

No. 663,811.

Patented Dec. 11, 1900.

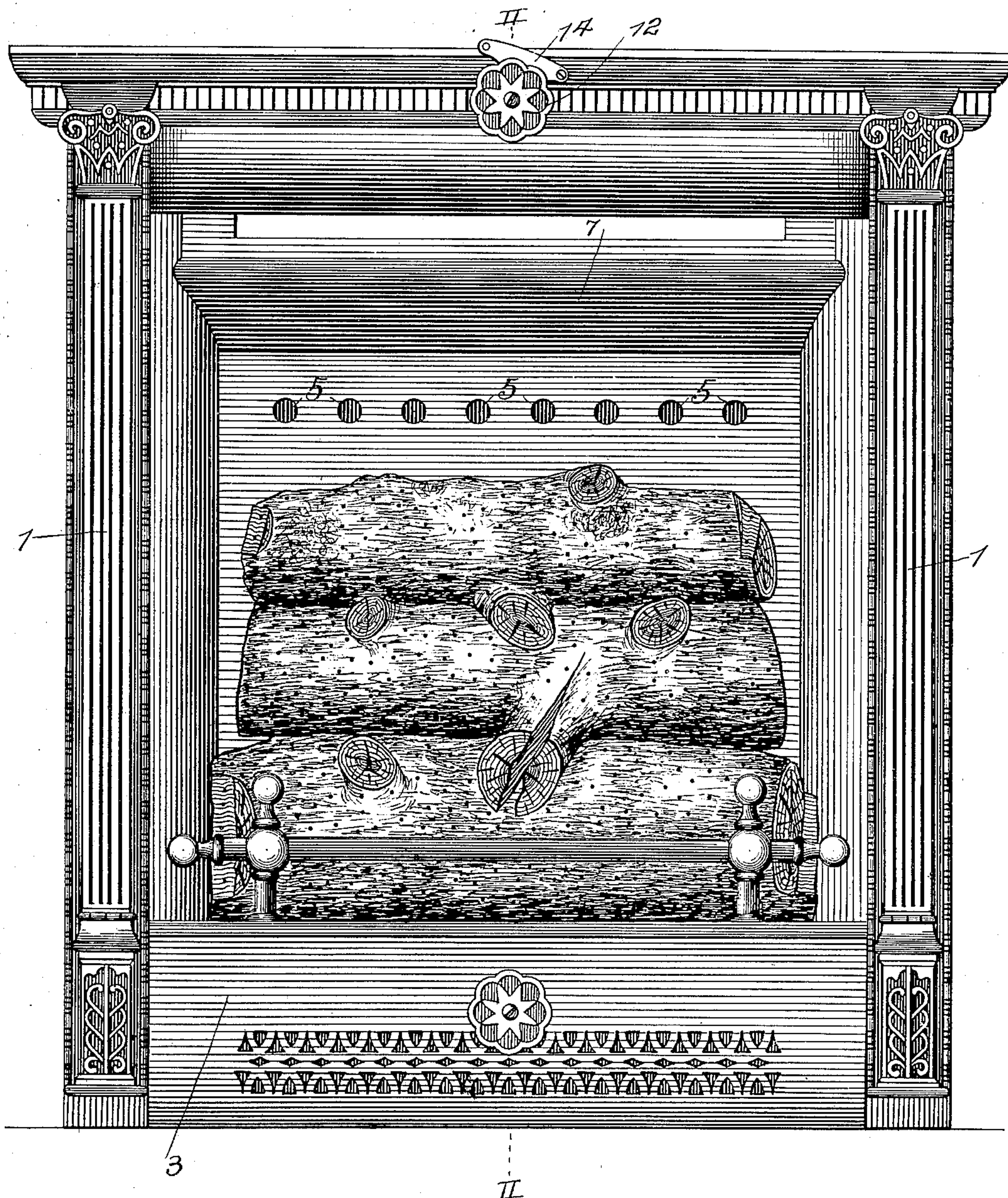
T. M. DUDGEON.  
GAS STOVE.

(Application filed Apr. 21, 1900)

(No Model.)

2 Sheets—Sheet 1.

FIG. 1.



WITNESSES:

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*F. E. Gaither*

INVENTOR

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by *Daniel S. Wolcott* Att'y.



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FIG. 2.

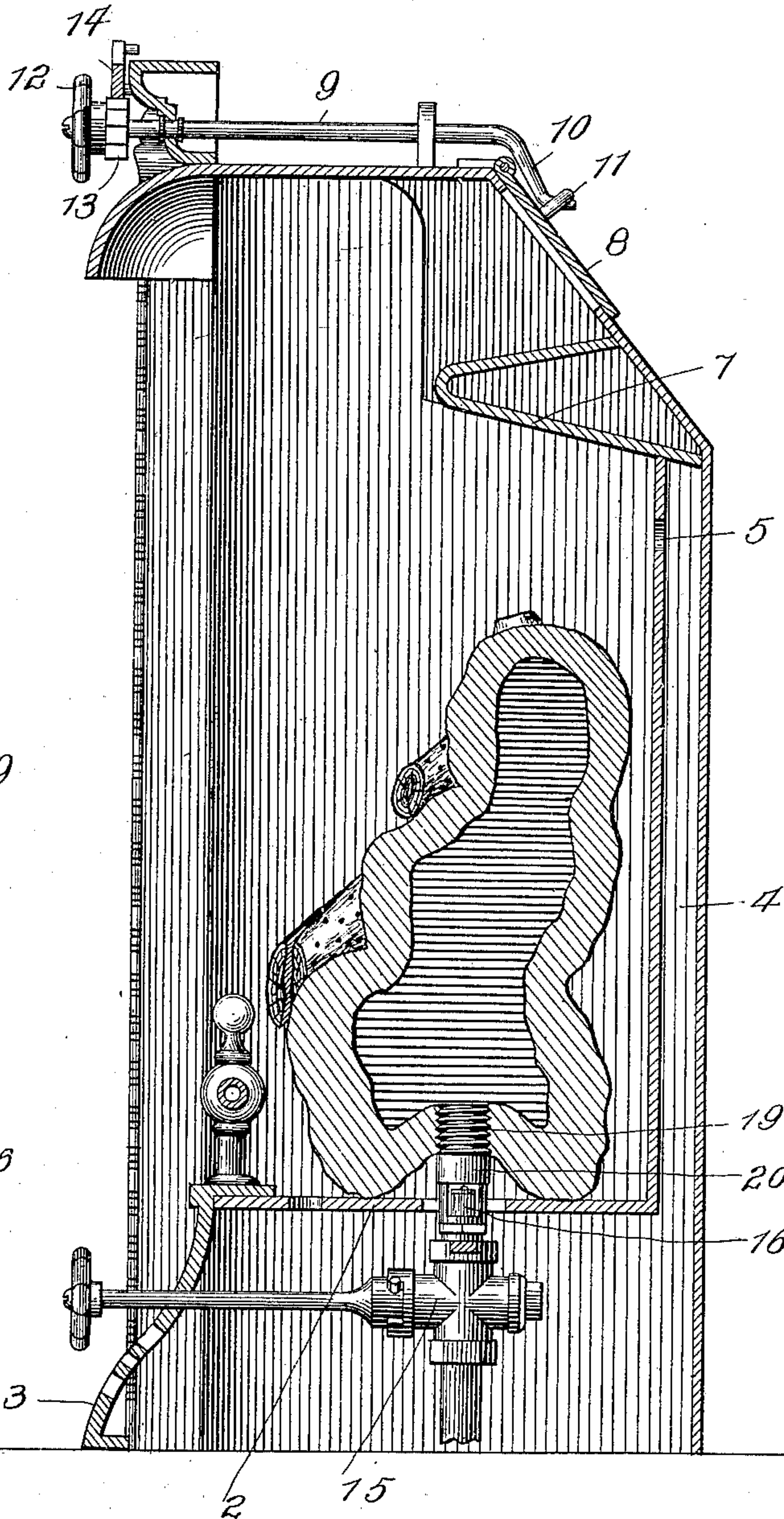
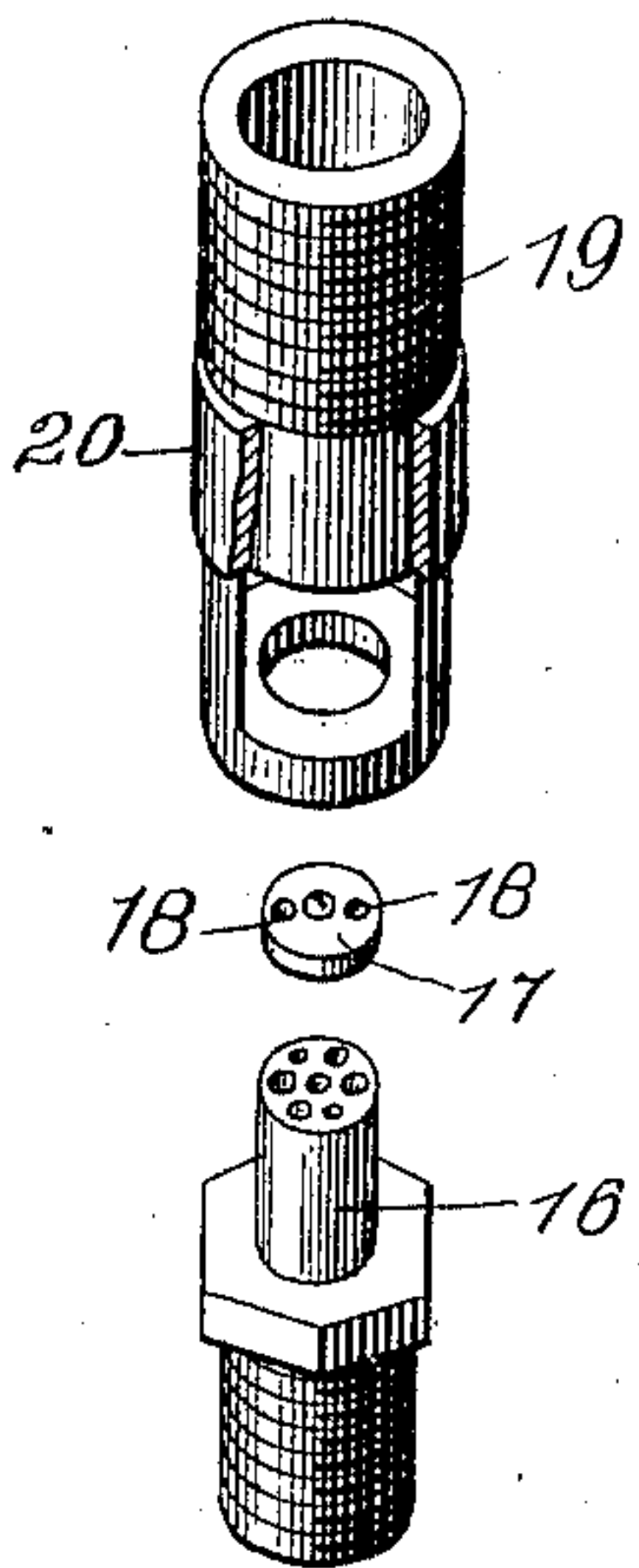


FIG. 3.



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# UNITED STATES PATENT OFFICE.

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## GAS-STOVE.

SPECIFICATION forming part of Letters Patent No. 663,811, dated December 11, 1900.

Application filed April 21, 1900. Serial No. 13,687. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS M. DUDGEON, a citizen of the United States, residing at Crafton, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Gas-Stoves, of which improvements the following is a specification.

The invention described herein relates to certain improvements in gas-stoves, and has for one object a construction wherein provision is made for the introduction of air above the point of combustion of the fuel and the regulation of the outlet for the products of combustion in accordance with the rate of combustion; and it is a further object of the invention to provide for the regulation of the gas and air supply to the burner.

The invention is hereinafter more fully described and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a front elevation of my improved gas-stove. Fig. 2 is a sectional elevation, the plane of section being indicated by the line II II, Fig. 1. Fig. 3 shows in perspective the several parts of the gas-nozzle and mixer.

In the practice of my invention the case or shell is made substantially rectangular or of a contour corresponding to the recess or opening into which it is to be placed and has its front side open. A supporting ledge or shelf 2 is arranged across the shell a short distance from its lower end, and the space below the shelf is closed by an apron 3, having openings therethrough for the admission of air.

The back wall is made double for the formation of flues 4, extending up from the air-space below the shelf, and provided with outlets 5 above the log or burner 6, which is supported on the shelf 2 and just below the reverberating ledge 7 projecting from the back of the shell above the burner, so as to throw the heated air out through the open front of the shell. An opening for the escape of products of combustion is formed in the shell above the reverberating ledge 7, and the flow of products of combustion through this opening is controlled by a hinged damper 8. This damper is shifted by a rod 9, provided at its inner end with an arm 10, engaging a loop 11

on the damper. The rod is provided on its outer end with a head 12, whereby it may be rotated, and with a toothed wheel 13, adapted to be engaged by a pawl 14 on the shell 1, whereby the damper may be held in any desired position. The air flowing from the room through the space below the shelf or ledge 2 and up through the flue or passage 4 is heated to some extent, and passing through the outlets 5 is highly heated by heat from the burner. The reverberating ledge 7 will deflect the heated air and cause it to flow out into the room.

The gas-supply pipe is provided with a regulating-valve 15, having an operating-stem projecting through the apron 3. The nozzle 16 is provided at its upper end with two series of perforations, the holes of each series differing in size, as shown, and the two series of perforations are so arranged that the holes of the same size in each series will be diametrically opposite. A disk 17, having two holes 18 corresponding in size to the largest hole in the end of the nozzle arranged diametrically opposite each other, is rotatably mounted on the end of the nozzle, so that by rotating said disk the holes 18 may be brought simultaneously into line with holes in the two series in the nozzle, at the same time closing all the other holes. The air and gas mixing chamber is formed by a socket 19, having one end constructed to fit the nozzle 16 and having portions of its side wall cut away for the admission of air. This socket extends above the nozzle and is externally threaded, so as to be secured in a threaded opening in the log or burner 6. In order to regulate the flow of air into the mixing-chamber, a sleeve 20 is movably mounted on the socket, so that by sliding the sleeve along the socket the openings in the sides of the socket may be more or less closed.

No claim is made herein to the form or construction of mechanism employed for operating the valve. Such construction will form the subject-matter of an application to be filed.

I claim herein as my invention—

In a gas-stove, the combination of an inclosing shell or box having an open front, a

supporting ledge or shelf arranged at a suitable height to form an air-chamber below it, a burner resting on the shelf, a flue extending from the air-chamber under the shelf or  
5 ledge up back of the burner having outlets above the burner, a reverberating ledge arranged above the flue, outlets and a valved opening above the ledge for the escape of

products of combustion, substantially as set forth. 10

In testimony whereof I have hereunto set my hand.

THOMAS M. DUDGEON.

Witnesses:

DARWIN S. WOLCOTT,  
F. E. GAITHER.