E. PALMIE.

Stoves.

No. 156,813. Patented Nov. 10, 1874.

Fig. 1.

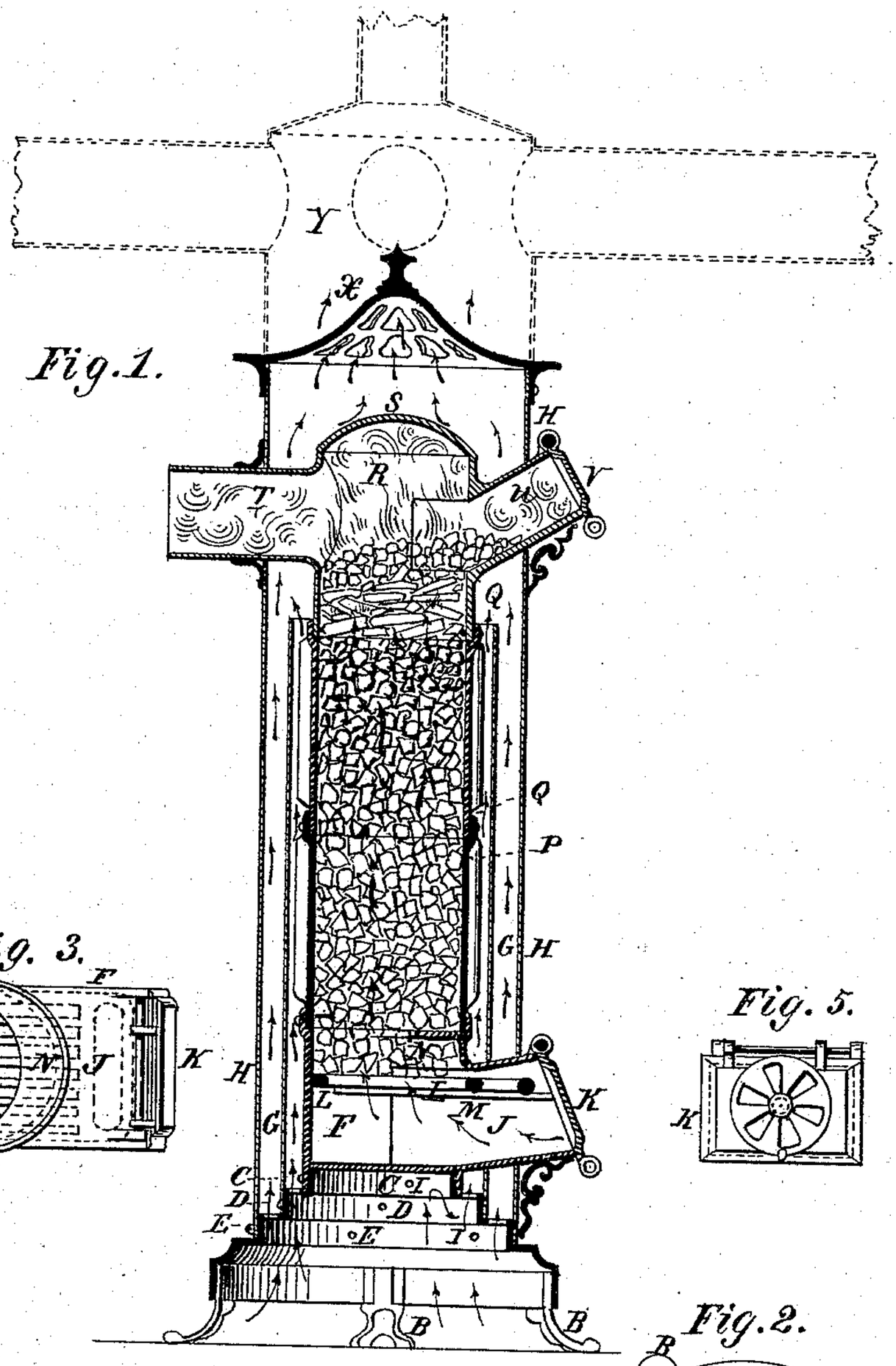


Fig. 3.

Fig. 5.

Fig. 6.

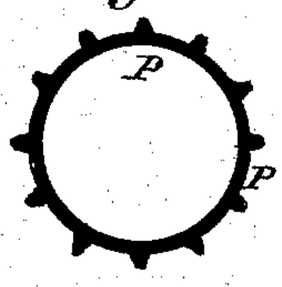


Fig. 4.

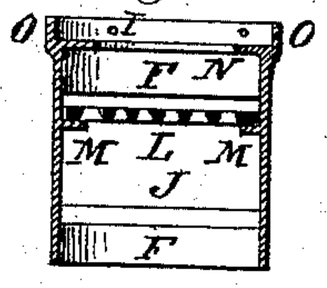
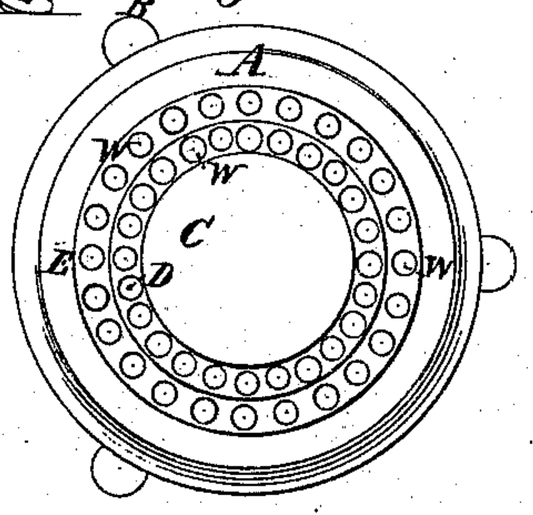


Fig. 2.



Witnesses.
R. Bocklen Jr.
Charles von Soiron.

Inventor.
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UNITED STATES PATENT OFFICE.

EDWARD PALMIE, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN STOVES.

Specification forming part of Letters Patent No. **156,813**, dated November 10, 1874; application filed September 5, 1874.

To all whom it may concern:

Be it known that I, EDWARD PALMIE, of the city of Brooklyn, in the county of Kings and State of New York, have invented certain Improvements in Stoves and Heaters, of which the following is a specification:

This invention relates to stoves and heaters, having for its object to improve the construction of the same; and consists in the combination of the ash-piece with flange and socket, and the grate with the fire-bar; and the combination of the foot-piece and seats, with perforations, with the ash-piece, mantel, and flue, as will be hereinafter more fully set forth and pointed out by the claims.

In the annexed drawings, Figure 1 represents a central vertical section of the stove constructed with my improvements. Fig. 2 is a detached top view of the bottom or foot plate of the same. Fig. 3 is a detached top view of the ash-pit piece of the same. Fig. 4 is a vertical section of the same, the line of section shown in Fig. 3 at *a*. Fig. 5 is a front view of a modification of its door. Fig. 6 is a horizontal section of one of the fire-box pieces or cylinders.

A represents the bottom or foot plate. It is made circular for round stoves, as shown, according to the peripherical form of the stove. It has a bottom rim, which has dovetail-shaped slots or grooves, to attach its legs B B. Its upper surface is formed with three tiers of seats or elevations, C, D, and E, of which the top elevation, C, has a periphery, to receive over it the ash-piece F. Over the secondary elevation, D, is fitted a sheet-metal cylinder or air-flue, G, and over the periphery of the lower elevation, E, is fitted the exterior sheet-metal cylinder or mantel H. By means of small screws, rivets, or bolts I I passing through the said elevations and the bottom ends of said mantel H, flue G, and ash-pit F, the same are secured solidly to said foot-plate. The ash-pit piece F is formed with a throat, J, the aperture of which is provided with a sliding door, K, which is fitted over it to close nearly air-tight, and is hinged and attached to the top edge of said throat, in manner to allow it to slide partly off or entirely over the opening of said throat, or that it may be tilted up entirely off the said opening. In the upper part of said piece F is arranged a horizontal sliding or movable grate, L, which can be entirely withdrawn through said opening when said door is tilted up, and it rests with its opposite edges on shelves or on projections M M formed on the inside of said throat, as shown in Figs. 1 and 4. The top part of said ash-pit piece is formed with an inward-projecting flange, N, and with a socket, O, above it, into which the bottom edge of the fire-box P is received. The object of the flange N is to stop and hold the bulk of the coal above the grate, to permit the air to pass freely through the coal to the fire. The fire-box is constructed of several short cylindrical-shaped castings, each with a number of equally-distributed vertical ribs or corrugations on its outer periphery, as shown in Figs. 1 and 6, and each with a socket, Q, like that of the ash-pit piece, to receive the above or succeeding piece or casting, so that they all may be ready mounted and cemented in their joint, or may pack themselves by the accumulation of ashes in said joints. In the socket of the upper casting is fitted the top piece R of the fire-box, which has also a cylindrical form, but has its top formed with a closed cap or top, S. Below said cap the same is made with a round throat, T, projecting horizontally toward the rear, and suitable in diameter and length, to receive the smoke-pipe of the stove; and toward the front it is made with a square or oblong inclined throat, U, which has a proper dimension for supplying the stove with coal. Said throat has a door, V, in front of its aperture, which is fitted nearly air-tight upon the edge of said throat; and it is also hinged, similar to the door K, before mentioned. The bottom plate A has a series of perforations, W W, on each of its seats E and D. The flue G extends up along the fire-box P until reaching the top piece R. The outside mantel H is sufficiently high to reach above the entire top of the fire-box, and has a perforated cap, X, over its top.

When the stove is used as a heater, to distribute the heat over several rooms, or heat large rooms, so as to require heat-conducting pipes, its cap X is substituted with a drum, Y, (shown in dotted lines in Fig. 1,) from which drum the requisite hot-air pipes lead to the rooms, halls, or places to be heated.

Instead of the door K being made to slide,

to regulate the draft and heat of the stove, there may be a register-plate attached in front of said door, to answer the same purpose, as shown in Fig. 5.

When the stove is first or newly fired the door K is opened, the grate L properly placed, the door V is also opened, and through the throat U the stove is filled with coal up to within a short distance of the throat T. A small quantity of wood is placed thereupon and set on fire, and at the proper time a small quantity of coal placed over the wood. The door V is thereafter shut tight. Through the door K sufficient air is admitted to perform proper combustion, and to slowly burn the coal from the top down, so that the stove does not need feeding or supply for twenty-four hours. By means of the door V the stove may be supplied to continue its fire. The cold air from the room passes under the foot-plate A and through its perforations W, as shown by the arrows in Fig. 1; and it passes rapidly between the cylinder or flue G and the fire-box P, and also between said flue and the mantel H, sufficiently absorbing the heat and cooling the fire-box to prevent its becoming red-hot, and to prevent the formation of carbon-oxide gas, which is objectionable to the health. The heated air passes through the cap X into the room.

By the said rapid current of air passing the stove and into the room, the whole temperature of the room is soon equalized and raised.

The stove can be placed in close proximity to furniture without danger of setting on fire the same, as its outside mantel H does not become sufficiently heated for that.

The top portion of the mantel, above the center of the throat T, is made of a separate piece, or detachable, to allow the top piece R to be placed before the mantel is closed.

The stove may be closely packed by taking it apart, and can be mounted by entirely inexperienced persons.

Having fully described my invention, what I claim therein, and desire to secure by Letters Patent, is—

1. The ash-pit piece F, with the flange N and socket O, and the grate L, in combination with the fire-box P, substantially as and for the purpose herein stated.

2. The foot-piece A, constructed with the seats C, D, and E, and with perforations W, in combination with the ash-pit piece F, the mantel H, and flue G, all constructed substantially as and for the purpose herein mentioned.

In witness whereof I hereunto set my hand this 25th day of February, 1874.

EDWARD PALMIE.

In presence of—

R. BOEKLEN, Jr.,
CHARLES VON SOIRON.