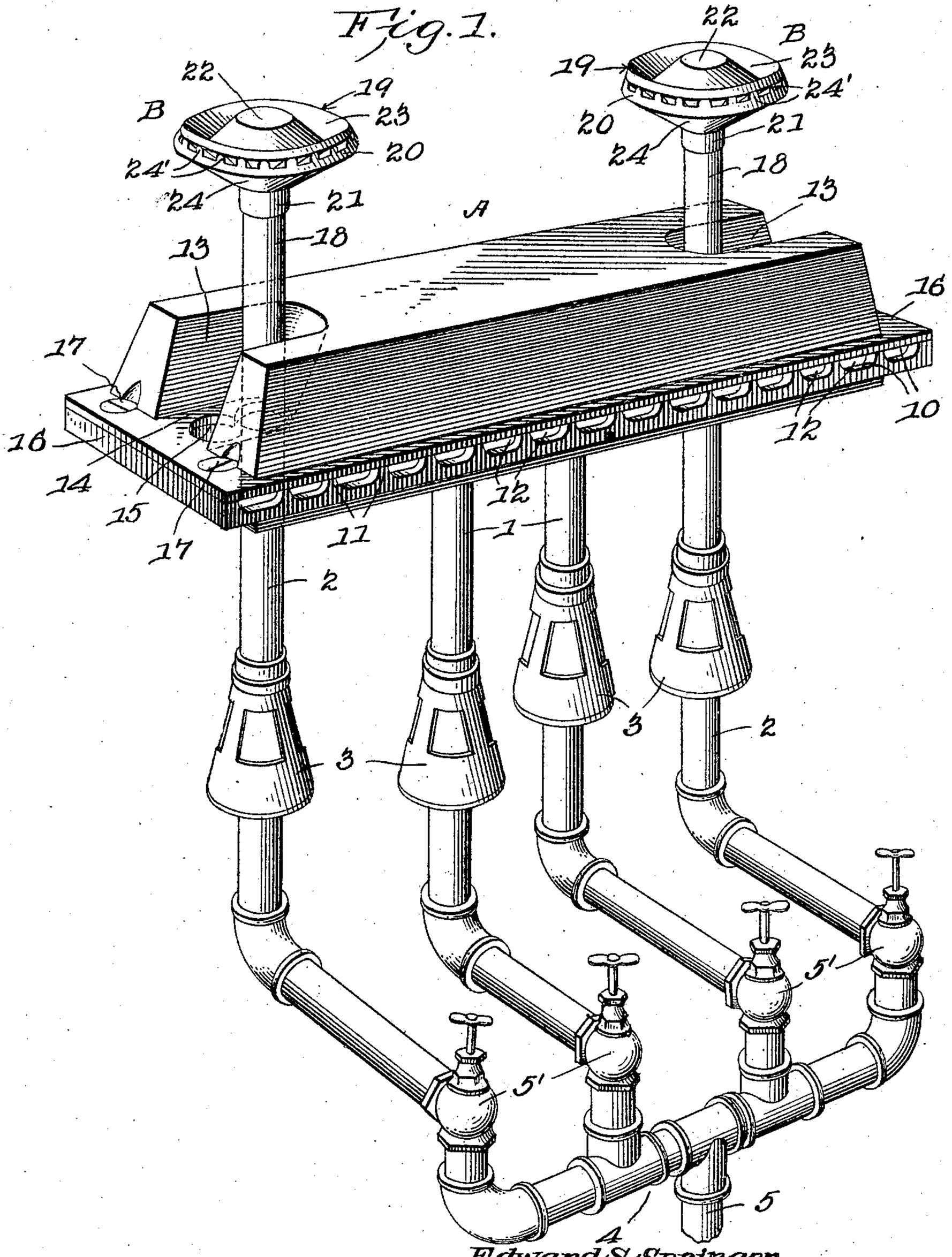
E. S. SPRINGER & J. L. MALONEY.

GAS BURNER.

APPLICATION FILED JULY 27, 1906.

2 SHEETS—SHEET 1.

Fig. 1.



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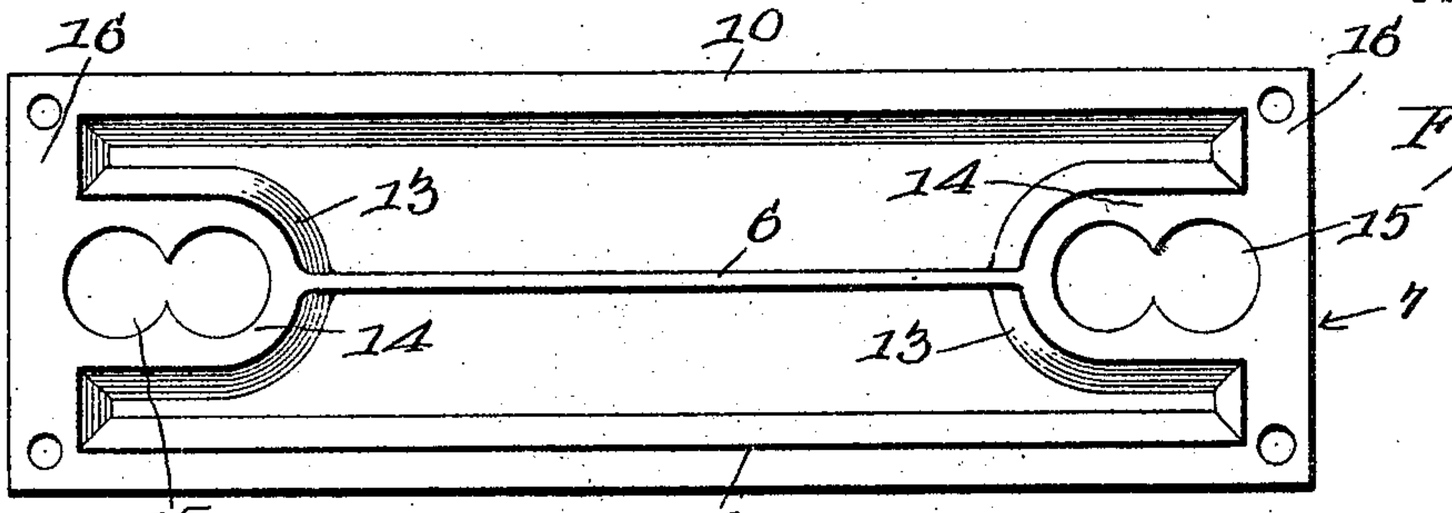

Fig. 2.

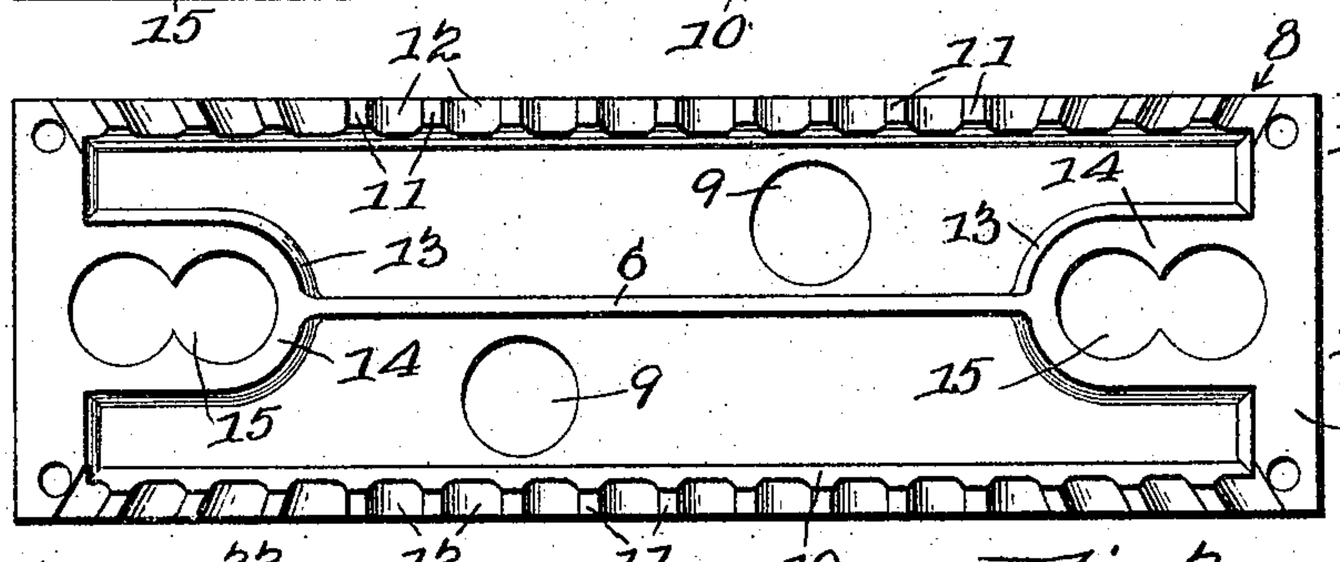

Fig. 3.

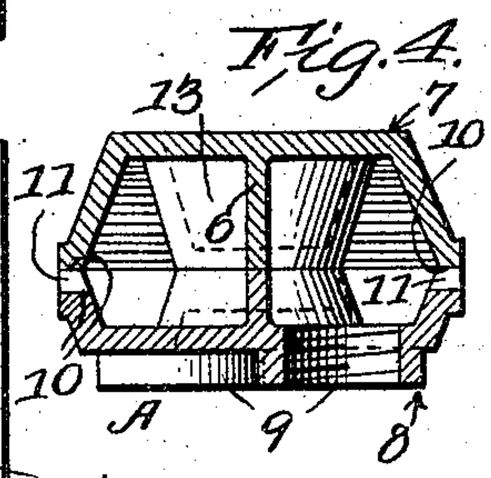

Fig. 4.

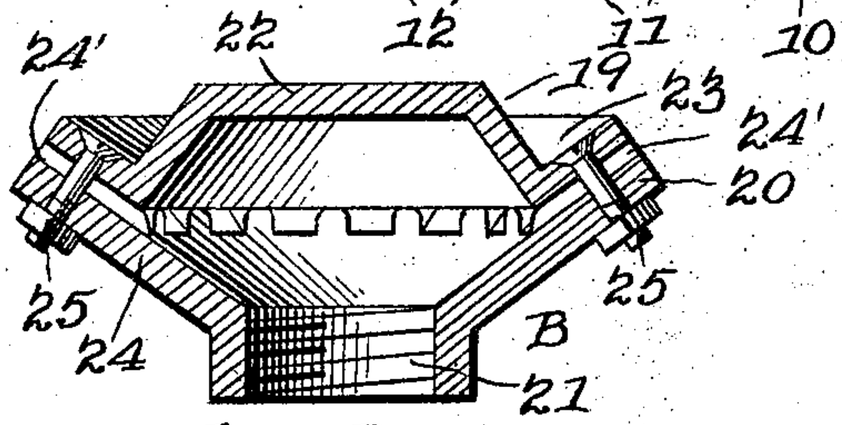

Fig. 5.

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EDWARD S. SPRINGER AND JOHN L. MALONEY, OF LEAVENWORTH, KANSAS.

GAS-BURNER.

No. 847,210. Specification of Letters Patent. Patented March 12, 1907.

Application filed July 27, 1906. Serial No. 328,094.

To all whom it may concern:

Be it known that we, EDWARD S. SPRINGER and JOHN L. MALONEY, citizens of the United States, residing at Leavenworth, in the county of Leavenworth and State of Kansas, have invented a new and useful Gas-Burner, of which the following is a specification.

The present invention relates to gas-burners which are adapted to burn natural or artificial gas, and is designed more especially for heating purposes.

The invention has for one of its objects to improve the construction and operation of this type of burners so as to obtain the best combustion and efficiency of gas consumption, proper deflection of the flame, increased durability by reason of the parts being substantially made, and ease of installation.

With this and other objects in view, as will appear as the nature of the invention is better understood, the same comprises the various novel features of construction and arrangement of parts described hereinafter and set forth with particularity in the claims appended hereto.

In the accompanying drawings, which illustrate certain embodiments of the invention, Figure 1 is a perspective view of a range-burner. Figs. 2 and 3 are respectively an inverted plan view of the top section of the main burner and plan view of the bottom section. Fig. 4 is a transverse section of the main burner broken away. Fig. 5 is a central vertical section of a lid-burner.

Corresponding parts in the several figures are indicated throughout by similar characters of reference.

Referring to the drawings, and more particularly to Figs. 1 to 5, a range or stove burner is shown comprising a main burner or body A and lid-burners B, arranged at the ends of the main body, the apparatus being adapted to be placed in the fire-box of the stove or range, so that the main burner will heat the water front and oven, while the lid-burners extend upwardly to the lid-openings of the stove for heating cooking vessels, as will be readily understood. The main burner is made in two independent compartments, as will hereinafter appear, to which gas is supplied through the supply-pipes 1, and the lid-burners are supplied by the supply-pipes 2. Each of these burner-supply pipes is provided with air-controlling devices 3 for regulating the mixture of air and gas. From the devices 3 the supply-pipes extend forwardly parallel to each other and connect with a manifold 4, that receives gas from a suitable source through the pipe 5. Each of the supply-pipes is fitted with a controlling-valve 5′, that is intended to be located outside the stove, so as to permit the lid-burners and each half of the main burner to be separately operated.

The main burner A comprises a hollow body, preferably constructed in two sections divisible on a horizontal plane. Each section is cast with a suitable dish, so that when they are assembled the dish portions coöperate to form a chamber for receiving the mixture of gas and air to be burned. Extending longitudinally of the body is a partition 6, that is preferably formed partly on each of the sections 7 and 8 by registering webs that closely fit, so as to form a gas-tight joint. On opposite sides of the web of the bottom section 8 are tapped inlet-openings 9 for receiving the threaded ends of the supply-pipes 1. Extending along the sides of the burner-body are two parallel walls 10—one on each section. These walls coöperate to form a gas-discharging passage at each side of the burner, so as to heat the water-front and oven of the stove or range. In order to deflect the flame and spread it to the best advantage, these passages are divided into a plurality of ports formed by lugs 11 rising from one of the walls 10. These lugs, as shown in Fig. 3, are preferably arranged so that the passages or ports 12 formed thereby radiate at gradually-increasing angles from the ports at the center of the burner to those at the ends. The walls 10 are substantially parallel, and they may be disposed with the plane of division of the sections, or they may be disposed at any desired angle thereto. The sections of the burner are of ample dimensions so as to produce large compartments whereby the gas can be thoroughly mixed and readily distributed to the ports.

The lid-burners are adapted to be adjustably supported at the ends of the main burner, so as to accommodate the burner structure for ranges of various sizes and having different distances between the lids. For this purpose the burner-body A is cast with reëntrant end walls, (indicated at 13,)

said walls being formed partly on each section 7 and 8, and at the plane of division each section is provided with a web portion 14 at the reëntrant-walls, which webs have perforations 15 cored out therein. At the ends of the sections are end flanges 16, that extend entirely across the ends as parts of the webs. These end flanges are provided with registering apertures to receive retaining-bolts 17, whereby the sections are held together. The perforations 15 are of a diameter to receive the burner-tubes 2. When it is desired to adjust the burner-tubes so as to be as far apart as possible, they are assembled in the outer perforations or openings, as shown, and when it is desired to adjust them nearer together one of the tubes may be inserted in one of the inner openings or perforations, or both may be inserted in the inner openings. By this construction the tubes are positively held in position without requiring any adjustable fastening devices. The lid-burners are also made in two sections, (designated by 19 and 20.) The bottom section 20 is a hollow cone flaring upwardly and provided with a central tapped boss 21 for receiving the threads on the upper end 18 of the burner-tube. The top plate or section 19 is provided with a central dome, (indicated at 22,) which coöperates with the cone of the bottom section to form a mixing-chamber of substantial dimensions. From the edge of the dome the top plate flares upwardly to form a wall 23 parallel with the wall 24 of the cone, the two walls forming a gas-discharging passage. This passage is divided into radial ports by means of lugs 24′, cast on one of the sections, preferably the lower section 20. The two sections are connected by bolts 25, which hold the upper section in place and bearing on the top surfaces of the lugs. The ports expand outwardly and are disposed with an upward inclination to a horizontal plane, so that a flame is produced that is deflected at the best angle to heat the cooking utensils.

What is claimed is—

1. A gas-burner comprising a hollow body formed of divisible sections each being cast with reëntrant end walls and webs connecting the said end walls and provided with perforations, a longitudinal partition formed by webs in both sections for dividing the body into two compartments, gas-discharging ports in the body, independent inlets in one of the sections for supplying gas to each of the compartments, supply-pipes connected with the inlets, and means for holding the sections together, in combination with a burner-tube at each end of the body extending through one of the perforations of the said webs.

2. A gas-burner comprising a hollow body formed of divisible sections each being cast with reëntrant end walls and perforated webs connected with the said walls, a longitudinal partition formed by webs in both sections for dividing the body into two compartments, gas-discharging ports in the body, independent inlets in one of the sections for supplying gas to each of the compartments, supply-pipes connected with the inlets, means for holding the sections together, in combination with a burner-tube at each end of the body extending through one of the perforations of the said webs, and lid-burners attached to the upper ends of said tubes each comprising a hollow body formed of divisible sections with upwardly-inclined gas-discharging ports.

3. A gas-burner comprising a hollow body formed of divisible sections each being cast with reëntrant end walls and webs connecting the reëntrant walls and provided with perforations, gas-discharging ports in the body, and means for supplying gas to the body, in combination with a burner-tube at each end of the body extending freely through one of the perforations of the said webs.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

EDWARD S. SPRINGER.
JOHN L. MALONEY.

Witnesses:
A. D. McMULLEN,
V. E. GOODJOHN.