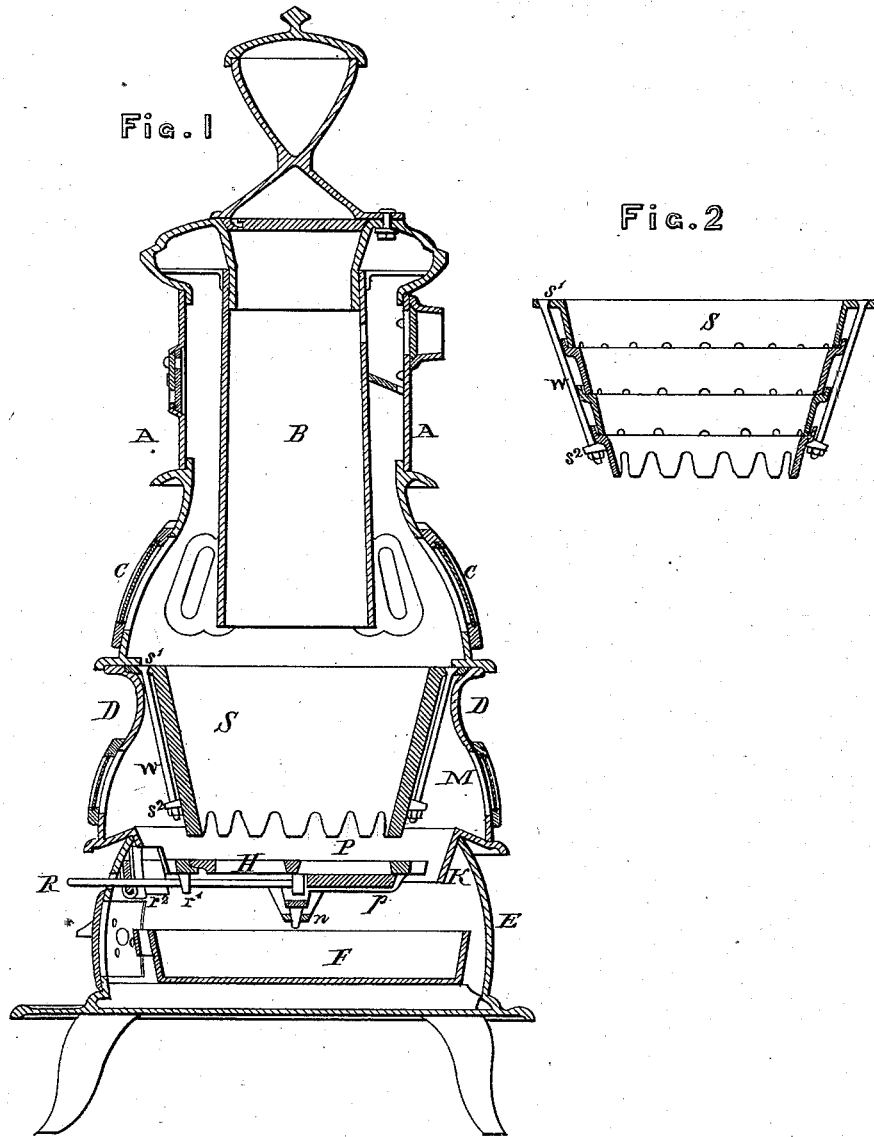


J. SPEAR.
 Fire-Pot for Stoves.

No. 163,418.

Patented May 18, 1875.



Witnesses { John F. Grant.
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UNITED STATES PATENT OFFICE.

JAMES SPEAR, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN FIRE-POTS FOR STOVES.

Specification forming part of Letters Patent No. **163,418**, dated May 18, 1875; application filed April 7, 1875.

CASE A.

To all whom it may concern:

Be it known that I, JAMES SPEAR, of 1016 Market street, Philadelphia, Pennsylvania, have invented an Improvement in Stoves, of which the following is a specification:

The nature of my invention relates to the improvement of fire-pots for base-burning and anti-clinker stoves; and it relates more particularly to that class of fire-pots which are suspended from the upper flange, allowing the fire-pot to hang in the air-space inside the walls of the stove, and free from the grate, forming an anti-clinker opening between the lower end of the fire-pot and upper surface of the grate.

Cast-iron cylinders, supported from the top and free from the grate, frequently crack around the center, where the heat is greatest, with an annular fracture, and the lower end drops down on the grate, filling up the clinker-cleaning opening between the grate and fire-pot, and rendering the stove useless. This crack frequently occurs when the stove has been but a few weeks in use, and the thickness of the iron does not seem to be a preventive against injury from this cause. Sometimes the grate is supported from the suspended fire-pot, and then when a crack occurs both fall together into the ash-pit.

My invention consists in the combination, with a suspended fire-pot of cast-iron or similar material easily cracked by heat, of bolts, which are attached by means of lugs or hooks to the bottom edge of the fire-pot below the point of annular fracture, and which extend to the top flange, so as to brace securely the top and bottom edges of the fire-pot, and hold it in shape when a partial or annular fracture occurs.

It will be observed that when the fire-pot cracks the bolts will support the discharge end, so that it cannot drop down on the grate, and it will still remain serviceable.

I also make the said suspended fire-pot with a series of rings, having air-spaces between them, and support the rings in the same manner by bolts passing from the upper flange to lugs on the lowest section.

Figure 1 is a vertical section through the

stove. Fig. 2 is a section through a fire-pot made in rings.

A is the body; B, the magazine; C, the upper tier of mica lights in hinged doors; D, the lower tier of mica lights in doors, for illumination and observation of the state of the fire at the discharge end of the fire-pot, and for the insertion of a poker for the removal of clinkers from the surface of the grate. E is the base or ash-pit, in which is the ash-pan F, into which clinkers and refuse fall over the edge of the grate H. The conical deflector K gives direction to the falling clinkers. The grate H turns on a center-pin in the cross-bar *n*, which bar is supported from the sides of the ash-pit. The rear portion of the grate is attached to a rod, R, which passes through the front lug *r*¹, and through a slide, *r*², to the outside of the stove. By means of this rod the grate can be vibrated, and the sliding part *p* withdrawn to dump the fire. S is the fire-pot suspended by a flange at its upper edge within the section M of the wall of the stove. The lower edge is indented or notched, and hangs free from the casing of the stove, and above the grate, leaving a clinker-cleaning opening, P, between the grate and fire-pot. Bolts W pass through the upper flange *s*¹, and also through the lugs *s*² near the bottom, whereby the fire-pot remains serviceable in the event of the end cracking off. These bolts may be hooked under the bottom of the fire-pot instead of to the lugs *s*². This, however, is not quite so convenient as that previously described.

In Fig. 2 is seen a modification of the same invention. The fire-pot is here shown made in rings having openings for air between the rings. This form of fire-pot permits the various parts of the fire-pot to expand, according to the temperature to which each is heated, and the air passing in between the rings will ignite the unconsumed gases, and insure a more perfect combustion, and when any ring is broken, it may, if desired, be replaced by another, with less expense than the substituting of a new fire-pot.

I am aware that cast-iron stoves, in which the outside wall formed the fire-chamber, have

been made in rings or sections resting on the base of the stove; also, magazines have been made in rings; also, detachable ends have been bolted to magazines and suspended fire-pots. Such I do not, broadly, claim.

I claim—

1. The fire-pot S, suspended, by the flange s^1 , from the section D of the wall of the stove, in combination with the supporting-bolts W, connecting the flange s^1 with the lugs s^2 , for the purpose of supporting the lower section of the fire-pot when cracked off, substantially as herein described.

2. The suspended fire-pot S, made in rings, and suspended by the flange s^1 from the section D of the wall of the stove, in combination with the supporting-bolts W connecting

the flange s^1 with the lugs s^2 , substantially as herein described.

3. The suspended fire-pot S, having its discharge end notched or fingered, in combination with the bolts W connecting the upper flange s^1 and the lugs s^2 , substantially as and for the purpose herein described.

4. The combination of the suspended fire-pot S, having its discharge end notched or fingered, the bolts W connecting the top and bottom of the fire-pot, the clinker-cleaning opening P, and the upper and lower sections with mica lights C and D, as herein described.

JAMES SPEAR.

Witnesses:

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