

H. C. MAUL.
VALVE FOR OVENS.
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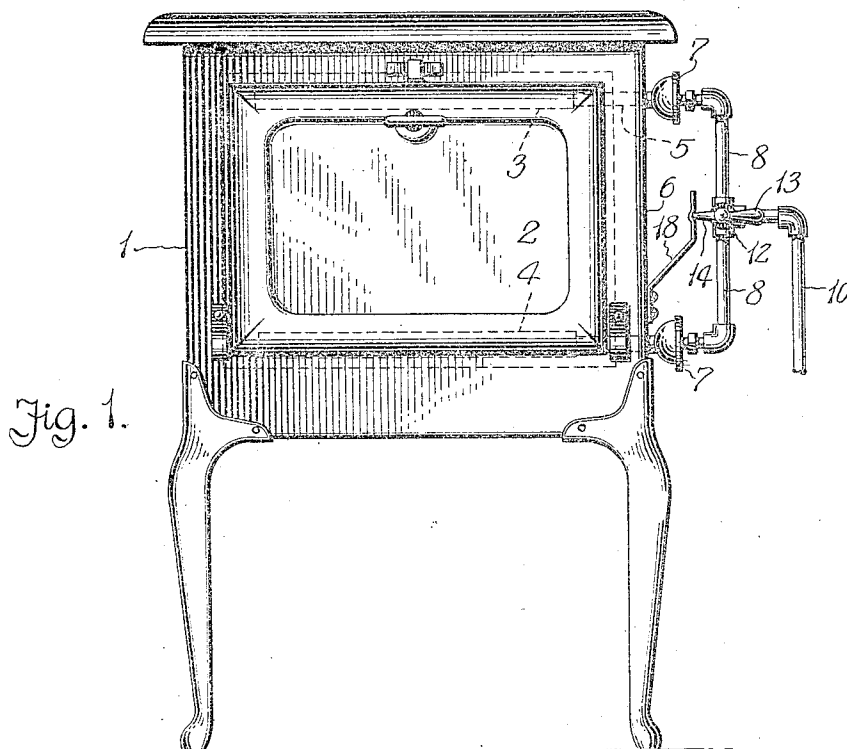


Fig. 1.

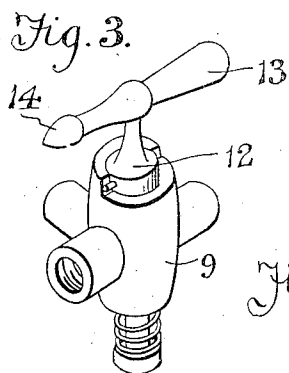
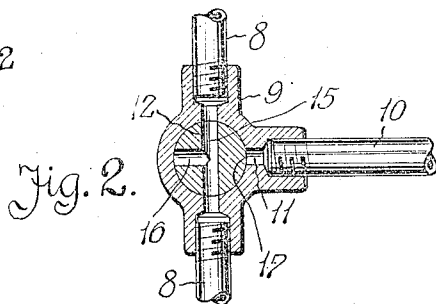


Fig. 2.

Witness

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VALVE FOR OVENS.

1,381,129.

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To all whom it may concern:

Be it known that I, HENRY C. MAUL, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in a Valve for Ovens, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to ovens having two or more burners, generally one above the other, adapted to be independently operated, such burners ordinarily having individual valves controlling the supply of fuel to the burners, and my invention resides in providing a single three-way valve for controlling the supply of fuel to the burners so that one burner can only be supplied with fuel at a time.

In an oven where gas is used for fuel, there must be an air inlet to supply oxygen to the burners to maintain combustion and an outlet for the products of combustion to escape up a flue, and as heat naturally rises, the inlet is generally at the bottom and the outlet at or near the top. With two burners in the same oven, one above the other, both burning at the same time, the lower burner will consume all the available oxygen in the air and the upper burner will get only the products of combustion from the lower burner, with insufficient oxygen and will be extinguished, which condition will allow the unconsumed gases to be drawn into the flue with the danger of exploding, if these gases should happen to get the proper mixture of oxygen in the flue. Since the upper burner is only used for broiling meats or toasting, and the lower one for baking and roasting, they should never be used at the same time, therefore, my three-way valve prevents the possibility of using both burners at the same time.

My invention also resides in novel means for holding the three-way valve against accidental actuation, and this and other features of my invention will be hereinafter more fully referred to and pointed out in the appended claim.

Reference will now be had to the drawings wherein

Figure 1 is a front elevation of a conventional form of oven having two burners controlled in accordance with my invention,

Fig. 2 is a detailed sectional view of the

three-way valve adapted for controlling the oven burners, and

Fig. 3 is a perspective view of the three-way valve.

The reference numeral 1 denotes by the way of an example, a conventional form of oven or stove having a door 2, an upper horizontally disposed burner 3, and a lower horizontally disposed burner 4. The upper and lower burners are also of conventional form and have fuel inlet pipes 5 extending out of the wall 6 of the oven and provided with air mixing devices 7, which are of the ordinary and well known type used in connection with gas burning ranges or stoves.

The reference numeral 8 denotes a vertical pipe having the ends thereof communicating with the air mixing devices of the oven, so as to supply gas or other fuel to the inlet pipes 5 of the burners 3 and 4, and intermediate the ends of the vertical pipe 8 there is a three-way valve body 9 connected to a gas or other fuel supply pipe 10.

The three-way valve body necessarily has passages 11 communicating with the pipes 8 and 10 and rotatable in the valve body 9 is a valve plug or stem 12 having a handle or crank 13 and a radially disposed member 14 at one end thereof. The plug or stem 12 has a transverse straight port 15 and communicating therewith is a radially disposed port 16, preferably at right angles to the transverse port 15, thus leaving a solid portion or blank wall 17 in connection with the plug or stem that may close either one of the passages 11, depending on the position in which the plug or stem 12 is placed.

Suitably connected to the wall 6 of the oven 1 is a resilient notched or grooved keeper 18 for the radially disposed member 14 of the valve plug or stem, and the notch or groove of the keeper is adapted to receive the rounded end of the member 14 and thus hold the valve plug or stem against accidental rotation. It is preferable to place the handle 13 and the member 14 in the same plane, with the handle 13 projecting from one side of the valve plug or stem, and the member 14 from the opposite side thereof, and it is furthermore, preferable to have the handle 13 and the member 14 in a plane at right angles to the axis of the transverse port 15. It is therefore evident that when the member 14 is in engagement with the

keeper 18, the blank wall 17 of the plug or stem will be presented to the passage 11 communicating with the pipe 10, and consequently the supply of gas or fuel will be shut off to the pipe 8 and the upper and lower corners communicating therewith. Now, when the handle 13 is swung upwardly and said handle and member 14 are in the same vertical plane as the pipe 8, then the valve plug or stem is turned counterclockwise a quarter of a revolution, placing one end of the port 15 in communication with the pipe 10 and the port 16 in communication with the lower end of the pipe 8. Gas or fuel can then flow through one end of the port 15 into the port 16 and into the lower end of the pipe 8 to supply the lower burner 4, and it will be impossible to use the upper burner 3 without affecting the operation of the lower burner.

Before the upper burner 3 can be placed in operation, it is necessary that the three-way valve be operated and in so doing the gas is first shut off to the lower burner and then turned on for the upper burner. To shut off the lower burner 4, the valve plug or stem is turned clockwise for a quarter of a revolution, placing the plug or stem in the position shown in Fig. 2, and by continuing the clockwise movement of the plug or stem, the port 16 is brought into communication with the upper end of the pipe 8 establishing communication between the supply pipe 10 and the upper burner 3. With the valve plug or stem in this position the blank wall 17 is presented in the passage 11 communicating with the lower end of the pipe 8, and it is therefore impossible to use the lower burner 4 while the upper burner 3 is in operation.

An instance has been known, where through inadvertence, carelessness, or actual ignorance, burners equipped with independent valves have had the gas or fuel turned on and only one burner properly lighted, thus resulting in an explosion injurious to the range or stove and very often to the

person or persons about the stove. Then again, some types of ovens having burners are only built to have one burner operated at a time, that is, provision is made for proper ventilation of the oven, during the operation of one burner, and to prevent food from being overcooked or ruined by a cook or person placing both burners in operation, it is essential that some provision be made to prevent this, the above and other accidents from occurring. The difficulty has been solved by the use of the single three-way valve previously described, associated with the keeper 18 and particularly the member 14 which will indicate the burner in operation or when the gas or fuel is shut off.

It is thought that the utility of my invention will be apparent without further description, and while in the drawing there is illustrated a preferred embodiment of the same, it is to be understood that the structural elements are susceptible to rearrangement and such changes as fall within the scope of the appended claim.

What I claim is:—

Means for preventing accidental actuation of a valve having more than one adjustment relative to a stove, comprising a resilient member, adapted to have one end thereof fixed to the stove adjacent said valve and its opposite end free to be frictionally engaged, and a valve member in alignment with and opposed to the usual handle of the valve and movable therewith, said resilient member having its free end disposed at a tangent to the arc in which the valve member moves so that said valve member may engage said resilient member from two directions and retain said valve handle in adjusted position.

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

HENRY C. MAUL.

Witnesses:

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CECIL MARTIN.