

C. P. QUIGLEY.

STOVE.

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998,800.

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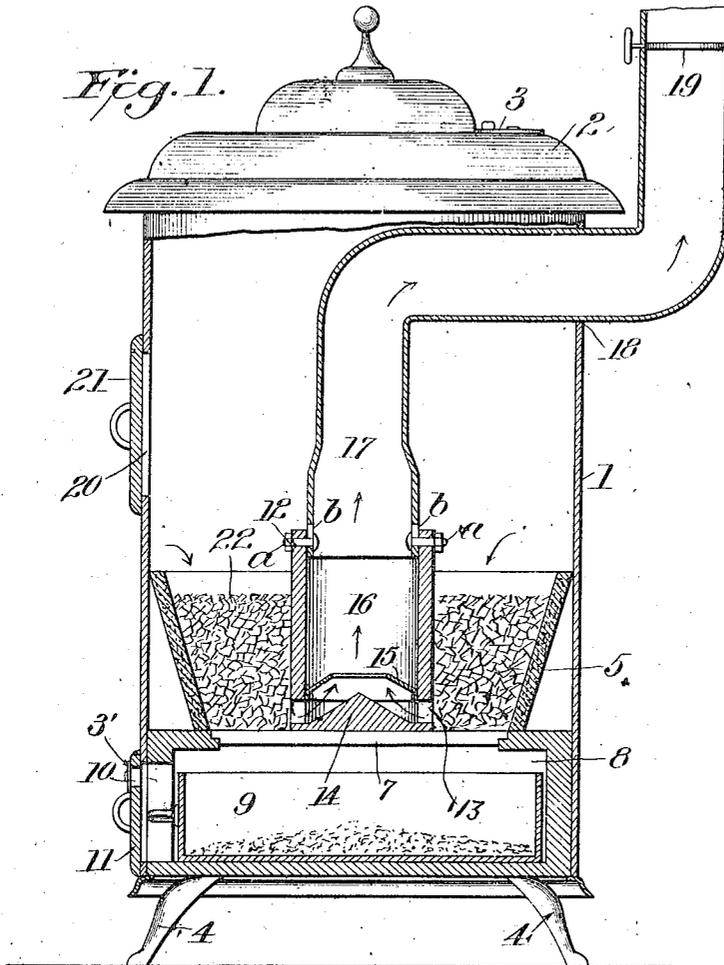


Fig. 2.

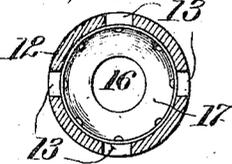
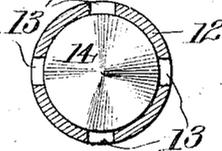


Fig. 3.



Witnesses

C. M. Walker.
R. C. Fischer.

Inventor

Charles P. Quigley

By

J. E. Holman

Attorney

UNITED STATES PATENT OFFICE.

CHARLES P. QUIGLEY, OF WEST MENTOR, OHIO.

STOVE.

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To all whom it may concern:

Be it known that I, CHARLES P. QUIGLEY, a citizen of the United States, residing at West Mentor, in the county of Lake and State of Ohio, have invented certain new and useful Improvements in Stoves, of which the following is a specification.

This invention relates to stoves.

One object is to provide a stove embodying such characteristics that there will be an effectual consumption of the fuel by virtue of an efficient combustion of the products, whereby excellent results are obtainable in the use of the cheaper grades of coal.

Another object of the invention resides in the provision of a stove of the nature stated, embodying among other characteristics means whereby there will be an efficient radiation of heat and a proper combustion of all fumes, gases and smoke prior to their discharge from the stove so that all products that are burnable may be utilized for radiation.

With the above and other objects in view, the present invention consists in the combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes may be made in the form, proportion, size and minor details without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings:—Figure 1 is a view partly in elevation and partly in vertical section. Fig. 2 is a transverse sectional view of the burner. Fig. 3 is another transverse sectional view of the burner.

Referring now more particularly to the accompanying drawings, the reference character 1 represents the shell of the stove which is provided with the top 2 having the damper 3, and whose bottom is elevated above the floor line by the legs 4, there being a lower damper 3' to regulate the draft from below the grate.

The character 5 indicates a fire pot of any suitable form and composed of any suitable material having a grate 7.

Immediately beneath the grate 7 is the ash pit 8 in which is mounted an ash pan 9, which may be inserted or withdrawn through an opening 10 provided with the closure 11.

The character 12 indicates a burner of

suitable refractory material, and which in the present instance is shown as of cylindrical form and which is suspended from the flue 17, its upper end being secured to the lower end of the flue 17 by means of bolts *a* passed through the upper end of the burner and adjustable in the slots *b* of said flue so that the burner may rest on the grate or be slightly elevated thereabove, as may be desired. The lower portion of the burner is provided with a plurality of openings 13 which permit of the passage of smoke, fumes and gases into the burner, the bottom of the burner on its interior being provided with a cone-shaped deflector 14, which tends to direct the smoke, fumes and gases upwardly through the burner, there being a deflector 15 secured to the burner upon its interior above the openings 13 and which flares upwardly to aid in deflecting the gases, fumes and smoke upwardly and to insure the gases mingling with the blaze in the burner, there being a central opening 16 in the deflector 15.

Communicating with the burner 12 at the upper end thereof is a flue 17, whose lower portion is disposed vertically and which at the upper end of the shell 1 is directed horizontally for passage through an opening 18 in the shell 1, there being a damper 19 in the flue to regulate the draft, as usual.

Fuel is fed to the fire pot 5 by way of the opening 20, having the closure 21, the fuel in the fire pot being indicated by the reference character 22. Obviously, the fuel may be fed by a magazine or in any other well known way. After starting the fire the burner 12 becomes hot at its lower portion, which heats the fresh coal on top of the fire and which forces the gas out of the coal, the fumes rising in the shell 1 above the fire pot, and as the damper 3, at such times, is closed, there is but one escape for the products of combustion. By virtue of the openings 13 in the burner 12, the products of combustion are drawn downwardly through the fuel 22 through said openings 13 and upwardly through the burner 12 and out through the flue 17. The result is that a great amount of heat is radiated from the fire pot 1 because everything in the products of combustion that is burnable is reduced to a dry smoke, and such products that will not burn pass out of the stove or heater by way of the flue 17.

By virtue of the burner 12, the fire pot has greater heating surface than would the fire

pot 5 have if the burner 12 were not disposed therein, and as the burner 12 becomes heated, there is consequently greater radiation of heat from the shell 1 and a more efficient consumption of the fuel in the fire pot.

Obviously, the flue 17 need not be flared at its lower end, as shown, and if desired the flue may be disposed at one side or at the rear of the shell 1 so as to dispose the burner other than centrally of the fire pot, if desired.

What is claimed is:—

1. The combination with a stove having a fire pot, an ash pit and a flue for the exit of products of combustion, of a hollow burner disposed in the fire pot and communicating with the flue and having its bottom provided with an inwardly directed cone deflector, and a deflector above the cone deflector for coöperation therewith, the burner having openings in its wall between said deflectors to establish communication between the fire pot and the flue.

2. The combination with a stove provided with a fire pot, a grate and a flue for the exit of products of combustion, of a hollow cylindrical shaped burner, the burner hav-

ing openings in its lower end to establish communication between the burner and the fire pot, the burner having its bottom provided with an inwardly directed cone-shaped deflector, and a deflector disposed within the burner above said openings for coöperation with the cone deflector, the upper end of the burner surrounding the lower end of the flue.

3. The combination with a stove having a fire pot, an ash pit and a flue extending into the stove, the flue being adapted for the exit of products of combustion, and a burner adjustably suspended from the inner end of the flue and communicating with the latter, the burner having its bottom provided with an inwardly directed cone deflector, and a deflector above the cone deflector for coöperation therewith, the burner being hollow and having openings between said deflectors to establish communication between the fire pot and the flue.

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

CHARLES P. QUIGLEY.

Witnesses:

M. S. OSBORNE,
HARRY T. NOLAN.