PHELPS & BURPEE.

Heating Stove.

No. 98,882. Patented Jan. 18, 1870.

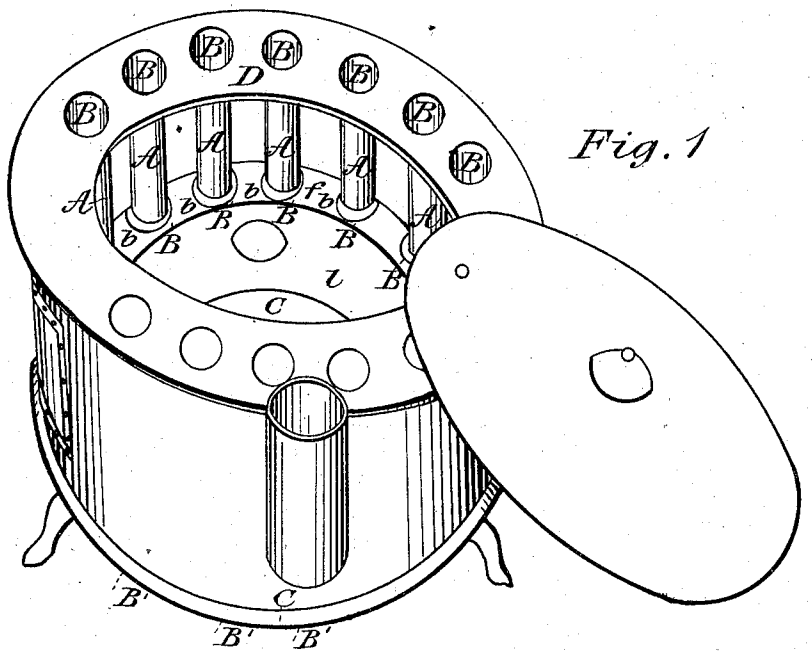


Fig. 1

Witnesses:

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*Letters Patent No.* 98,882, *dated January* 18, 1870.

## IMPROVEMENT IN HEATING-STOVES.

The Schedule referred to in these Letters Patent and making part of the same.

We, WILLIAM M. PHELPS and SAMUEL J. BURPEE, both of the city of Marshall, in the county of Calhoun, and State of Michigan, have invented certain Improvements in Stoves, of which the following is a specification.

Our invention relates to the employment of an air-space surrounding all the lower part of the fire-chamber, excepting the door and draught-hole, said air-space having communication, by means of perforations in the lower plate of the stove, with the air in the room in which the stove is placed, and provided with air-tubes, connecting the upper part of said air-space with the upper plate of the stove, through suitable perforations, the air-tubes entirely surrounding the interior of the fire-chamber, excepting the door, and secured in place by means of collars or flanges, cast on the upper surface of the air-chamber and the lower surface of the top-plate of the stove, as hereinafter more fully set forth.

In the drawing—

*l* is an air-space, entirely surrounding the interior of the lower part of the fire-chamber, excepting the door and draught-hole, and having opposite or corresponding perforations B B B′ B′ in its top and bottom.

A A are vertical air-flues connecting the perforations B B, in the upper part of the air-space, with the corresponding perforations in the upper plate of the stove.

*b b* are flanges or collars, cast upon the top surface of the air-space and the lower surface of the top plate of the stove, so as to form a recess or rebate, within which the ends of the flues are snugly inserted, and drawn together tightly by the ordinary through bolts which hold the stove together.

By this arrangement of parts, the dense, cold air near the bottom of the stove becomes heated, and passes, through the perforations in the bottom plate of the stove, into the air-chamber, and thence through the air-tubes into the space above the stove, thus keeping up a constant circulation, and consequent heating of the air in the room, and by placing the air-chamber and vertical air-tubes within the fire-chamber, as described, the sides of the latter are protected from injury arising from throwing in the fuel, and from the action of the fire, while the employment of the cast collars forms a recess or rebate, within which the ends of the flues are inserted.

We are aware that vertical air-tubes passing through corresponding perforations in the top and bottom plates of stoves, have heretofore been used, and we are also aware that an air-space and air-tubes have heretofore been used as in our invention, but in the latter case no flanges or collars have been employed as in our invention, which is important in our invention in keeping the air-tubes in place.

Having thus fully described our invention,

What we claim as new, and desire to secure by Letters Patent, is—

The arrangement of the air-chamber *l*, entirely surrounding all the interior of the fire-chamber, excepting the draught-hole and the door, and provided with perforations in its under and upper surface, the latter being connected by vertical air-tubes, surrounding the interior of the fire-chamber, excepting the door, with corresponding perforations in the top plate of the stove, when said air-tubes are attached to the air-space and top plate of the stove by flanges or collars, all being constructed and operated as set forth.

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Witnesses:
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OTTO L. JOHNSON.