J. H. SWARTOUT & A. L. WHEDON.

Grate.

No. 160,553. Patented March 9, 1875.

Fig. 1.

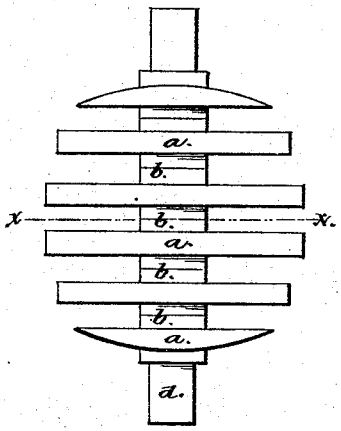


Fig. 2.

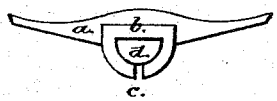
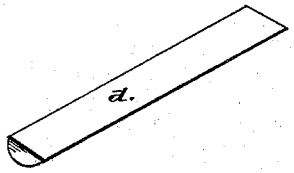


Fig. 3.



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UNITED STATES PATENT OFFICE.

JOHN H. SWARTOUT AND ALBERT L. WHEDON, OF GEDDES, NEW YORK.

IMPROVEMENT IN GRATES.

Specification forming part of Letters Patent No. **160,553**, dated March 9, 1875; application filed October 30, 1874.

To all whom it may concern:

Be it known that we, JOHN H. SWARTOUT and ALBERT L. WHEDON, of Geddes, Onondaga county, New York, have invented an Improvement in Grates for Stove, Furnace, and other Fire-Chambers, of which the following is a specification:

This invention refers to the construction of movable grates for stoves, furnaces, and the like, by which they are more economically made and adapted to any size or form of horizontal profile of the fire-chamber.

The construction is as follows, referring to the accompanying drawing, in which—

Figure 1 is a top view. Fig. 2 is a section on line *x x* of Fig. 1. Fig. 3 is the center bar detached.

We form our grate of a series of grate-bars, *a*, of the most approved pattern, with small horizontal projections *b* at their centers, sufficient, when they abut together, to leave the proper space between the grate-bars *a*, as clearly represented in Fig. 1. At this point there is a transverse hole, *c*, Fig. 2, through the grate-bars *a*, which hole may be triangular, square, or other form; but we prefer to make it half-round, as seen in Fig. 2, with the rounded side downward, so that the projecting ends of the supporting-bar *d*, rolled to fit the hole *c*, will have a bearing of proper shape to rock the grate on without any cost of swaging or forging, it being ready for use when cut to the proper length. The grate-bars *a* are of proper length to fit the space they are to occupy, which may be varied according to the irregularities of the fire-chamber.

It will be noticed that the supporting central bar *d* is entirely shielded from the fire by the projections *b*, which cover it on top, and there may be a space left in the grate-bars below the opening *c*, as seen in Fig. 2, to admit the air from below to keep it cool.

Having thus fully described our improved grate, we claim—

1. The series of grate-bars *a* of irregular lengths, in combination with the semicircular supporting-bar *d*, constructed and arranged as and for the purposes specified.

2. The air-space *c*, below the openings *d* in the grate-bars *a*, for the purpose set forth.

JOHN H. SWARTOUT.
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Witnesses:
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