

No. 622,726.

Patented Apr. 11, 1899.

H. C. STEINHOFF.
GAS HEATER.

(Application filed Dec. 9, 1898.)

(No Model.)

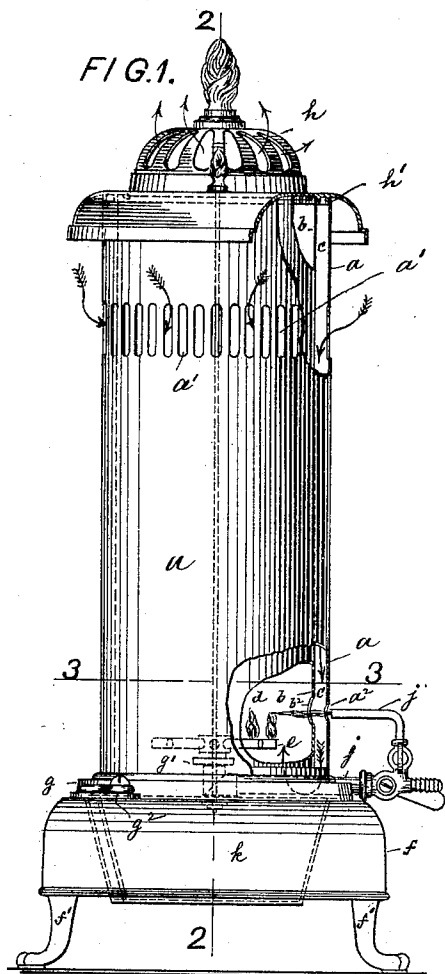
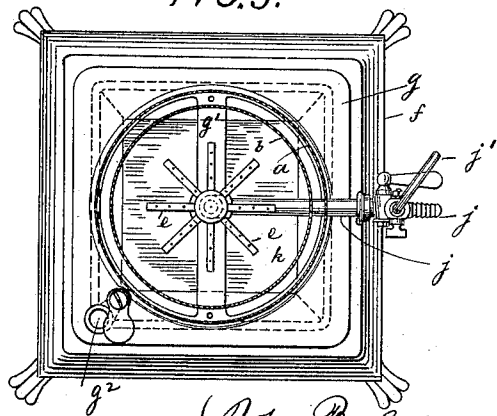


FIG. 3.



Witnesses: { John Becker.
William Miller.

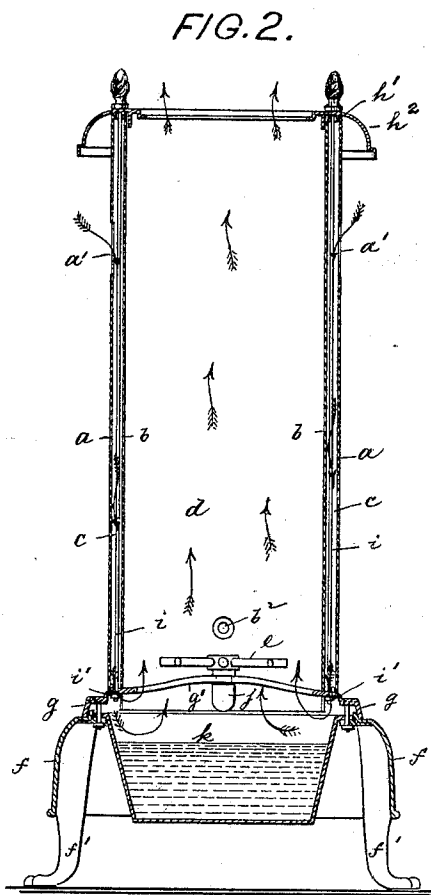
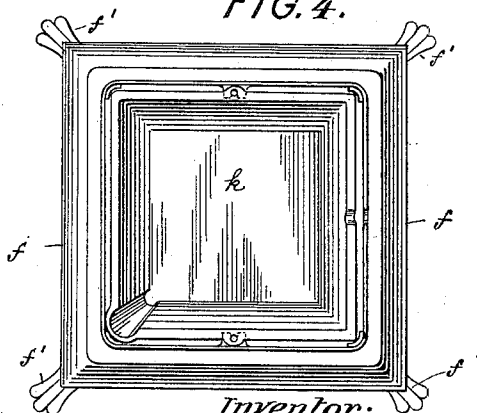


FIG. 4.



Inventor:
Henry C. Steinhoff
by his attorneys
Boeders & Briesen

UNITED STATES PATENT OFFICE.

HENRY C. STEINHOFF, OF WEST HOBOKEN, NEW JERSEY.

GAS-HEATER.

SPECIFICATION forming part of Letters Patent No. 622,726, dated April 11, 1899.

Application filed December 9, 1898. Serial No. 698,708. (No model.)

To all whom it may concern:

Be it known that I, HENRY C. STEINHOFF, a citizen of the United States, and a resident of West Hoboken, Hudson county, New Jersey, have invented new and useful Improvements in Gas or Oil Heaters, of which the following is a specification.

This invention relates to a gas or oil heater or stove which supplies the burner with heated air and causes the hot air while rising in the combustion-chamber to become thoroughly impregnated with moisture.

The invention consists in the various features of construction fully pointed out in the claims.

In the accompanying drawings, Figure 1 is a side elevation, partly broken away, of a gas-heater embodying my invention; Fig. 2, a vertical section on line 2 2, Fig. 1, with top *h* removed; Fig. 3, a horizontal section on line 3 3, Fig. 1; and Fig. 4, a plan of the base with plate *g* removed.

The body of the stove is composed of two concentric shells *a* and *b*, both open at the bottom and between which an annular air-space *c* is formed, which extends entirely around the combustion-chamber *d*, inclosed by the inner shell *b*. Cold air is admitted to this air-space or downtake-flue *c* by upper openings *a'* in the outer shell *a*, the air being drawn down the flue and around the lower free edge of the inner shell *b* into the combustion-chamber *d*, so as to thus become heated and to supply the burner *e*, located in chamber *d*, with warm air.

f is the annular base of the stove, supported upon legs *f'* and having a top plate *g*, upon which the outer shell *a* is set. The top plate *g* is provided with a diametrically-extending bridge-piece *g'*, spanning its central opening and constituting a support for the lower notched edge of the inner shell *b*, so as not to impede the flow of hot air around such edge. An upper flanged ring *h*², supported on the shells *a b*, is provided with a dividing-flange *h'* between such shells and is by bolts *i* and nuts *i'* connected to the bridge *g'*, so that in this way all the parts of the stove are properly assembled. Upon the inner flange

of the ring *h*² the removable open-work top *h* of the stove is seated.

The bridge *g'* is centrally perforated to admit the elbow of the gas-pipe *j*, which pipe may be provided outside of the stove with an auxiliary or "pilot" burner *j'*, which when ignited ignites the main burner *e* through perforations *a*² *b*² in shells *a b*.

Below the burner *e* there is hung within the base *f* and below the open top plate *g* a water-pan *k*, from which the vapors may freely rise into the combustion-chamber *d* through the central opening of the plate *g*. A filling-opening *g*² in this plate permits the water in pan *k* to be replenished.

As the burner *e* is ignited, it will heat the air in chamber *d*, and thus induce a flow of air through openings *a'*, down flue *c*, around the lower edge of shell *b*, through open top plate *g*, over the water in pan *k*, and into the lower end of chamber *d*, thus effecting a preliminary heating of the air and supplying the burner with such heated air. The heated air rising in chamber *d* will be impregnated with vapors from the pan *k*, the water in which is rapidly evaporated by the current of air passing over it, and the air thus moistened will be discharged into the room through the open top *h*.

It will be seen that in my improved stove a thorough double-heating effect is obtained and that the hot air while rising through the combustion-chamber is thoroughly saturated with moisture, so that a desirable moist heat is given off.

What I claim is—

1. A heater composed of two shells which are open at the bottom and form an inner combustion-chamber and a surrounding downtake-flue communicating with the combustion-chamber at its lower end, combined with a burner within the combustion-chamber, and a water-pan beneath the burner and in communication at the lower open end of the shells with the downtake-flue and also with the combustion-chamber, substantially as specified.
2. A heater composed of a base having an open top plate, a water-pan contained within the base beneath the top plate, two shells

which are open at the bottom, and of which the outer shell is supported upon the top plate and has an upper air-inlet, means for supporting the inner shell, and an inclosed
5 burner, all being so constructed that the down-take-flue and combustion-chamber formed by the shells, communicate at the bottom with

one another and also jointly through the open top plate with the water-pan, substantially as specified.

HENRY C. STEINHOFF.

Witnesses:

WILLIAM MILLER,
F. V. BRIESEN.