C. J. SMITH.
Safety Stove.

No. 200,771. Patented Feb. 26, 1878.

Fig. 1

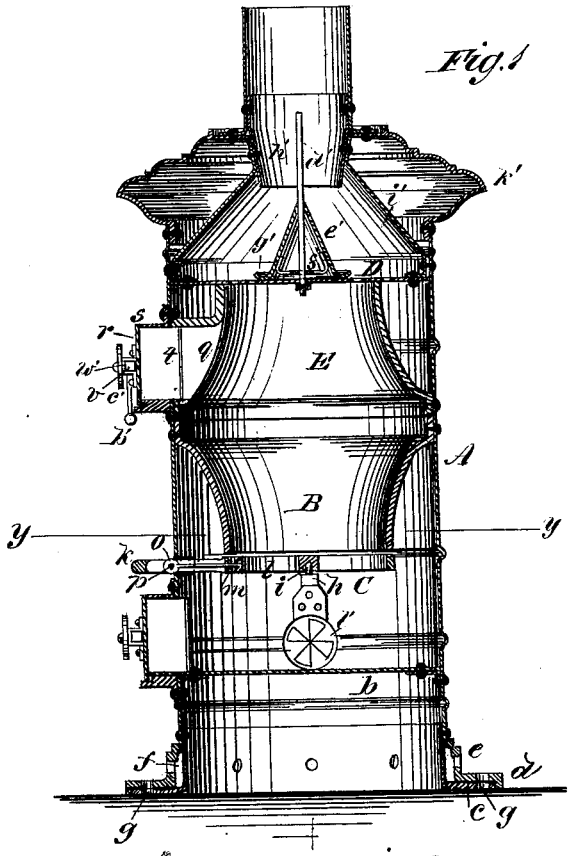
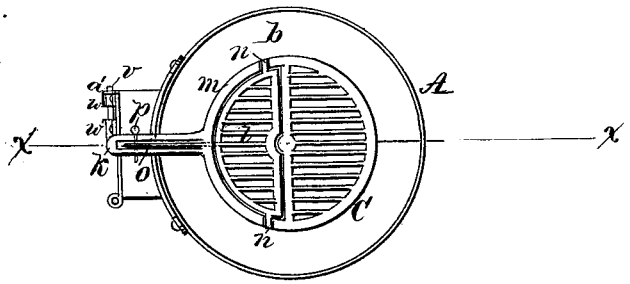


Fig. 2.



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UNITED STATES PATENT OFFICE.

CHARLES J. SMITH, OF NORFOLK, VIRGINIA.

IMPROVEMENT IN SAFETY-STOVES.

Specification forming part of Letters Patent No. **200,771**, dated February 26, 1878; application filed December 18, 1877.

To all whom it may concern:

Be it known that I, CHARLES JAMES SMITH, of the city and county of Norfolk, and State of Virginia, have invented a new and Improved Safety-Stove, of which the following is a specification:

Figure 1 is a vertical section of my improved stove, taken on line *x x* in Fig. 2. Fig. 2 is a horizontal section taken on line *y y* in Fig. 1.

Similar letters of reference indicate corresponding parts.

The invention will first be described in connection with the drawing, and then pointed out in the claim.

Referring to the drawing, A is a sheet-iron cylinder, in which a bottom, *b*, is secured a short distance from the lower end. A flange, *c*, surrounds the lower end of the cylinder, and is received by a recess formed in the flange *d* of the annular casting *e*, which surrounds the end of the cylinder, inclosing an annular air-passage, *f*. The sheet-metal cylinder, and also the casting, are perforated, so as to admit air through the passage *f* into the space below the bottom *b*, to prevent the burning of the floor under the stove. The flange *d* is secured to the floor by screws or bolts, that pass through apertures *g* into the floor.

A conical fire-pot, B, is suspended in the sheet-metal cylinder A by means of rivets or bolts, that pass through its rim and through the sides of the cylinder. At the bottom of the fire-pot a grate, C, is supported by a cross-bar, *h*, which is provided with a stud, *i*, that projects into a recess formed in the center of the grate.

A slotted arm, *k*, projects from the edge of the grate through a slot in the cylinder A. The front half *l* of the grate is movable within a rim, *m*, attached to the rear half of the grate, and is provided with gudgeons *n*, upon which it swings.

The front edge of the movable part of the grate is supported by a pin, *o*, that is placed in the slot in the arm *k*, and passes through a hole in the rim *m* into the edge of the movable portion *l*. The pin *o* is kept in its place by a pin, *p*, that passes transversely through it and through the slotted arm *k*.

The grate may be shaken by means of the slotted arm *k*, and it may be dumped by withdrawing the pin *o*.

Above the fire-pot the combustion-chamber E is secured. This chamber has the same general form as the fire-pot, and is inverted, so that its wider end joins the flaring mouth of the fire-pot, and its top is closed by the perforated plate D.

A door-opening, *q*, is formed in one side of the combustion-chamber, and is surrounded by flanges that extend to the door-opening *t* in the side of the cylinder A.

A door-frame, *s*, surrounds the opening *t*, and is attached to the cylinder A. The door *r* is hinged to the frame *s*, and is provided with a square bolt, *u*, that moves in guides *w w'* attached to the door, and is received by an apertured ear, *a'*, that projects from the door-frame *s*. A portion of the bolt is rounded to receive a weighted arm, *b'*, that is of the same width as the space between the guides *w w'*. The guide *w'* is slotted, and to it a slotted disk, *c'*, is pivoted. The disk is weighted, so as to always keep the slotted side below the pivot. The weighted arm *b'* is arranged so that when the bolt is projected into the ear *a'* the arm hangs between the guides *w w'*, and prevents the withdrawing of the bolt.

When it is desired to open the door the arm *b'* is raised into a horizontal position, and the disk *c'* is turned so that its slot coincides with the slot in the guide *w'*, when the bolt may be withdrawn by moving the arm into the slots of the guide and disk. The ash-chamber below the grate is provided with a similar door.

A rod, *d'*, projects upward from the perforated plate D, and upon it a hollow cone, *e'*, is placed, which is provided with an apertured cross-piece, *f'*, by which its lower end is guided on the rod *d'*.

There is a flange, *g'*, around the base of the cone *e'*, which is of sufficient diameter to close the end of the flue *h'*. Should the stove be inverted, the cone drops and closes the flue, preventing the escape of any small coals or cinders that may have dropped through the perforated plate D. The flue *h'* is supported by the sheet-metal cone *i'* that is riveted to the sides of the cylinder A, and also to the flue. The flue is tapered, and its lower end, which is smallest, projects a short distance

into the cone i'. The cylinder A is provided with a cast-iron top, k', which is merely for ornament.

Small draft-apertures l' are made in the sides of the cylinder below the grate, and are provided with suitable dampers.

The door casings and fastenings are made of malleable iron, and nickel-plated.

The stove constructed in this manner is practically indestructible, and may be inverted and rolled about without permitting the fire to escape.

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

The combination, with a chamber in the cylinder and below the bottom b, of an air-chamber between the casting e and flanged lower end of the cylinder, the latter and the casting being perforated, as and for the purpose specified.

CHARLES JAMES SMITH.

Witnesses:
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