(No Model.)

H. HOPKINS & J. R. PERRY.

HEATING STOVE.

No. 395,327. Patented Jan. 1, 1889.

Fig. 1.

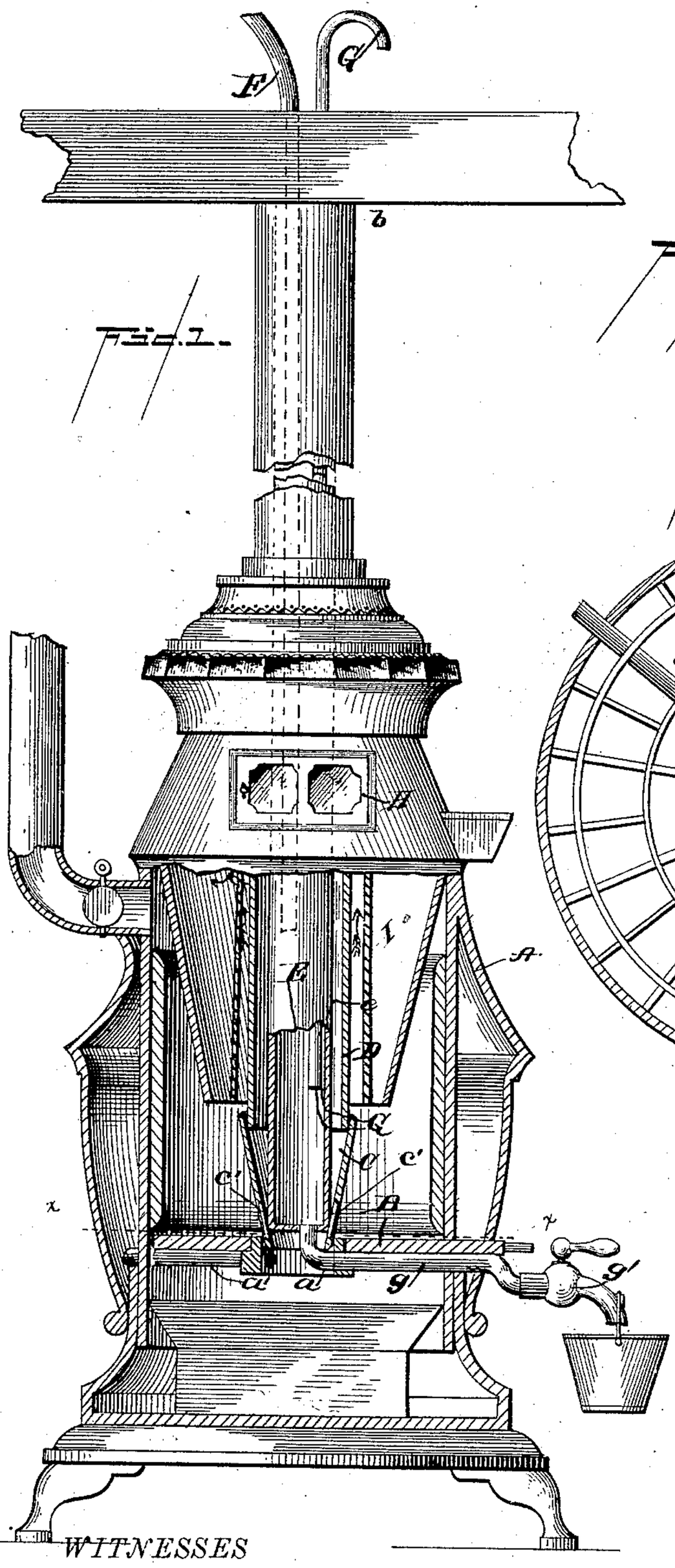


Fig. 3.

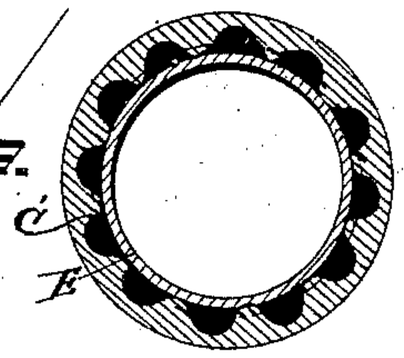
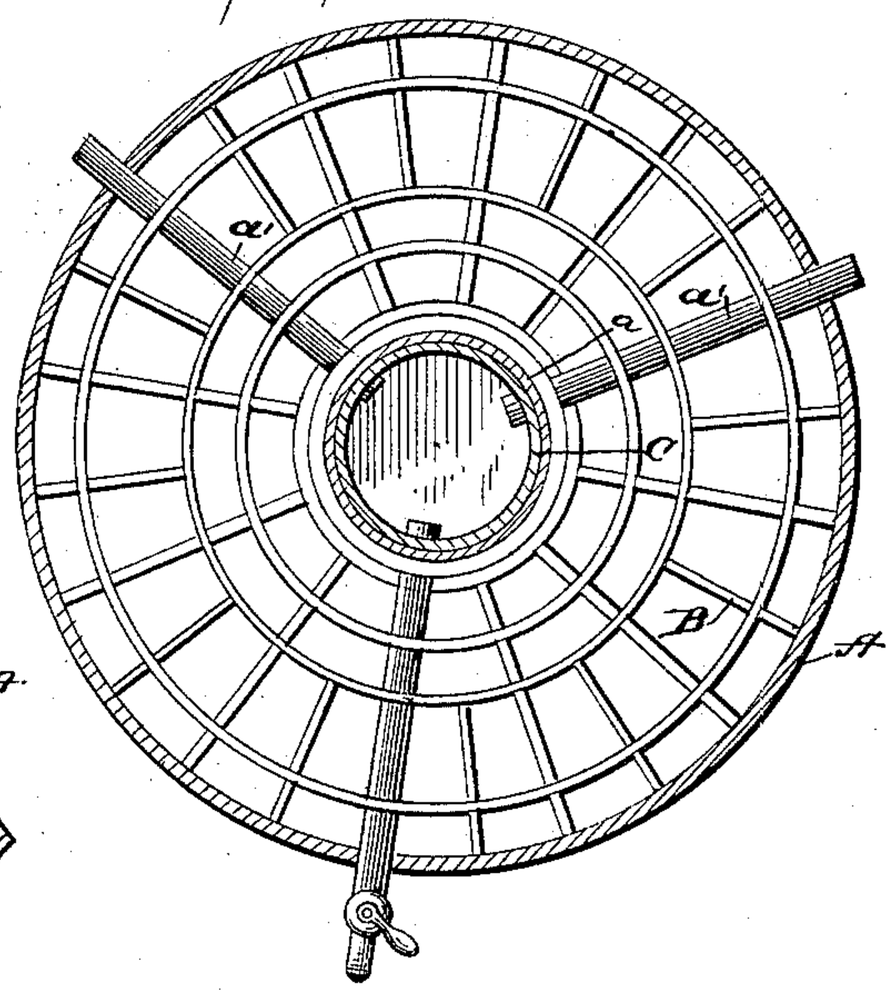


Fig. 2.



WITNESSES

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HERBERT HOPKINS AND JOSEPH R. PERRY, OF WILKES-BARRÉ, PENNSYLVANIA.

HEATING-STOVE.

SPECIFICATION forming part of Letters Patent No. 395,327, dated January 1, 1889.

Application filed April 3, 1888. Serial No. 269,486. (No model.)

To all whom it may concern:

Be it known that we, HERBERT HOPKINS and JOSEPH R. PERRY, citizens of the United States of America, residing at Wilkes-Barré, in the county of Luzerne and State of Pennsylvania, have invented certain new and useful Improvements in Heating-Stoves, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention pertains to certain new and useful improvements in heating-stoves, having for its object the provision of simple and highly efficient means for heating water contained in a central vertical cylinder and to permit of the withdrawal of such water from below, or the emptying thereof into a tub or other receptacle located in the room above, and for producing a hot-air current to warm the upper chambers.

The invention therefore comprises the detail construction, combination, and arrangement of parts, substantially as hereinafter fully set forth, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a vertical sectional view showing our invention. Fig. 2 is a horizontal sectional view thereof on the line *x x*, Fig. 1. Fig. 3 is a detail horizontal sectional view.

Referring to the drawings, A indicates a stove, provided in its lower central cylindrical portion with a ring or base, *a*, which forms a collar on its upper surface and is solid on its lower, and which is supported by pipes or tubes *a'*, extending through the casing of the stove, and provided at their outer ends with suitable slides for the admission or regulation of cold air passing through them and into the central portion of the ring *a*, to be warmed within the hot-air flue E. Upon these pipes or tubes *a'* rests a grate, B, an extended portion of which projects through a slot or aperture in the front of the stove to permit of the lateral shaking thereof. This grate fits snugly around an upwardly-projecting flange of the ring *a*, as shown, the ring *a* supporting and holding the grate in a central position.

C is a preferably inverted conical tube secured at its lower end by resting in the ring portion of the base *a*, and into its upper widened end is extended the lower end of a pipe or cylinder, D, which passes through the upper part of the stove, and may pass on up through the ceiling, as shown at *b*, the same being secured in an aperture thereof by suitable means for conveying the heated air. The cylinder D may be extended to the bottom as a substitute for the conical tube C, if desired, instead of making in two parts.

E is a hot-water or steam boiler, of less diameter than the cylinder or pipe D, wherein it is inserted, so as to form a flue or passage-way, *e*, between their opposite faces. The lower end of this hot-water or steam boiler E fits snugly against the salient points of a lower corrugated surface of the conical tube C, as shown at C', Fig. 3. The purpose of this arrangement is to permit entrance of air between the conical tube C and the outer surface of boiler E. Into the upper end of this boiler opens a water-supply pipe, F, for supplying cold water to the boiler, regulated by valves, as is common, said water being supplied under pressure.

G is a hot-water pipe extending down into the boiler E, and its upper end is passed beyond the upper end of the cylinder or pipe D, and is bent or curved so as to permit of the discharge therefrom of hot water into a tub or other receptacle by means of a faucet or other suitable discharge.

It is obvious that the heat is greatest around the lower part of the boiler located within the fire-pot, and that consequently the cold water forced down through pipe F will be almost immediately heated. As the source of supply of water is located above the upper end of pipe G, the water can be readily drawn from said pipe.

To the lower closed end of the boiler E is secured one end of a second hot-water pipe, *g*, which extends out through the side of the stove, and is provided with a suitable faucet or cock, *g'*, to permit of the withdrawal of hot water at this point.

It will be seen that the flue or passage-way *e* extends throughout the length of the boiler E, and that by reason thereof the hot air will pass up through said flue or passage-way and

entirely surround the boiler, thereby readily heating the water contained therein, and will escape into the chamber above.

The stove A is provided with a door, H, and an inner lid, (not shown,) through both of which coal or other fuel is passed to the fire in the fire-pot, which fire surrounds the pipe or cylinder C.

By means of our invention water passed into the boiler is readily heated, and can be withdrawn therefrom by means of a suitable valve into the upper room through the hot-water pipe G, and can also be readily withdrawn through the pipe *g* at the lower end of the boiler to be used for domestic purposes.

The pipe or cylinder D near its lower end is inclosed by a casing, I, supported from the top of the stove by lugs and nutted bolts or other suitable means. The object of this casing is to divide the draft from the fire into the stove-pipe, thereby extending the draft and heat along the pipe or cylinder D the greatest possible extent, and, thus dividing the coal-feeder from the said pipe or cylinder, the draft will be made to pass over the top of coals in the feeder and carry off the sulphur immediately as it becomes heated, preventing sudden explosions of gas.

Our invention is alike applicable for steam-heating purposes by taking or conveying the steam through a pipe connected with the boiler and conducting said steam into a suitable radiator, (not shown,) the same being placed at any desired point.

We claim as our invention—

1. As an improvement in stoves of the class herein described, the centrally-disposed pipe or cylinder, the ring or base into which the lower end of said cylinder is secured, and the boiler located in said pipe or cylinder and supported thereby at its lower end, a flue or passage-way being formed thereinbetween, substantially as shown and described.

2. As an improvement in stoves of the class herein described, the stove having the ring or base, the conical tube secured at its lower end in said ring or base, the pipe or cylinder attached to the upper end of said conical tube, and the boiler inserted in said pipe or cylinder, whereby a hot-air flue or passage-way is formed, substantially as shown and described.

3. As an improvement in stoves of the class herein described, the stove having the central pipe or cylinder, the boiler secured therein and supported thereby at its lower end, the water-supply pipe, and the hot-water or steam-exhaust pipes connected to said boiler, substantially as shown and described.

4. The combination, with a stove having the ring or base, of the pipes or tubes supporting said ring or base and opening thereinto, the pipe or cylinder supported by said ring or base, and the boiler disposed in said pipe or cylinder and resting against the lower conical tube thereof, substantially as shown and described.

5. The herein-described improvement in stoves, comprising the ring or base, the pipes opening into said ring or base and supporting the same, the central pipe or cylinder, the boiler inserted into said pipe or cylinder, the hot-water pipe extending into said boiler, and the hot-water pipe connected to said boiler at its lower end and having a cock or faucet, substantially as shown and described.

In testimony whereof we affix our signatures in presence of two witnesses.

HERBERT HOPKINS.
JOSEPH R. PERRY.

Witnesses:
D. L. O'NEILL,
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