No. 817,182. PATENTED APR. 10, 1906.

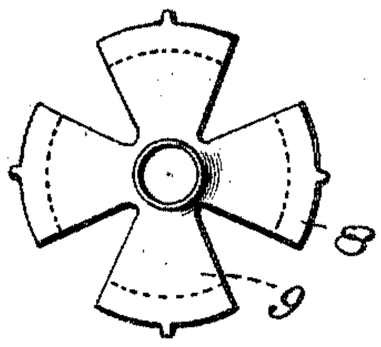
F. D. MOSES.

STOVE.

APPLICATION FILED AUG. 25, 1904.

2 SHEETS—SHEET 1.

Fig. 4.



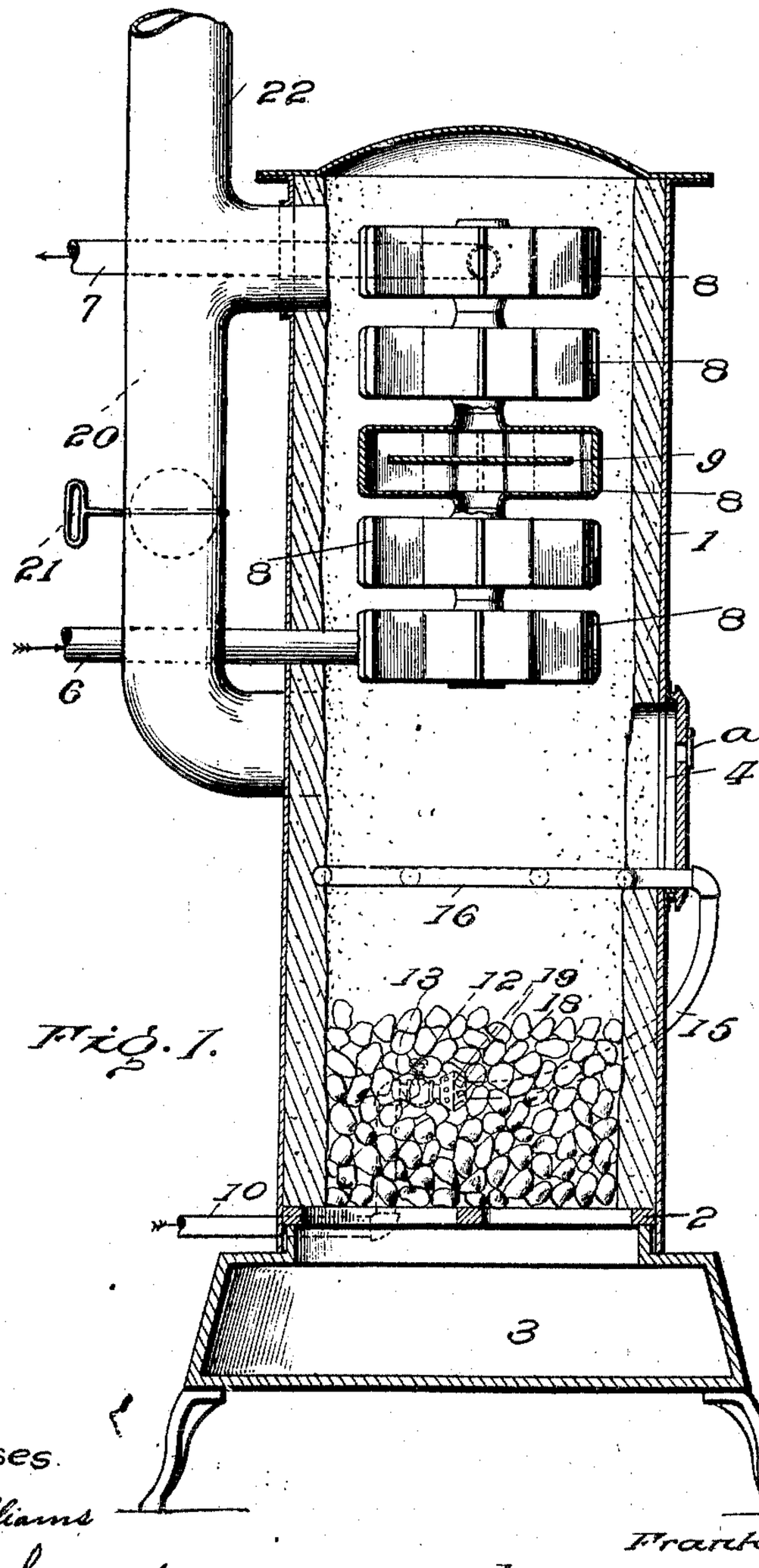


Fig. 1.

Witnesses.
W. W. Williams
Jas. A. Richmond

Inventor.
Frank D. Moses.
by Augustus B. Stoughton.
Atty.

No. 817,182. PATENTED APR. 10, 1906.

F. D. MOSES.

STOVE.

APPLICATION FILED AUG. 25, 1904.

2 SHEETS—SHEET 2.

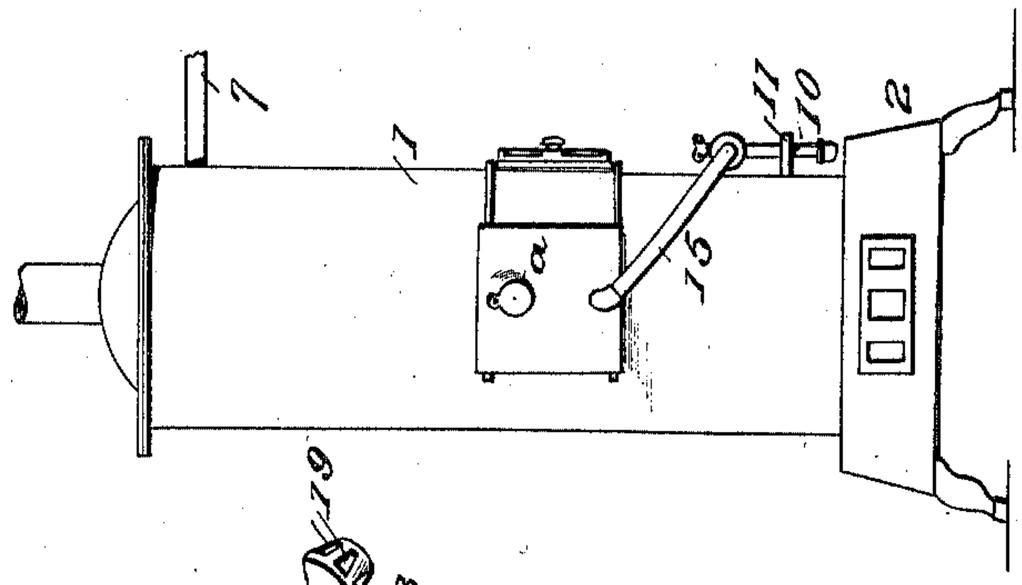


Fig. 2.

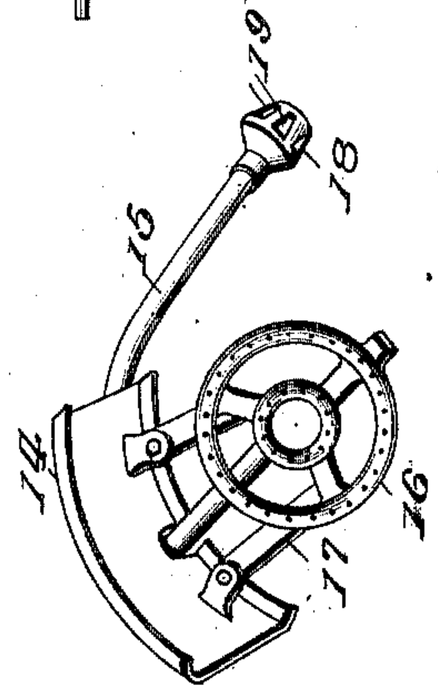


Fig. 5.

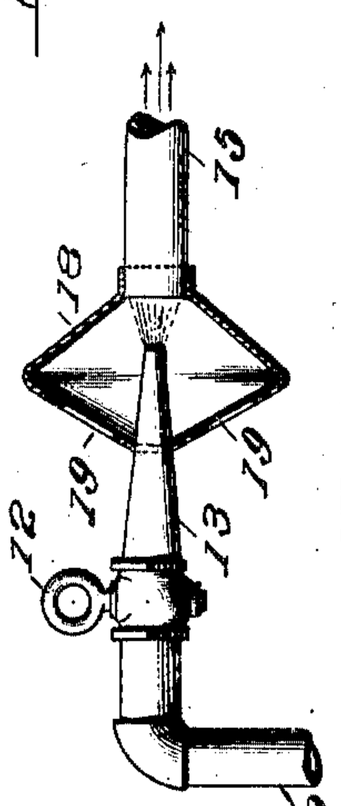


Fig. 6.

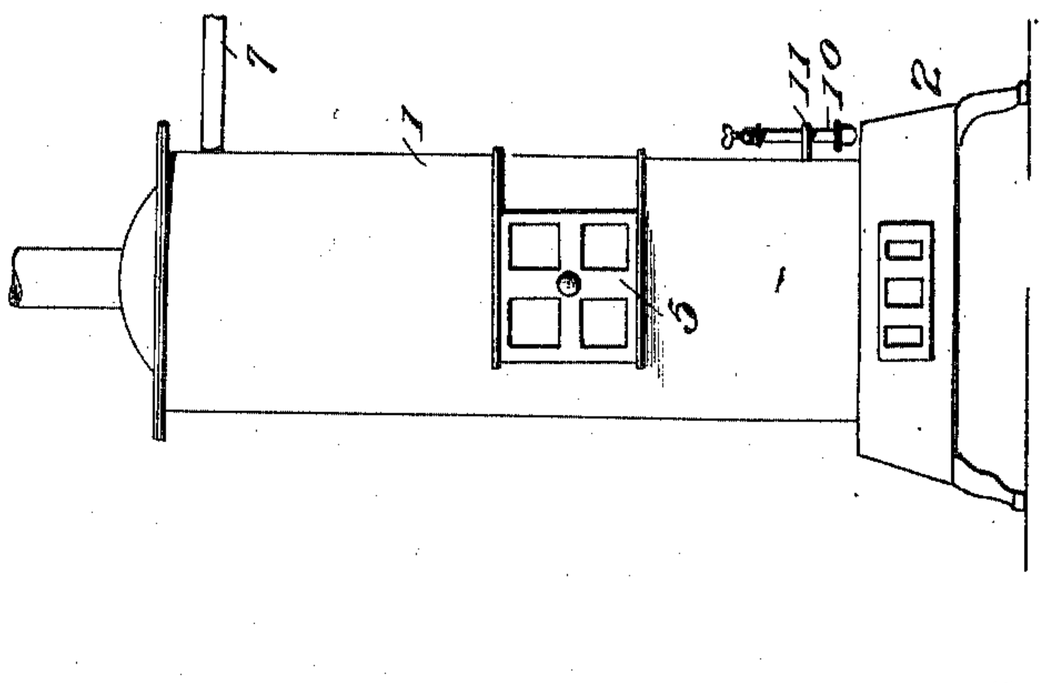


Fig. 3.

Witnesses.
W. A. Williams.
Jas. A. Richmond

Inventor.
Frank D. Moses.
by Augustus B. Stoughton.
Atty.

UNITED STATES PATENT OFFICE

FRANK D. MOSES, OF TRENTON, NEW JERSEY.

STOVE.

No. 817,182. Specification of Letters Patent. Patented April 10, 1906.

Application filed August 25, 1904. Serial No. 222,079.

To all whom it may concern:

Be it known that I, FRANK D. MOSES, a citizen of the United States, residing at Trenton, in the county of Mercer and State of New Jersey, have invented certain new and useful Improvements in Stoves, of which the following is a specification.

Objects of the present invention are to provide a comparatively inexpensive, economical, and reliable stove for heating water and which is equally well adapted for burning either gas, coke, or coal; to provide for conveniently converting the stove for the use of either gas, coke, or coal without requiring the use of tools of any sort or kind; to provide improved devices and attachments of such character that the stove may be adapted to consume either gas, coke, or coal by even an unskilful attendant and without necessarily requiring the removal of whatever coal or ashes may have collected, and to provide a combined gas and coal burner stove which may be used in the summer for heating water without necessarily heating the apartment where it is located and which may be used in the winter—for example, in a kitchen fitted with a gas cooking-stove, where it will serve not only to supply hot water, but also by burning coal to heat the kitchen.

To these and other ends hereinafter set forth the invention comprises the improvements to be presently described and finally pointed out in the claims.

The nature, characteristic features, and scope of the invention will be more fully understood from the following description, taken in connection with the accompanying drawings, forming part hereof, and in which—

Figure 1 is a view principally in elevation, illustrating a stove embodying features of the invention arranged to consume gas. Fig. 2 is a front view of the same drawn to a reduced scale. Fig. 3 is a front view of the stove arranged to consume coal. Fig. 4 is a top or plan view of one of the sections of the water-heater. Fig. 5 is a perspective view of a shutter which is adapted for application and removal to the firing-door, and Fig. 6 is a sectional view illustrating a detachable gas connection.

In the drawings, 1 is a suitable shell, as of sheet iron, which is or may be internally lined. As shown, it is of cylindrical form; but that is not essential to the invention. At the base of the shell there is arranged a grate 2, upon which coal may be burned and beneath which and in the base of the stove there is an ash-pit 3. This shell is provided with a firing-opening 4, located above the grate and shown as provided with a door 5, that may be opened and closed. In the present instance the door 5 is shown as slidably mounted on suitable ways, so that it can be pushed to one side to uncover the firing-opening. At the top of the shell there is located a water-heater having an inlet-pipe 6 and an outlet-pipe 7. This heater is illustrated as consisting of a number of hollow bodies 8 of the form of Maltese crosses, connected so as to communicate at their centers and provided internally with baffle-plates 9. Thus the water in passing from pipe 6 to pipe 7 traverses the various bodies and is caused to properly circulate by reason of the baffle-plates.

10 is a gas connection which may be attached so as to receive a proper supply from a main, and it constitutes, in effect, a permanent fitting of the stove. As shown, it consists of a pipe connected with the base of the stove, as by a bracket 11, and provided with a gas-cock 12 and a jet-producer 13.

14 is a shutter provided upon one side with a gas connection 15, shown to consist of a pipe, as of metal, and upon the other side with a gas-burner 16, connected with the pipe 15 and carried by suitable supports as 17. The preponderance of weight is in favor of the burner 16 as compared with the connection 15 for a purpose to be presently described. The pipe 15 is shown as provided with an air-intake 18, having an opening or socket adapted to detachably receive the jet-producer 13, so that when assembled the parts constitute a Bunsen or air-mixing tube.

To arrange the stove for the consumption of gas, the firing-door 5 is removed—for example, by pushing it to one side. The shutter is then so positioned that its burner 16 extends through the firing-opening, while its gas connection 15 is slipped over the end 13 of the gas connection 10. In this position the preponderance of weight of the burner 16 in respect to the gas connection 15 serves to hold the shutter 14 is front of the firing-opening and the other parts in the position described. Obviously this can be readily accomplished by one having comparatively little skill, because there is no necessity for the use of tools, and all that is required is to simply push the burner into the stove and pass the end of the gas connection 15 over the end of the gas connection 13. Further-

more, the presence of coal or ashes in the base of the stove would not interfere with the described operation, as the burner 16 occupies a position well above the same. Having arranged the parts in the position described, all that is required for lighting the stove is to properly manipulate the cock 12, which causes a jet to be discharged into the mixing-tube 15, thereby drawing in air at the openings 19 and supplying the burner 16 with a proper mixture. If there should occur any leakage between the parts 18 and 13, no harm would be done, as the purpose is to introduce in this neighborhood a supply of air to the gas. The by-pass 20 and its damper 21 may be employed for diverting some of the heat from the water-heater in cases where the latter would become too hot if the hot products were allowed to escape from the top of the stove through the offtake 22.

When the stove is thus used for burning gas, it obviously affords means for heating water, still itself radiating comparatively little heat. It therefore makes an excellent article for use in summer in connection with the use of gas cooking-stoves, because when located in the kitchen it does not tend to unduly heat the latter. To burn coal in the stove, all that is required is to lift the shutter 14, and with it the connection 15, away from the stove, when the latter is ready to be fired with coal in the ordinary and well-understood manner, and when fired with coal the stove is still well adapted for use in connection with a gas-stove, because it not only serves to heat water, but also to heat the apartment where it is located—for example, the kitchen in winter—which would otherwise in many cases be very cold if it contained only the gas cooking-stove. Of course the described stove is also useful in many other localities and either with or without other heating or cooking means.

a is an opening in the shutter shown as provided with a swinging door, and it serves as a lighting-opening through which a taper or the like may be inserted to light the gas-burner.

It will be obvious to those skilled in the art to which the invention relates that modifications may be made in details without departing from the spirit thereof. Hence the invention is not limited further than the prior state of the art may require; but,

Having thus described the nature and object of the invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A convertible hard-fuel and fluid burner comprising a stove-casing, a water-heater arranged at the top of said casing and consisting of a series of hollow Maltese-cross-shaped bodies internally provided with baffle-plates, said casing having a firing-opening and grate arranged beneath the water-heater and slideways mounted in proximity with said opening, a shutter carrying a burner and adapted to hang on said slideways, and a two-part gas connection whereof one part is attached to the stove and the other to the shutter, substantially as described.

2. A stove provided in the upper part of its interior with a water-heater and in the lower part of its interior with a fuel-space, with a firing-opening arranged between the water-heater and fuel-space, slideways mounted in proximity with said firing-opening a shutter provided with a laterally-projecting gas-burner and arranged to hang in said slideways, and a two-part gas connection whereof one part is carried by the stove and the other by the shutter, substantially as described.

3. The combination of a stove provided with a grate and internally at its top with a water-heater and with an offtake, a dampered by-pass from below the water-heater to the offtake, a firing-opening arranged beneath the water-heater and above the grate-space, a shutter provided with a laterally-projecting gas-burner and shiftable with relation to the firing-opening, and a two-part gas connection whereof one part is carried by the stove and the other by the shutter, substantially as described.

In testimony whereof I have hereunto signed my name.

FRANK D. MOSES.

Witnesses:
CHAS. G. COOK,
W. L. THOMPSON.