

(No Model.)

W. CARSWELL & J. G. MILLER.

GAS AND OIL HEATING STOVE.

No. 251,185.

Patented Dec. 20, 1881.

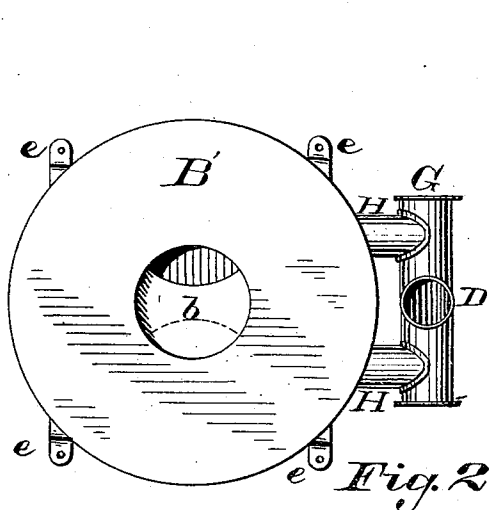


Fig. 2

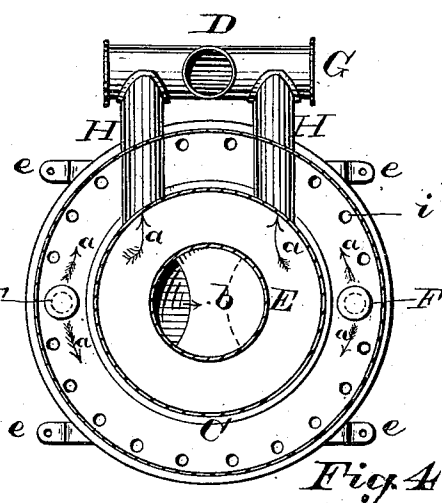


Fig. 4

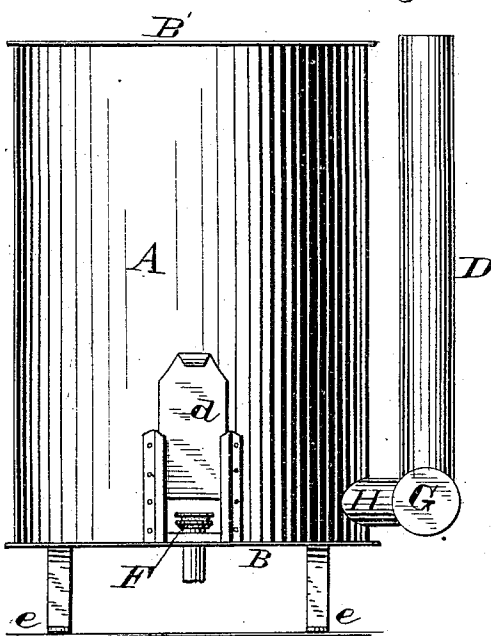


Fig. 1

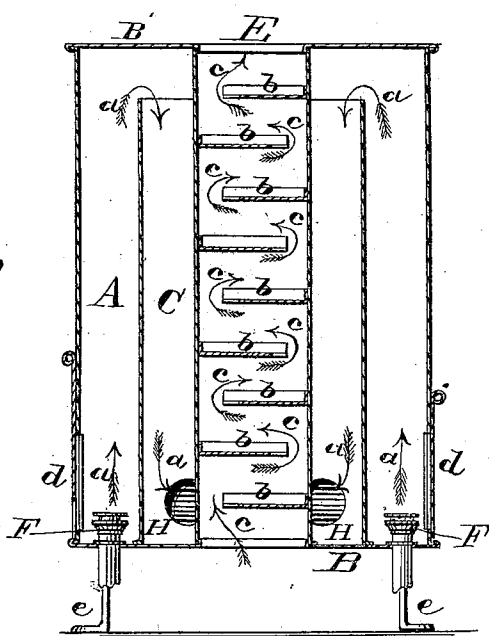


Fig. 3

WITNESSES:

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WALTER CARSWELL AND JAMES G. MILLER, OF GREEN BAY, WISCONSIN.

GAS AND OIL HEATING STOVE.

SPECIFICATION forming part of Letters Patent No. 251,185, dated December 27, 1881.

Application filed September 28, 1881. (No model.)

To all whom it may concern:

Be it known that we, WALTER CARSWELL and JAMES GEDNEY MILLER, both citizens of the United States, residing at Green Bay, in the county of Brown and State of Wisconsin, have invented a new and useful Gas and Oil Heating Stove, of which the following is a specification.

Our invention relates to improvements in gas and oil heating stoves; and the objects of our invention are, first, to provide a stove in which the heat is distributed over a large amount of heating-surface, and utilizing the heat to a greater degree than the devices now in use; and, second, to provide exit-flues near the bottom of the stove, by which construction the heat is drawn downward to the base, making a base-heating stove. We attain these objects by an arrangement of parts fully illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of our stove; Fig. 2, a plan view; Fig. 3, a vertical and Fig. 4 a horizontal sectional view of the same.

Similar letters refer to similar parts throughout the several views.

The outer case of the stove consists of a cylinder, A, having the ends B and B', the whole resting upon the legs *eeee*.

Running through the center of the cylinder A, and secured to the ends B B', is the inside cylinder, E, provided with a series of projections or dampers, *b*, projecting alternately from opposite sides thereof about two-thirds the distance across the diameter of said cylinder, forming a broken or irregular passage throughout its length. (Indicated by arrows *c*.)

Situated inside of the stove, about half-way between the outer cylinder, A, and inner cylinder, E, and concentric therewith, is the annular flue C, secured to the bottom B, and extending to within about three inches of the top B', forming a continuous passage from bottom to top of stove, around inside the outer cylinder, A, and thence downward from top to bottom around the inner cylinder, E, as indicated by the arrows *a*.

Near the bottom of the annular flue C are the exit flues or pipes H H, which pierce the outer cylinder, A, and connect with the receiver G, from which leads the pipe or chimney D.

Situated at the bottom of the stove, between the annular flue C and the outer cylinder, A, are the burners F F, (of which any number may be used,) of any suitable form, and connected with the supply in any convenient manner. The burners are readily accessible for lighting, cleaning, &c., by means of the doors *d*, one of which is placed opposite each for that purpose.

The bottom B is supplied with a number of perforations, (shown at *i*, Fig. 4,) which supply the necessary amount of oxygen to the burners to render the combustion complete.

The operation is as follows: The products of combustion from the burners F ascend between the annular flue C and the outer cylinder, A, to the top of the stove, where it accumulates to a certain extent, and then descends around the inner cylinder, E, to the exit-flues H H, as indicated by the arrows *a*, from thence to the chimney D, causing a draft, which removes any obnoxious odors which might arise from the burners and draws the heated air downward to the base of the stove, thus making a base-heating stove. The cool air enters at the bottom of the cylinder E, absorbs the heat from the products of combustion before they enter the chimney D, then rises, as indicated by the arrows *c*, through the irregular passage formed by the projections *b*, and, becoming thoroughly heated, is emitted from the top and heats the apartment in which the stove is placed by convection.

It will be readily understood that the heat is also radiated from all sides of the outer cylinder, A, and the top B'.

From the above description it will be evident that our stove is equally adaptable to either gas or oil as a fuel, and in localities where there are no gas works or "mains" oil may be used and the stove be made to emit the same amount of heat as with gas.

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a base-heating gas or oil stove, the combination of the outer cylinder, A, and inner cylinder, E, provided with projections *b*, with the annular flue C, having exits H H at or near the bottom, substantially as described.

2. In a gas and oil heating stove, the combination of the outer cylinder, A, inner cylin-

der, E, and annular flue C with the burners
F, whereby a continuous passage or flue is
formed which shall heat both of said cylin-
ders at the same time, substantially as shown
5 and described.

3. In a gas and oil heating stove, the com-
bination of the outer cylinder, A, the inner
cylinder, E, having projections *b*, the annular

flue C, exit-flues H, receiver G, pipe D, burn-
ers F, and doors *d*, substantially as described 10
and shown, and for the purpose set forth.

WALTER CARSWELL.

JAMES GEDNEY MILLER.

Witnesses:

SAML. D. HASTINGS, Jr.,
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