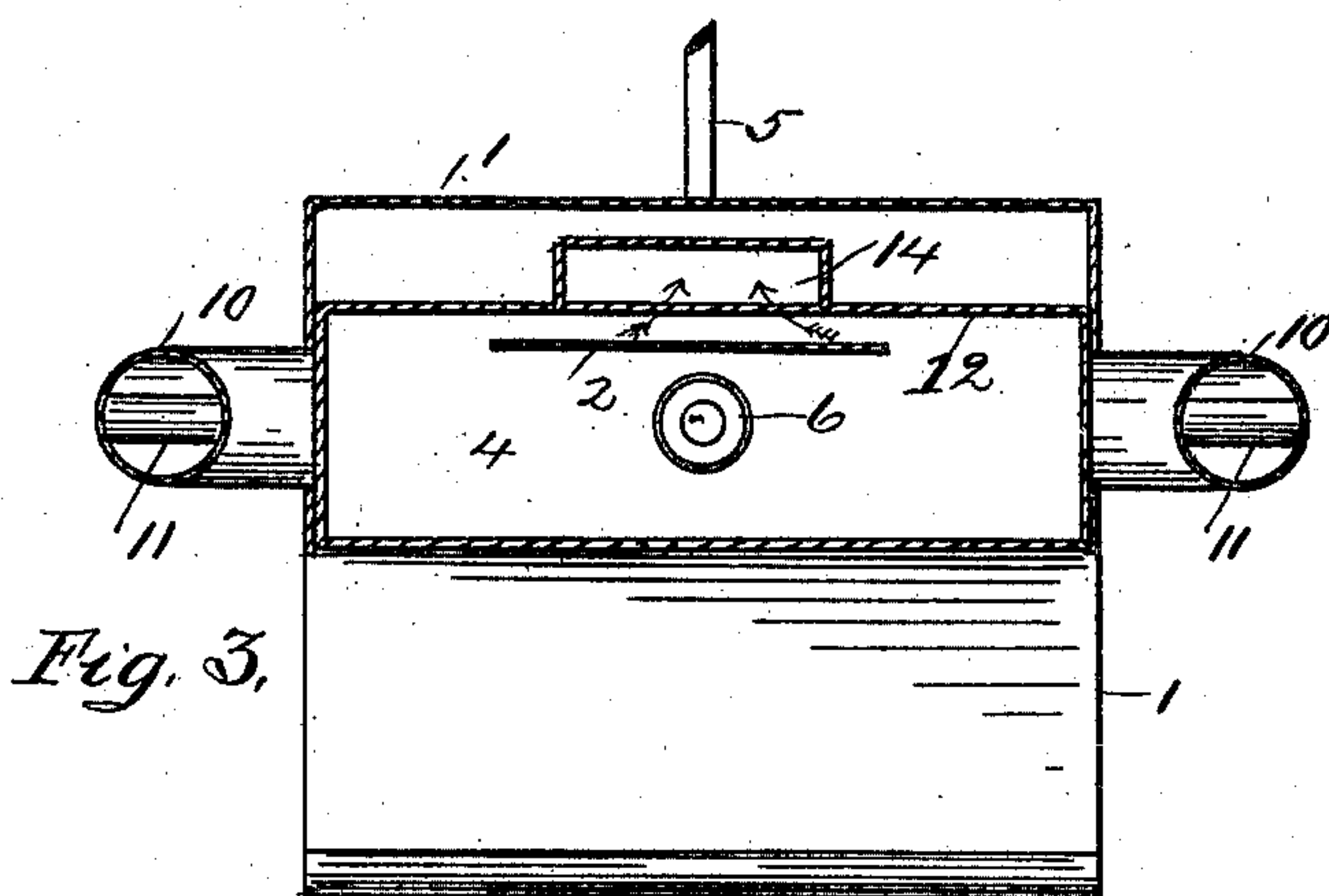
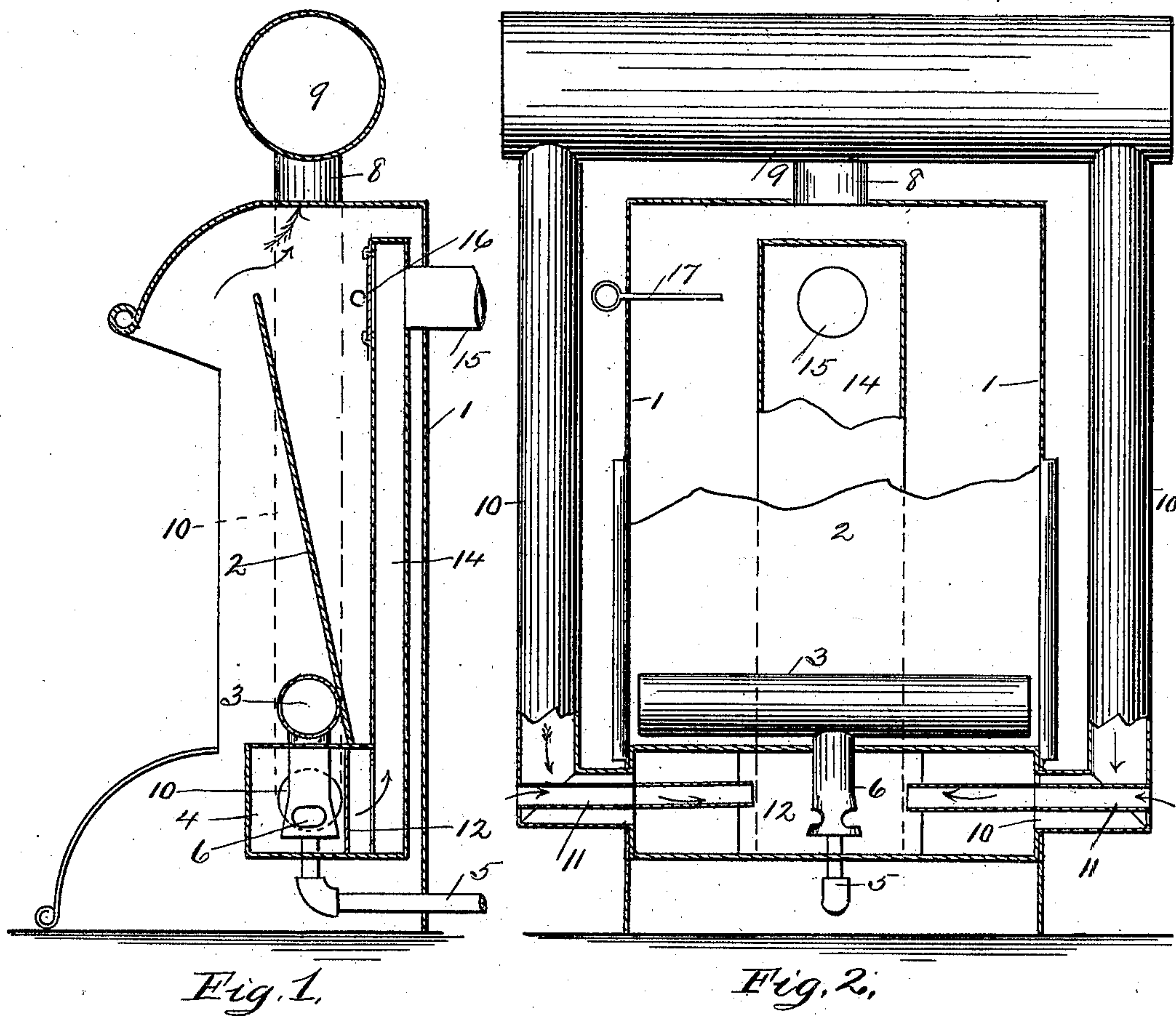


(No Model.)

W. S. ALTER
GAS STOVE.

No. 598,552.

Patented Feb. 8, 1898.



Witnesses:
H. E. Harrison,
H. J. Davis.

Inventor,
 W. S. Allen
 Rep. C. D. Lewis
 Atty.

UNITED STATES PATENT OFFICE.

WILLIAM S. ALTER, OF TARENTUM, PENNSYLVANIA.

GAS-STOVE.

SPECIFICATION forming part of Letters Patent No. 598,552, dated February 8, 1898.

Application filed February 8, 1897. Serial No. 622,507. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM S. ALTER, a citizen of the United States, residing at Tarentum, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Gas-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 figures of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in gas-stoves; and it consists in certain details of construction and combination of parts, as will be fully described hereinafter in the accompanying drawings.

Figure 1 is a side sectional elevation of my improved gas-stove which is constructed and arranged in accordance with my invention. Fig. 2 is a front elevation, partly in section, of the same. Fig. 3 is a sectional plan view of my improved gas-stove, said section taken horizontally through the upper portion of the gas-mixing box.

To construct a gas-stove in accordance with my invention and thereby provide a means whereby the unconsumed products of combustion may be returned to the burner, I provide a shell or outer casing 1 of a suitable size and form of construction and arrange in a suitable position an asbestos front 2, a gas-burner 3, connected with a proper mixer 6, and a supply-pipe 5. Arranged beneath the burner 3 and surrounding the mixer 6 is a rectangular box-shaped mixing-chamber 4, which is connected by side pipes or flues 10 to a drum or heater 9, arranged at right angles thereto and a short distance above the casing 1 of the stove. This drum or heater 9 is connected to and in communication with the interior of the shell by means of a short pipe or flue 8, which will permit the burned gases and fumes to enter the said heater 9 and pass downward through the side flues 10 to the mixing-box 4. This downdraft is caused by the suction created by the gas entering the mixer 6 on its way to the burner 3.

Attached to and in communication with the

mixing-box is a flue 14, the opening leading thereto being protected by a vertically-arranged plate 12, and the said flue 14 extending upward to connect with draft-flue 15, leading to a point or place of discharge. This flue 14 is provided near its top with a damper 16, operated by means of a handle 17 in the ordinary manner. To supply a current of pure air to the mixer 6, small pipes 11 are concentrically arranged within the side flues 10 and extend inwardly beyond the edges of the plate 2 and within a short distance of the said mixer 6.

In operation gas is introduced into the burner 3 through the supply-pipe 5 and mixer 6. The fumes from the burning gas ascend to the top of the casing 1 and enter the heater 9 through the pipe or flue 8, thence passing downward through the side flues 10 to the mixing-chamber 4 to be again passed into the burner 3 and the unconsumed particles burned, as above described, the surplus of the unconsumed gases and fumes escaping to the chimney through the flues 14 15 at the rear.

It is obvious that slight modifications may be made in the details of construction without departing from the spirit of my invention.

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

1. A gas-stove having a mixing-box within its base, a gas-burner adjacent to said mixing-box having a mixing-tube extending into said box, a drum located at the top of said gas-stove adapted to receive the products of combustion from the gas-burner, said drum being connected with the mixing-box by means of pipes, substantially as described.

2. A gas-stove having a mixing-box within its base, a gas-burner situated above said box having a mixing-tube extending into said box, a supply-pipe extending into said mixing-tube, a drum located at the top of said gas-stove, said drum being provided with a flue whereby the products of combustion are carried from the upper portion of the gas-stove to the drum, and pipes located at each side of the stove connected to the said drum and the said mixing-box, substantially as described.

3. A gas-stove having a mixing-box within its base, a gas-burner situated above said box

having a mixing-tube extending into said box, a drum at the top of said stove, said drum being connected with the upper portion of the gas-stove by means of a flue, side pipes
5 connecting the said drum with the said mixing-box, and means for admitting air to said mixing-box, consisting of pipes extending through the lower portion of said side pipes

and within the said mixing-box, substantially as described. 10

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

WILLIAM S. ALTER.

Witnesses:

LEWIS M. MAHAFFY,
W. N. WYLIE.