W. L. PHILLIPS.

Heating-Drum.

No. 210,627. Patented Dec. 10, 1878.

Fig. 1.

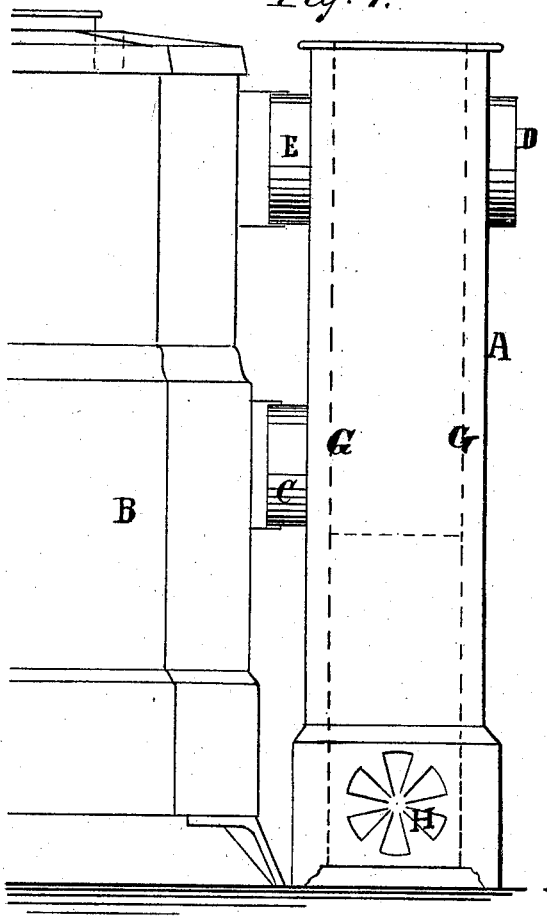


Fig. 2.

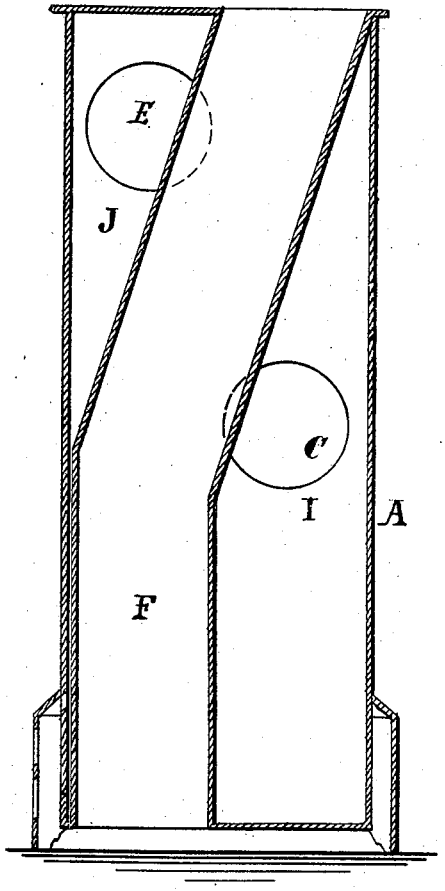
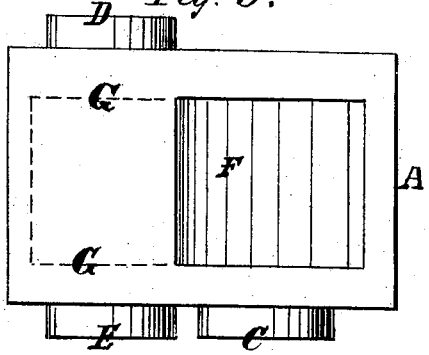


Fig. 3.



WITNESSES

Wm. L. Morgan.

O. L. Burt

By

Wm L Phillips INVENTOR

A. P. Thayer Attorney

UNITED STATES PATENT OFFICE.

WILLIAM L. PHILLIPS, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN HEATING-DRUMS.

Specification forming part of Letters Patent No. **210,627**, dated December 10, 1878; application filed May 20, 1878.

To all whom it may concern:

Be it known that I, WILLIAM L. PHILLIPS, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Heating-Drums, which improvement is fully set forth in the following specification.

My invention consists of a simple, cheap, and effective air circulating and heating attachment to a radiating-drum for stoves, the object being to secure greater efficiency with simpler and cheaper contrivance than any heretofore made.

Figure 1 is a side elevation of a drum contrived according to my invention and applied to a stove. Fig. 2 is a sectional elevation of the drum. Fig. 3 is a top view of the drum.

A represents an upright drum, of sheet metal, of about the height of the stove B, and preferably of rectangular form, with a pipe-connection at C to receive the products of combustion, and another, D, for discharging into the smoke-pipe. There is also a pipe-connection, E, opposite the smoke-pipe D, to open a direct passage for the draft when required for starting the fire.

F is an air-duct leading from the bottom up through the top of the drums, for the passage of the air to be heated and circulated. This duct, which, it will be noticed, is nearly as wide as the drums from front to back, rises up from the bottom along one side to about the height of the smoke-pipe C, which enters the space I at the side of the duct, and then inclines to the other side of the drum as it rises to the top, where pipe D discharges from the space J, opposite to I, in such manner that the hot products of combustion pass around it in going from the inlet to the outlet, impinging upon all of its sides, and thus giving up their heat largely to the air passing through the duct.

The dotted lines G, Figs. 1 and 3, show the spaces between the duct and the walls of the drum, through which the hot products pass in such thin strata as to be largely deprived of their heat. These narrow spaces will be so proportioned to the volume capacity of the pipes that they will cause such distribution of the passing hot vapors as to envelop the diagonal part of the duct alike, as near as may be, in all parts, besides causing a reverberatory action, to some extent, on the part below.

H is a register, that may be employed, if desired, to admit air into the drum to regulate the draft.

The duct is rectangular in cross-section, like the drum, and, like it, is best and most effective in that form; but it may be more or less elliptical, if desired.

It is manifest that the action will be very effective, and the construction is very simple and cheap.

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

The combination, with drum A, having inlet-pipe C and outlet-pipe D, relatively arranged as described, of the air-duct F, extending from bottom to top of the drum, and passing obliquely between said pipes, substantially as specified.

WILLIAM L. PHILLIPS.

Witnesses:
WM. J. MORGAN,
O. T. BURT.