G. W. HOWES.

GAS STOVE.

APPLICATION FILED JUNE 20, 1921.

1,410,183. Patented Mar. 21, 1922.

2 SHEETS—SHEET 1.

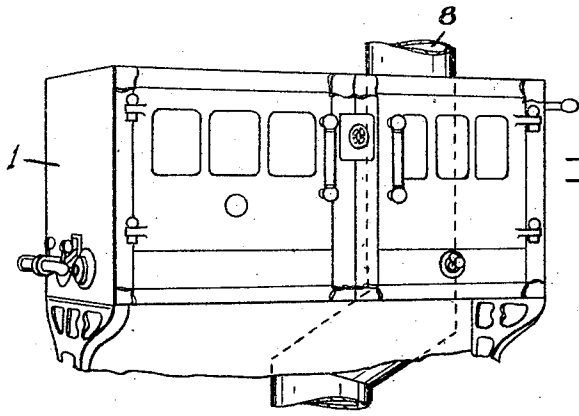

FIG. I.

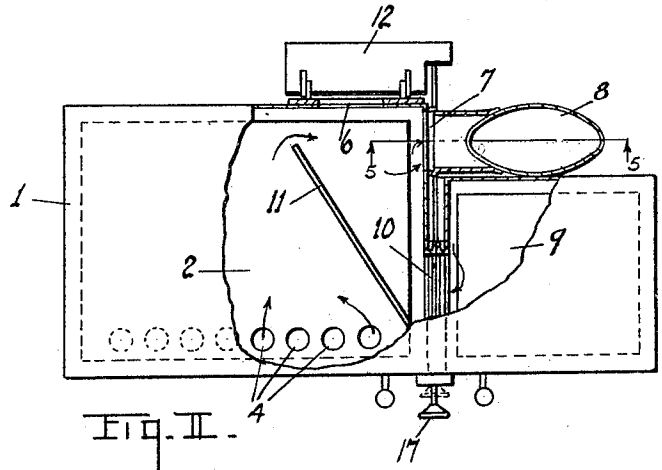

FIG. II.

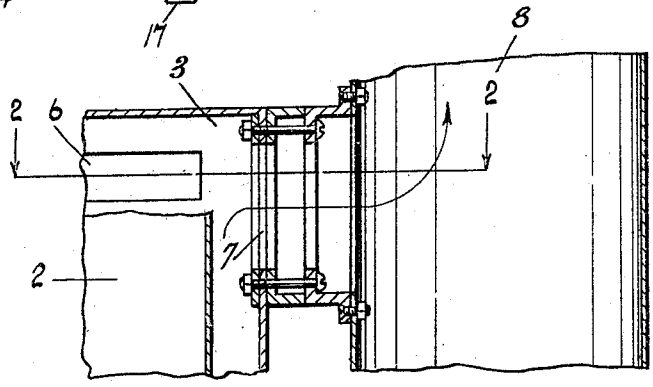

FIG. V.

INVENTOR.

George W. Howes

BY Chappell & Earl

ATTORNEYS.

G. W. HOWES.

GAS STOVE.

APPLICATION FILED JUNE 20, 1921.

1,410,183.

Patented Mar. 21, 1922.

2 SHEETS—SHEET 2.

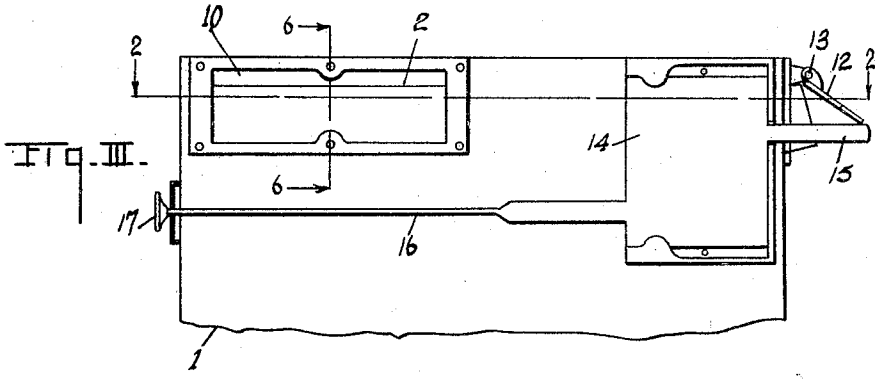

FIG. III.

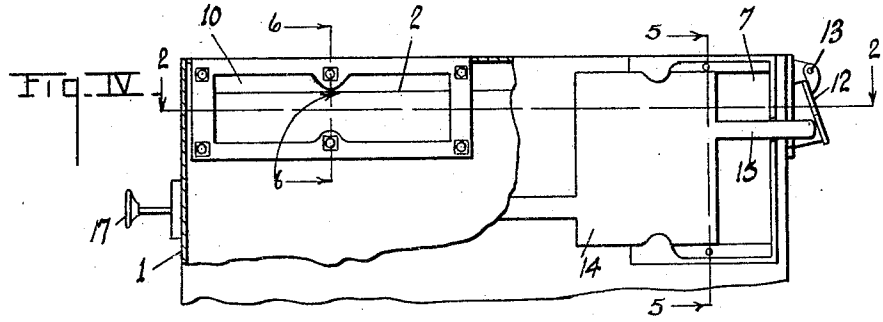

FIG. IV.

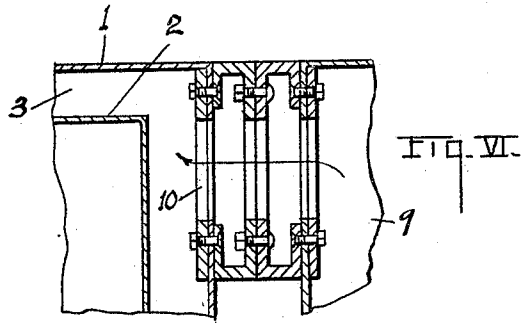

FIG. VI.

INVENTOR.

George W. Howes

BY Chappell & Earl

ATTORNEYS.

UNITED STATES PATENT OFFICE.

GEORGE W. HOWES, OF DOWAGIAC, MICHIGAN, ASSIGNOR TO THE BECKWITH COMPANY, OF DOWAGIAC, MICHIGAN.

GAS STOVE.

1,410,183. Specification of Letters Patent. **Patented Mar. 21, 1922.**

Application filed June 20, 1921. Serial No. 478,950.

To all whom it may concern:

Be it known that I, GEORGE W. HOWES, a citizen of the United States, residing at Dowagiac, county of Cass, State of Michigan, have invented certain new and useful Improvements in Gas Stoves, of which the following is a specification.

This invention relates to improvements in gas stoves.

My improvements are particularly designed by me for combination fuel stoves and I have illustrated the same as I have embodied them in such structures. My improvements are, however, desirable for use in stoves burning only gas.

The main object of this invention is to provide a combination stove with means for effectively venting the gas oven and broiler thereof and caring for the products of combustion.

Further objects and objects relating to structural details, will definitely appear from the detailed description to follow.

I accomplish the objects of my invention by the devices and means described in the following specification. The invention is clearly defined and pointed out in the claims.

A structure which is a preferred embodiment of my invention is clearly illustrated in the accompanying drawing, forming a part of this specification, in which:

Fig. I is a detail front perspective view of a structure embodying the features of my invention, the solid burning portion of the stove being omitted.

Fig. II is a fragmentary view partially in horizontal section on a line corresponding to line 2—2 of Fig. III, IV and V.

Fig. III is a fragmentary end view of the oven with the broiler removed, the flue damper being closed.

Fig. IV is a similar fragmentary view with the flue damper partially open.

Fig. V is a detail vertical section on a line corresponding to line 5—5 of Figs. II and IV.

Fig. VI is a detail vertical section on a line corresponding to line 6—6 of Figs. III and IV.

In the drawing similar reference characters refer to similar parts throughout the several views, and the sectional views are taken looking in the direction of the little arrows at the ends of the section lines.

Referring to the drawing, 1 is the outer casing of the oven and 2 the oven proper. The walls of the outer casing are spaced from the oven, particularly at the top, providing a flue chamber 3 embracing the top of the oven. The oven has a series of vent openings 4 in its top opening into this flue chamber, these vent openings being located at the front of the oven.

The flue chamber is provided with a vent opening 6 at the rear and with a flue discharge opening 7 opening into the flue 8. This flue 8 is the flue of the solid fuel firepot, not here illustrated.

The broiler 9 has a vent opening 10 into the flue chamber. A baffle or partition 11 extends diagonally of the flue chamber, it being positioned between the broiler vent opening 10 and the vent openings 4 of the oven and extending rearwardly in front of the discharge opening 7 and the vent opening 10 of the flue chamber. The vent opening 10 is provided with a damper 12 pivotally supported at 13 so that it closes by gravity.

A slide damper 14 is provided for the discharge opening 7. This damper 14 is provided with an arm 15 projecting rearwardly to engage the arm 16 on the damper 12 so that when the damper 14 is in its closed position, as shown in Fig. III, the vent damper 12 is opened. The damper 14 is provided with an operating rod 16 extending to the front of the stove and provided with a handpiece 17. It is intended, when solid fuel is used, that the damper 14 shall be closed and that it shall be opened when the gas broiler or oven is used. However, in the event of the oven or broiler being used with the damper 14 closed the vent damper 12 is opened so that the broiler and gas oven are properly vented, although the products of combustion are then discharged into the room. This, however, while not desirable for continued use, is not seriously objectionable for occasional operation such as is likely to occur where the gas oven or broiler is used at the same time as the solid fuel is being used or where the operator inadvertently neglects opening the damper 14.

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

1. A combination stove including a flue, a gas oven and a broiler chamber disposed side by side, a flue chamber embracing the

top of said oven, said oven having a row of vent openings to said flue chamber at the front thereof, said broiler having a vent opening at the side thereof to said flue chamber, said flue chamber having a discharge opening into said flue and a vent opening at the rear thereof, a baffle disposed in said flue chamber between the vent openings of said oven and broiler and extending rearwardly across the top of the oven and in front of the discharge and vent openings of the flue chamber so that the products of combustion from said oven are compelled to pass rearwardly across the top of the oven and around the rear end of said baffle to said flue chamber discharge or vent openings, a damper for said flue chamber vent pivoted to be closed by gravity, and a slide damper for said flue chamber discharge provided with an arm coacting with said vent damper whereby said vent damper is opened when the discharge opening is closed and vice versa.

2. A combination stove including a flue, a gas oven and a broiler chamber disposed side by side, a flue chamber embracing the top of said oven, said oven having a row of vent openings to said flue chamber at the front thereof, said broiler having a vent opening at the side thereof to said flue chamber, said flue chamber having a discharge opening into said flue and a vent opening at the rear thereof, a damper for said flue chamber vent pivoted to be closed by gravity, and a slide damper for said flue chamber discharge provided with an arm coacting with said vent damper whereby said vent damper is opened when the discharge opening is closed and vice versa.

3. A combination stove including a flue, a gas oven and a broiler chamber disposed side by side, a flue chamber embracing the top of said oven, said oven having a row of vent openings to said flue chamber at the front thereof, said broiler having a vent opening at the side thereof to said flue chamber, said flue chamber having a discharge opening into said flue and a vent opening at the rear thereof, a baffle disposed in said flue chamber between the vent openings of said oven and broiler and extending rearwardly across the top of the oven and in front of the discharge and vent openings of the flue chamber so that the products of combustion from said oven are compelled to pass rearwardly across the top of the oven and around the rear end of said baffle to said flue chamber discharge or vent openings, a damper for said flue chamber vent, and a damper for said flue chamber discharge operatively associated with said vent damper so that said vent damper is opened when the discharge opening is closed and vice versa.

4. A combination stove including a flue, a gas oven and a broiler chamber disposed side by side, a flue chamber embracing the top of said oven, said oven having a row of vent openings to said flue chamber at the front thereof, said broiler having a vent opening at the side thereof to said flue chamber, said flue chamber having a discharge opening into said flue and a vent opening at the rear thereof, a damper for said flue chamber vent, and a damper for said flue chamber discharge operatively associated with said vent damper so that said vent damper is opened when the discharge opening is closed and vice versa.

5. The combination of a flue, a gas oven and a broiler chamber, a flue chamber embracing the top of said oven, said oven having a vent opening to said flue chamber, said broiler having a vent opening at the side thereof to said flue chamber, said flue chamber having a discharge opening into said flue and a vent opening at the rear thereof, a baffle disposed in said flue chamber between the vent openings of said oven and broiler, a damper for said flue chamber vent, and a slide damper for said flue chamber discharge operatively associated with said vent damper so that said vent damper is opened when the discharge opening is closed and vice versa.

6. The combination of a flue, a gas oven and a broiler chamber, a flue chamber embracing the top of said oven, said oven having a vent opening to said flue chamber, said broiler having a vent opening at the side thereof to said flue chamber, said flue chamber having a discharge opening into said flue and a vent opening at the rear thereof, a damper for said flue chamber vent, and a slide damper for said flue chamber discharge operatively associated with said vent damper so that said vent damper is opened when the discharge opening is closed and vice versa.

In witness whereof I have hereunto set my hand and seal.

GEORGE W. HOWES. [L. S.]