

M. B. MASON.
Heating-Stoves.

No. 146,351.

Patented Jan. 13, 1874.

FIG. 1.

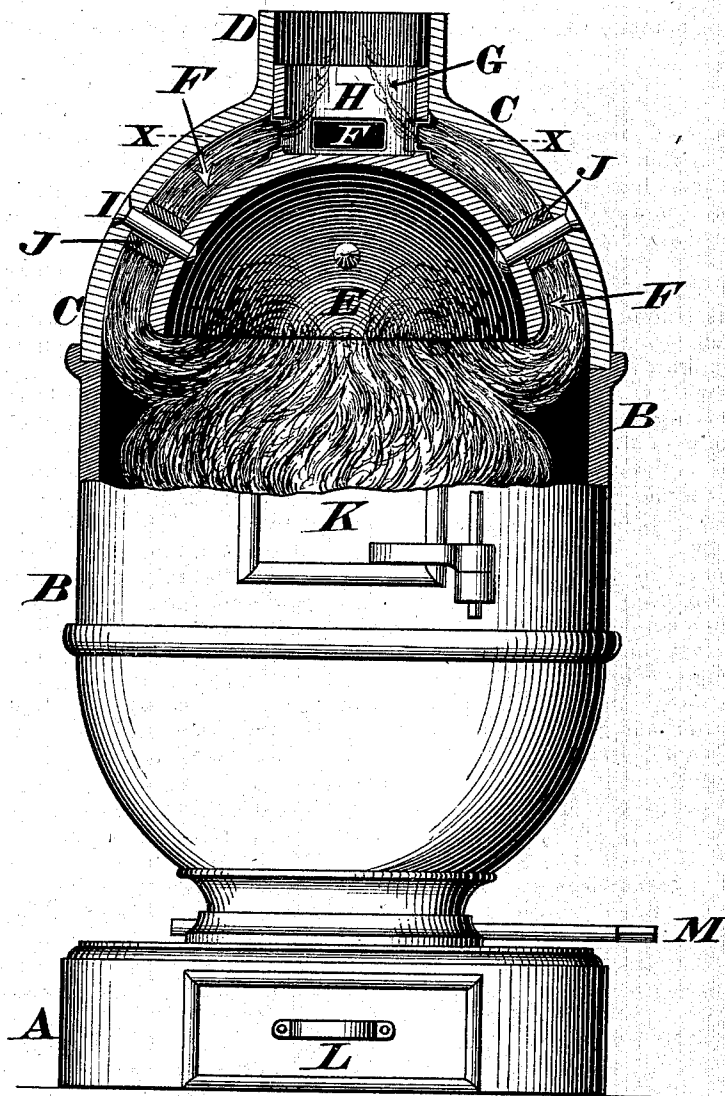
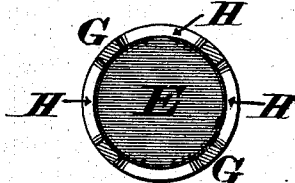


FIG. 2.



Attest.
Jas. H. Lacy att.
Walter Allen

M. B. Mason
By Wright Bros.
Atty

UNITED STATES PATENT OFFICE.

MATTHEW B. MASON, OF KANSAS CITY, MISSOURI, ASSIGNOR TO HIMSELF,
BENJ. S. HENNING, CHARLES H. PRESCOTT, AND JOHN S. McCURUM.

IMPROVEMENT IN HEATING-STOVES.

Specification forming part of Letters Patent No. **146,351**, dated January 13, 1874; application filed
December 10, 1873.

To all whom it may concern:

Be it known that I, MATTHEW B. MASON, of Kansas City, Jackson county, Missouri, have invented a new and useful Improvement in Heating-Stoves, of which the following is a specification:

This invention relates to that class of heating apparatus commonly known as "cannon stoves," which stoves consist, essentially, of an upright cylindrical body or fire-chamber, surmounted with a hemispherical or dome-shaped top having a central opening, through which the products of combustion escape; and the object of my improvement is to render such stove capable of radiating an increased amount of heat without adding to the consumption of fuel.

I accomplish this result in the following manner: The dome-shaped top has fitted within it a hollow hemispherical reflector or baffle-plate, whose location is such as to leave an annular passage or flue between it and the interior of the stove top, and the products of combustion, after being deflected by said plate, must then ascend within said flue before escaping through the smoke-pipe; but before escaping from the stove the products of combustion are compelled to pass through apertures in the neck of the deflector, and, owing to the comparatively limited area of said openings, and its devious course therethrough, the current of smoke is somewhat retarded within the annular flue. By thus retarding the products of combustion before they escape into the smoke-pipe, two important advantages ensue. In the first place, the smoke, being retained in contact with the highly-heated baffle-plate, has all of its combustible matters thoroughly consumed. In the second place, the heat, being diverted by the baffle-plate, and not allowed to take a direct central route, is brought more intimately in contact with the sides of the stove, and consequently more heat is radiated therefrom than would be done in case the baffle-plate were omitted.

Figure 1 is a representation of a stove provided with my improved deflector, the upper portion of said stove being in section, while the lower part thereof is shown in elevation.

Fig. 2 is a horizontal section through the neck of the deflector or baffle-plate.

The stove consists essentially of the base A, cylindrical fire-chamber B, and a hemispherical or dome-shaped cap or top, C, which latter has a customary central neck, D, to which the stove-pipe is applied in the usual manner. Fitted concentrically within this dome-shaped top is a hollow hemispherical deflector or baffle-plate, E, whose location is such as to leave an annular flue, F, between it and the interior of the stove top or cover. Cast with said deflector, and projecting upwardly therefrom, is a cylindrical neck, G, which is adapted to enter and fit snugly within the neck D of the stove top. The neck G is open at top, closed at bottom, and is pierced with a number of apertures, H, whose united area is somewhat less than the area of the annular flue F, in order that the products of combustion may be momentarily retarded before escaping into the smoke-pipe. It is preferred to secure the deflector to the stove by means of rivets or stay-bolts I, which traverse tubes J, although any other suitable retaining devices may be substituted for these bolts and tubes. K is the fire-door, L the ash-pan, and M a rock-shaft, which latter may operate any approved form of shaking grate.

The operation of my stove will be readily understood by referring to Fig. 1, in which it will be seen that the products of combustion cannot take a natural or directly-central passage from the fire-chamber B to the neck D on account of the interposition of the baffle-plate E, which deflects the fire and smoke on all sides, and compels them to escape up the annular flue F. Owing to the limited area of apertures H, the products of combustion cannot pass rapidly through the flue F, but they are detained therein long enough to be brought intimately in contact with the highly-heated baffle-plate, which detention therewith causes a thorough consumption of the inflammable gases, &c. These gases being consumed directly under the top or cover C, the result is that an unusual amount of heat is radiated from the stove.

I claim as my invention—

In combination with the stove top C, the correspondingly-shaped hollow deflector or baffle-plate E, annular flue F, and perforated tube or cylinder G H, which latter projects upwardly from said deflector and enters the neck D of the stove, as herein described, and for the purposes set forth.

In testimony of which invention I hereunto set my hand.

MATTHEW B. MASON.

Attest:

GEO. H. KNIGHT,
R. A. FRAME.