J. STUBBERS.

GAS STOVE.

APPLICATION FILED OCT. 17, 1910. RENEWED DEC. 4, 1911.

1,015,597.

Patented Jan. 23, 1912.

2 SHEETS—SHEET 1.

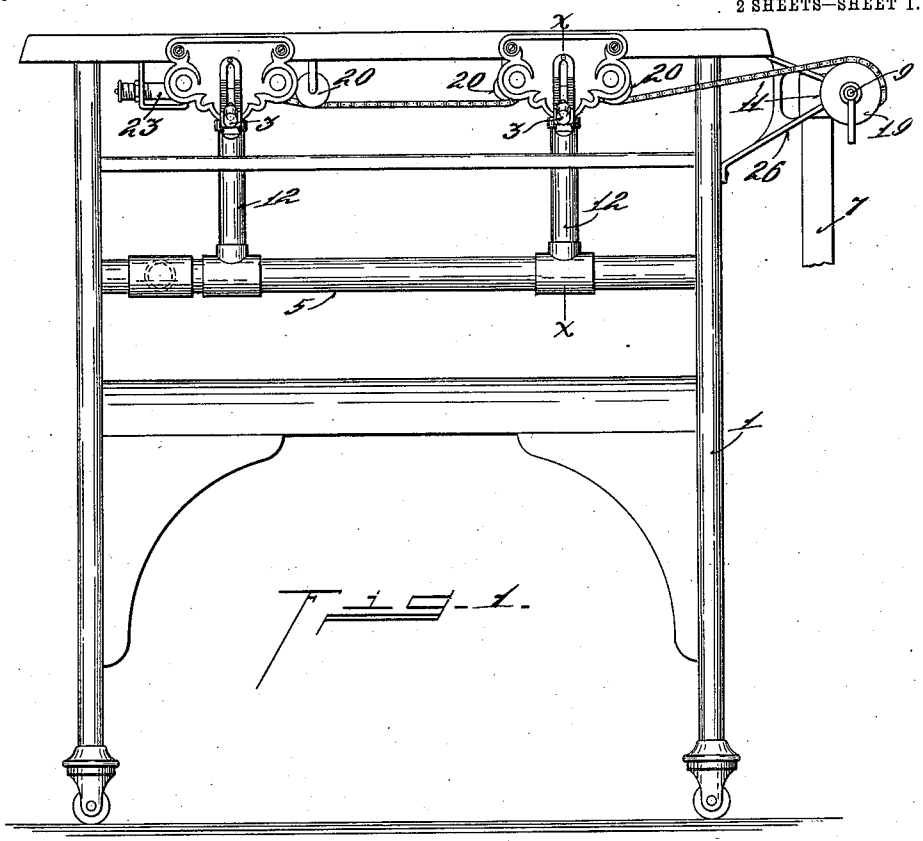

Fig. 1.

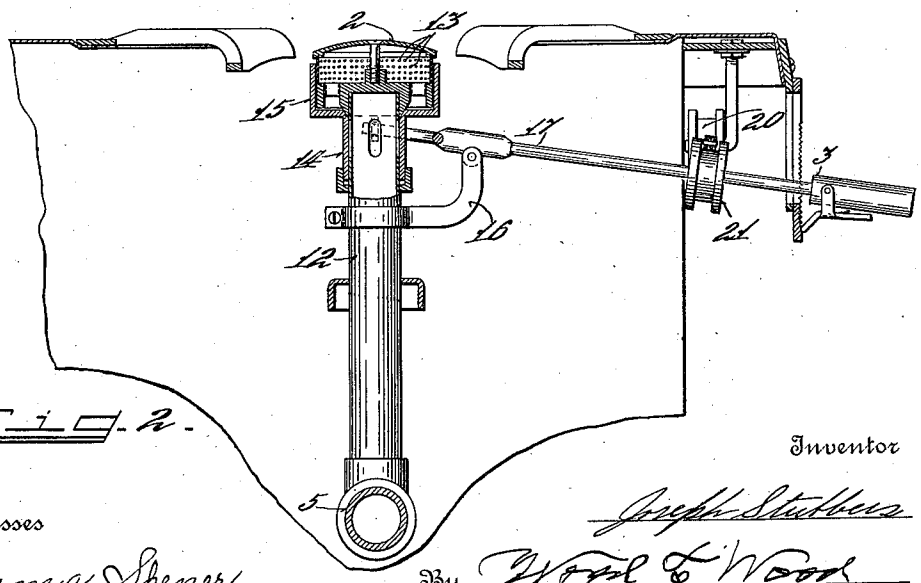

Fig. 2.

Witnesses

Emma Spener

C. B. Foster

Inventor

Joseph Stubbers

By Wood & Wood

Attorneys

J. STUBBERS.

GAS STOVE.

APPLICATION FILED OCT. 17, 1910. RENEWED DEC. 4, 1911.

1,015,597.

Patented Jan. 23, 1912.

2 SHEETS—SHEET 2.

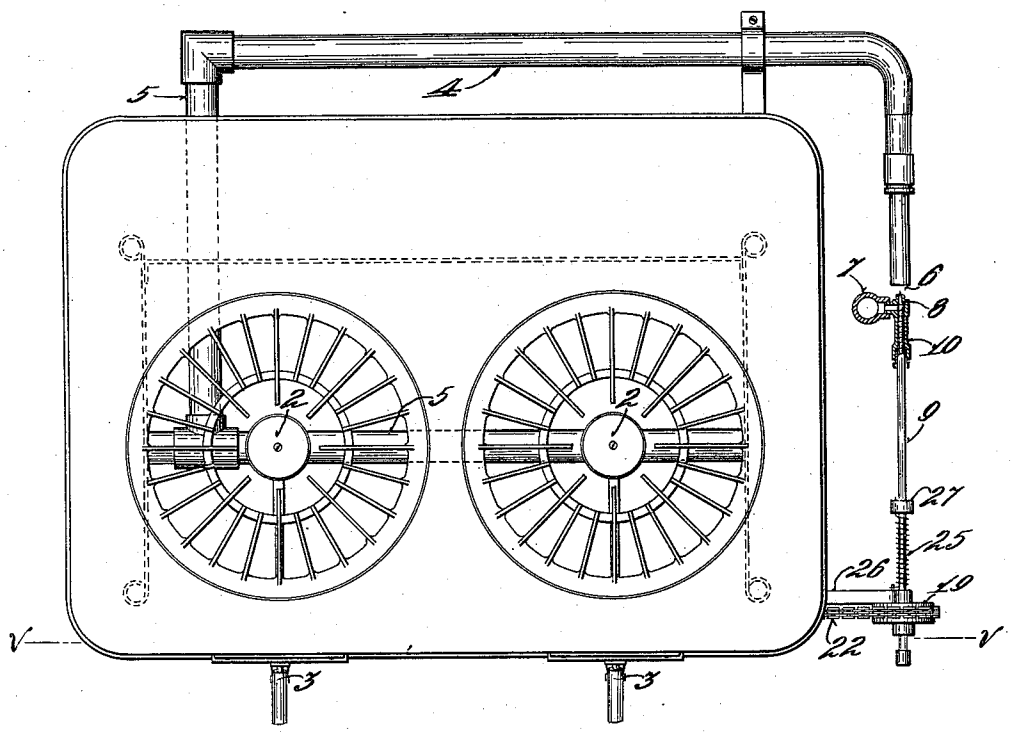

Fig. 3.

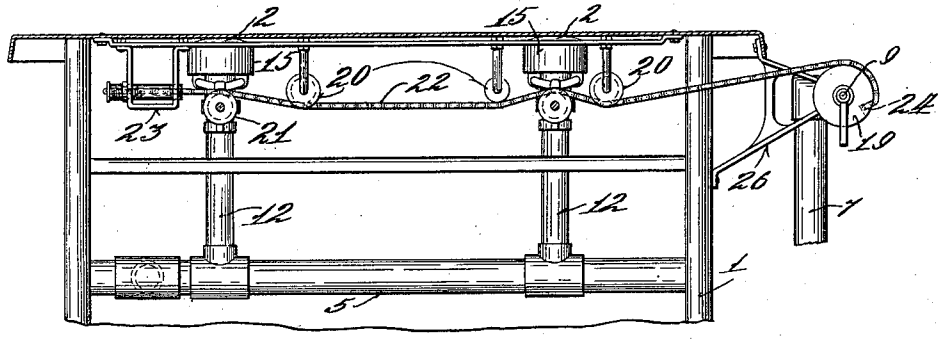

Fig. 4.

Witnesses

Emma Spener

C. B. Foster

Inventor

Joseph Stubbers

By Wood & Wood

Attorneys

UNITED STATES PATENT OFFICE.

JOSEPH STUBBERS, OF COVINGTON, KENTUCKY, ASSIGNOR TO THE INCANDESCENT LIGHT & STOVE COMPANY, OF CINCINNATI, OHIO, A CORPORATION OF OHIO.

GAS-STOVE.

1,015,597. Specification of Letters Patent. Patented Jan. 23, 1912.

Application filed October 17, 1910, Serial No. 587,498. Renewed December 4, 1911. Serial No. 663,834.

To all whom it may concern:

Be it known that I, JOSEPH STUBBERS, a citizen of the United States, residing at Covington, in the county of Kenton and State of Kentucky, have invented certain new and useful Improvements in Gas-Stoves, of which the following is a specification.

My invention relates to an improvement in gas stoves, particularly, of the hydro-carbon vapor type, but applicable also to the usage of ordinary coal gas.

One of the objects of the invention is to provide a Bunsen element for delivering gas and air into a service pipe communicating with each of a plurality of burners.

Another object of the invention is to provide each of the burners with a controller, connected to the adjustable member of the Bunsen element, that is, the needle of the valve, so that the operation of each controller independently actuates the needle valve.

Another object of the invention is to provide such a connection so arranged that the needle valve is opened or closed simultaneously but independently with reference to the movement of each of the controllers for a series of burners. That is, if one controller is open one-half of its possible movement, the needle will be given a like movement as well as a degree of movement sufficient to deliver a volume of gas into the service-pipe adequate to the demands of said burner when half opened, this movement being accomplished independently of the other burner controllers, and so if another burner controller is given a partial or full movement in opening or closing, the needle valve will be given a similar opening or closing movement, the amount of the movement being determined by the amount of the movement of the controller. Thus, the movement of each controller in opening or closing imparts a movement in the same direction and in a predetermined degree to the needle valve, enabling the controller to independently operate the needle valve appropriately so as to supply each of the burners with the fuel necessary in relation to the adjustment of each particular controller.

Other features of the invention are more fully set forth in the description of the accompanying drawing, forming a part of this specification, in which:—

Figure 1 is a front elevation of my improved stove. Fig. 2 is a detail section on line *x*, *x*, Fig. 1. Fig. 3 is a top plan view of the stove. Fig. 4 is a vertical section on line *v*, *v*, Fig. 3.

1 represents the stove frame.

2 represents a burner, two of which are shown.

3 represents the burner controller, the details of which will be later described.

4 represents the service-pipe communicating through the branch 5, to the burners.

6 represents the open end of the service-pipe at one end of the stove.

7 represents a gas or hydro-carbon vapor supply pipe, communicating with the needle valve 8, adjacently alined with the open end 6 of the service-pipe, for entraining gas and air into the same.

9 represents the needle stem of said valve, screw threaded into the tube 10, for longitudinally adjusting the needle.

11, see Fig. 1, represents the outer end of the chain connecting the needle stem 9, with each of the controllers 3, whereby the movement of each controller independently actuates the needle valve.

The burner 2 is formed on the end of the upright pipe 12, and has a series of circumferential jets 13. The controller has the following components, a sleeve 14, slidably mounted on pipe 12, and having a member 15 on its upper end engaging around the periphery of the burner 2, so that as it is vertically adjusted, the jets 13 may be closed, or opened, to adjustably control the volume of gas to be liberated from the burner for combustion.

16 represents a bracket secured on pipe 12, to which is hinged the rocking arm 17, the inner end of which is connected to the sleeve 14, and the outer end being projected beyond the front of the stove, and forming a handle for manipulating the sleeve 14.

19 represents a wheel fixed to the front end of the needle stem 9.

Depending from the under side of the top member of the stove frame is a series of sheaves 20. Each of the rock arms 17 is provided with a coöperating sheave 21. These sheaves and the wheel 19 are approximately alined in the same vertical plane.

22 represents a chain, one end of which is attached to an adjustable chain tightening device 23, mounted in a bracket, attached to the frame. The other end of said chain is fixed at 24 to the wheel 19. The intermediate portion of the chain passes under the sheaves 20 and over the sheave 21, the sheave 21 engaging the chain in such a way as to form a bearing therefor, to cause the needle stem to rotate when the controller 3 is operated. The chain thus extends serially from each burner controller to the main needle valve, so that each burner controller may be independently operatively engaged with the chain, thus enabling each burner controller to independently operate the needle valve in the manner already described.

25 represents a coil spring on the needle stem 9, one end of which is fixed to the rigid bracket 26, the other end of which is fixed to the collar 27, secured to the needle stem 9, so as to turn therewith. This spring exerts an influence on the needle stem, normally tending to close the needle valve 8, but this tendency is overcome when the controller 3 is operated, to permit the escape of gas from the burner for combustion.

From this description, it will be seen that if the right hand controller is operated, to partially or wholly open this burner, the needle valve will be given a similar movement in direction to admit a corresponding supply of gas and air into the service-pipe. If the second burner controller is operated, it will, in like manner, independently actuate the needle valve.

It will be seen that with my improvement, the gas is shut off at a point outside of the stove. Also, that a single Bunsen element suffices for a plurality of burners. Also, that the volume of fuel delivered into the service pipe will be always suitable to the requirements, not only of the number of burners in commission, but to the adjustment of each burner controller. The efficiency, convenience and safety of control of a gas stove are thus materially improved. There are other advantages inherent in this improvement, which will be readily understood by those skilled in the art.

Having described my invention, I claim:—

1. In a device of the class described, a plurality of burners, a controller for each burner, a gas supply pipe, a service-pipe having communication with each burner, a needle valve for delivering gas from said supply pipe and entraining air into the service-pipe, and transmission mechanism connecting each burner controller to the needle valve enabling the movement of each burner controller in opening or closing to impart a similar opening or closing movement independently to the needle, the amount of movement being determined by the amount of movement of the controller.

2. In a device of the class described, a plurality of burners, a controller for each burner, a gas supply pipe, a service-pipe having communication with each burner, a needle valve for delivering gas from said supply pipe and entraining air into the service-pipe, and transmission mechanism serially connecting each burner controller to the needle valve enabling the movement of each burner controller in opening or closing to impart a similar opening or closing movement independently to the needle, the amount of movement being determined by the amount of movement of the controller.

3. In a device of the class described, a plurality of burners, a burner controller for each burner, a service-pipe having communication with each burner, a Bunsen element for delivering gas and entraining air into the service-pipe, a gas supply pipe communicating with said Bunsen element, and means adapted to operatively transmit motion independently from each burner controller to the adjustable member of the Bunsen element.

4. In a device of the class described, a plurality of burners, a burner controller for each burner, a service-pipe having communication with each burner, a Bunsen element having a longitudinally adjustable needle valve for delivering gas and entraining air into the service-pipe, a gas supply pipe in communication with said Bunsen element, and means adapted to operatively transmit motion independently from each burner controller to the needle of the Bunsen element.

5. In a device of the class described, a plurality of burners, a burner controller for each burner, a service-pipe having communication with each burner, a screw threaded needle valve for delivering gas and entraining air into the service-pipe, a gas supply pipe, the outlet of which is controlled by said needle valve, a motion transmitting device rotatively connected to the needle for longitudinally adjusting the same, and an actuating member for each controller, adapted to independently operate the motion tranmission device to impart to the needle a motion corresponding in direction of opening or closing to the movement of the burner controller, whereby the movement of each burner controller in opening or closing independently opens or closes the needle valve a predetermined amount.

6. In a device of the class described, a plurality of burners, a burner controller for each burner, a service-pipe having communication with each burner, a screw threaded needle valve for delivering gas and entraining air into the service-pipe, a gas supply pipe, the outlet of which is controlled by

said needle valve, a motion transmitting device rotatively connected at one end to the needle for longitudinally adjusting the same, the other end being spring connected to the stove frame, a rocking actuating member for each controller, adapted to independently engage said transmission device to impart a movement to the needle in opening or closing corresponding respectively to the direction of movement of the controller, and anti-friction devices supporting the intermediate portion of said motion transmitting device.

In testimony whereof, I have hereunto set my hand.

JOSEPH STUBBERS.

Witnesses:
LOUISE BECK,
EMMA SPENER.