J. SPEAR.

Stove.

No. 163,419. Patented May 18, 1875.

Fig. 1

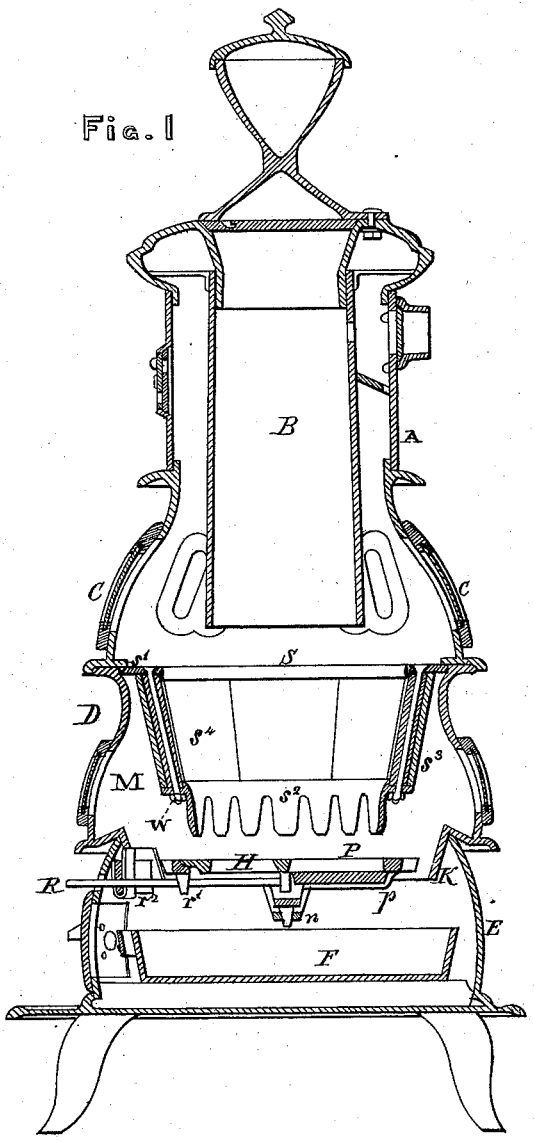
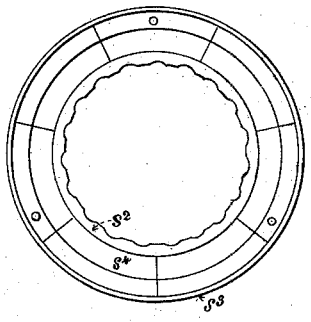



Fig. 2

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# UNITED STATES PATENT OFFICE.

JAMES SPEAR, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN STOVES.

Specification forming part of Letters Patent No. **163,419**, dated May 18, 1875; application filed April 7, 1875.

CASE B.

*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 the 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 constructing the fire-pot with a lower section at the discharge end, notched or plain, which I suspend by bolts to the top flange of the fire-pot. Between the upper flange and the said section is a vertical section or casing of iron, inclosing a fire-brick pot, made whole or in sections. This plan of construction makes the suspended anti-clinker fire-pot much more durable than any heretofore made.

Figure 1 is a vertical section through the stove. Fig. 2 is a plan of the fire-pot.

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 the flange $s^1$ within the section M of the wall of the stove. The lower section $s^2$ is of cast-iron and notched or fingered. It is supported from the upper flange by bolts W, and between the said flange and section $s^2$ is placed the casing $s^3$, inclosing the fire-brick segments $s^4$, which are prevented from falling inward by small lips upon the inside of the flange $s^1$, and upon the lower section $s^2$.

The bolts, instead of passing through the fire-brick, may pass outside the casing $s^3$.

By this construction the exterior cast-iron casing is preserved from excessive heat, and is less liable to crack, and the fingered discharge end of the fire-pot is prevented from falling off and obstructing the clinker-cleaning opening.

I claim—

The combination, in a suspended fire-pot, S, of the lower section $s^2$, the casing $s^3$, the fire-brick lining $s^4$, and the bolts W, connecting the upper flange $s^1$ with the lower section $s^2$, substantially as herein described.

JAMES SPEAR.

Witnesses:

JOHN F. GRANT,

A. J. EICKMEYER.