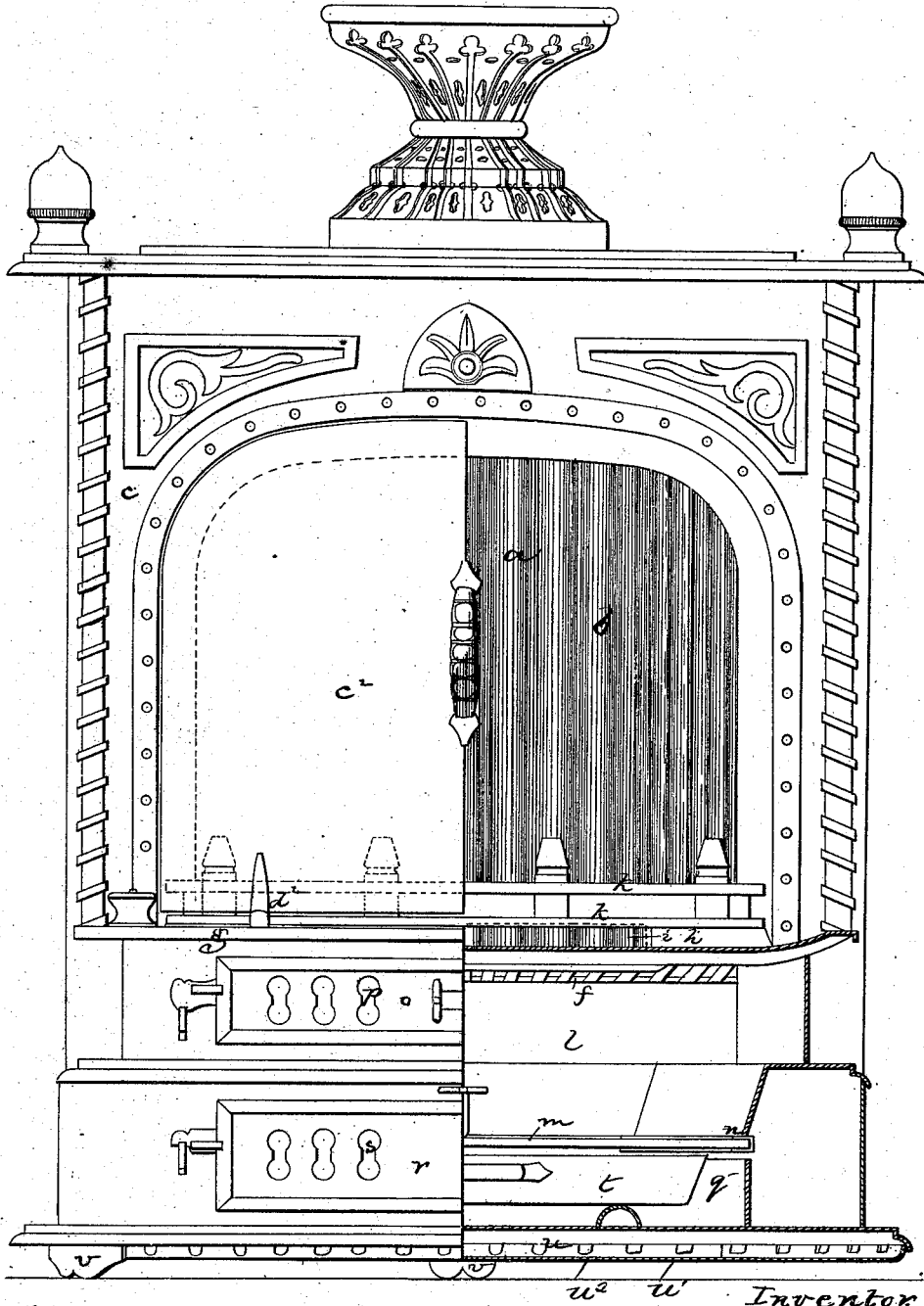


G. W. WALKER.  
Parlor-Grate.

No. 160,856.

Patented March 16, 1875.

*Fig. 1.*



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Fig. 2.

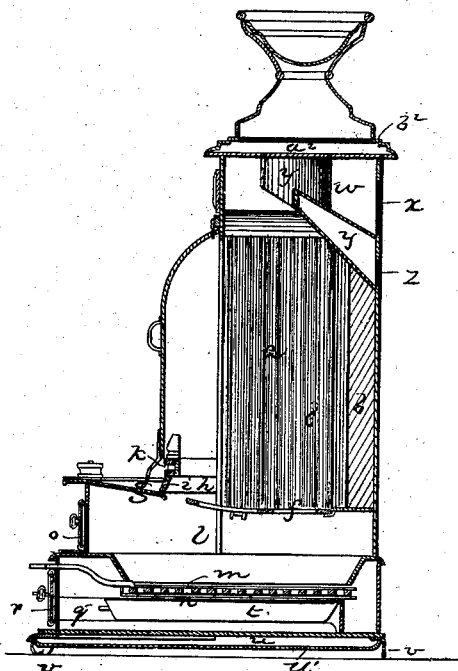
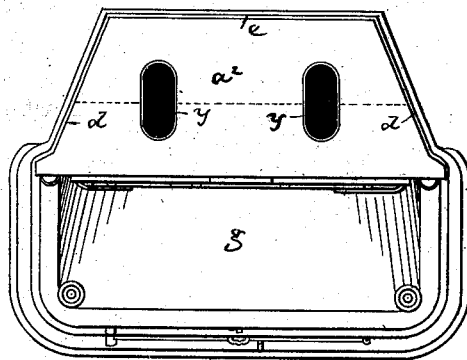


Fig. 3.



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# UNITED STATES PATENT OFFICE.

GEORGE W. WALKER, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN PARLOR-GRATES.

Specification forming part of Letters Patent No. **160,856**, dated March 16, 1875; application filed November 26, 1873.

*To all whom it may concern:*

Be it known that I, GEORGE W. WALKER, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improved Parlor-Grate; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

The invention relates to the construction of a portable parlor-grate or open stove.

In my construction I use a low-down flat grate in an open fire-place frame, there being in front of and above the plane of the grate a plain plate, provided with an opening (closed by a door) through which access is had to the coals upon the grate, and above this plate horizontal bars, against which the coals may lodge. Beneath the grate is an air and sifting chamber extending out to the front, this chamber having preferably a sifting or sliding grate at its bottom, and beneath this grate and chamber another or sub ash-pit chamber, extended beyond the upper one, both at its ends and front, each of these chambers being provided at its front with a door and a register, and the first forming a sifting-chamber, while the bottom one forms an ashes chamber, the projecting plates furnishing a large extent of radiating surface. The chambers also furnish draft-chambers to introduce air to and through the fire from the bottom for supporting or urging combustion, and beneath the bottom plate of the bottom ash-chamber is a thin or shallow air-chamber, formed by and between the bottom plate of the ash-pit chamber and a removable flanged and notched bottom plate standing just clear of the plane of the bottoms of the feet that support the stove. This chamber has air-inlets all around its edge, the air-space not only keeping the ash-pit bottom plate out of unsafe proximity to the floor, but also tending to establish a current of air through it, which air is warmed by its contact with the plates against which it passes in going through the chamber. Over part of this fire-space is a roof, which forms the bottom of an air-chamber inclosed between it and another plate, and into this chamber is an air-inlet behind the stove, this chamber opening into a space be-

tween the top plate, which is open, and a plate a slight distance below it, and the plates warming the air passing between them and out through the open plate into the room, the chamber-plates being heated by the direct contact therewith of the volatile products of combustion passing through the stove into the flue. In front of the open fire-place fits a blower, at the bottom of which are feet that stand upon the fender-plate, (which fender-plate is the top plate of the upper projecting ash-pit chamber,) these feet extending to the front, and causing the blower to swing in against the front plate, and leaving beneath it a space for the draft beneath the grate.

My invention consists in the details of construction as hereafter described and claimed.

The drawing shows a construction embodying the invention.

Figure 1 shows the grate partly in elevation, and partly in section. Fig. 2 is a central vertical section. Fig. 3 is a top view and sectional plan.

*a* denotes the fire-place lined with fire-brick *b*. *c* is the front plate, *d* the end plates, and *e* the rear plate of the fire-place. At the bottom of the fire-space is the grate *f*, which sets below the plane of the top of the fender-plate *g*, and just above the plane of the grate is the plate *h*, furnished with a door, *i*, for permitting access to the coals, this plate being surmounted by the horizontal bars *k*. The inclined fender-plate *g* and grate *f* form the top of an ash-pit chamber, *l*, which extends out in front of the fire-place *a*. This chamber has a sifter-grate, *m*, at its bottom, (said grate being preferably mounted to slide on ways *n*, so as to form a sifting or shaking grate,) and at its front a door, *o*, and register *p*. Below the chamber is the sub ash-chamber *q*, into which fall the ashes screened from the coal, this chamber projecting at its ends and sides beyond the chamber *l*, and being furnished with a door, *r*, and register *s*, and also with an ashes pan, *t*. Beneath the chamber *q* is the air-space or chamber *u*, the bottom plate *u'* of which is just above the floor upon which the stove-feet *v* stand. The bottom plate *u'* is flanged and notched at *u''*, and removably attached to the bottom of the stove or ash-pit. The products of combustion pass off through

an opening, *w*, and the flue-passage *x*, and at the upper part of the fire-chamber is the chamber *y*, into which air passes through the opening *z*, and from which the air warmed by contact with the chamber plates passes into an upper chamber, *a*<sup>2</sup>, and out through the open top plate *b*<sup>2</sup>. *c*<sup>2</sup> denotes the blower, made with feet *d*<sup>2</sup>, that elevate the bottom of the blower above the plate *h* and its door *i*, said feet extending out to the front, so that by gravity the blower is thrown against the front plate *c*.

By the novel construction of this portable grate, stove, or heating apparatus the advantages of an open grate and of a set grate are combined, and the large extent of surface to which heat is directly and indirectly imparted by the fire renders the construction a practical one for heating purposes, it being also an ornamental one.

The air-chamber *u* renders it impossible to burn the floor or carpet beneath the stove.

The grate inclined or curved, as shown, is placed below the fender-plate, and is placed low down in the portable stove, leaving a large open space between the surface of the burning coal and inner top of the stove, affording greater facilities for the radiation of the heat into an apartment. By means of the re-

movable door at the lower inclined end of the fender-plate attached to the stove the coal may be raked by a poker through such door, and sweepings and dirt may be moved from the inclined fender into the ash-pit or chamber, falling between the end of the grate and the fender-plate. By enlarging the ash-chamber *l* toward the door ashes may be more easily removed than if the chamber were of equal height throughout.

I claim—

1. The combination of the inclined fender-plate *g* of a portable stove or heating apparatus with the grate *f* placed below the level of the top of the fender-plate, the ash-pit or chamber *l* extended out under the fixed fender-plate, and the door *i* opening from the inclined fender-plate into the ash-chamber, substantially as and for the purposes described.

2. The combination, with the under side of a stove, of a removable notched bottom piece or plate, adapted to form a chamber, *u*, between the stove bottom and plate, substantially as described.

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Witnesses:

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