S. SMYTH.

Grates for Stoves and Ranges.

No. 199,752. Patented Jan. 29, 1878.

Fig. 1.

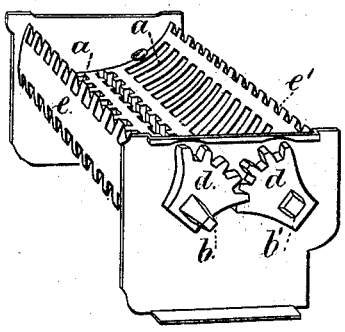
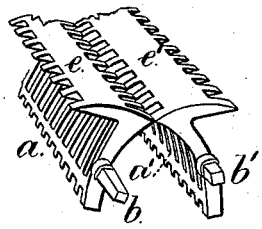


Fig. 2.



Witnesses

Chas. H. Smith

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per Samuel W. Serrell

atty

UNITED STATES PATENT OFFICE.

SAMUEL SMYTH, OF PITTSTON, PENNSYLVANIA.

IMPROVEMENT IN GRATES FOR STOVES AND RANGES.

Specification forming part of Letters Patent No. **199,752**, dated January 29, 1878; application filed January 7, 1878.

To all whom it may concern:

Be it known that I, SAMUEL SMYTH, of Pittston, in the county of Luzerne and State of Pennsylvania, have invented an Improvement in Grates for Stoves and Ranges, of which the following is a specification:

In Letters Patent granted to me October 21, 1873, a grate is shown made in two parts and swinging upon two axes, so that the outer eyes are moved upwardly and toward each other, to inclose and then drop the clinkers formed in the central portion of the fire. This serves to agitate the fuel, and at the same time remove the portions of the ashes and clinkers that are too large to sift through the grate. The exterior segmental portions of each part of the grate are formed of bars of the same character as the concave portions.

My present improvement relates to the segmental portions of the grate, that are formed with diminished air-spaces through the metallic portions of these grate-segments, so as to adapt the grate to the burning of wood.

In the drawings, Figure 1 is a perspective view of the grate complete, in position for use with coal; and Fig. 2 is a similar view of the grate detached, and with the segments brought together in a form adapted to burning wood.

The concave grates *a a'* are supported upon the axes *b b'*, and geared together by the segmental gears *d*, substantially as in the aforesaid patent; and the segments *e e'* at the outer edges of the grates *a a'* are arcs of circles from the respective axes, and are similar to those in the aforesaid patent, with the exception that the segments are closed in the central portions, leaving openings at the edges. Thereby the air-spaces through the grates are lessened and the metallic portions are increased in area, and the grates are adapted to burning wood.

When the grates are turned up into the position shown in Fig. 2, the fire-chamber is lessened in size, which is desirable in burning wood, and the air-spaces in the grate are also adapted to wood, as aforesaid. If desired, however, the concave sections of the grate may be partially closed, so as to adapt them to wood, and the convex sections be adapted to coal.

I claim as my invention—

The two-part swinging grate-sections, having concave surfaces for the burning of coal, and convex exterior segments adapted to the burning of wood, or the reverse, substantially as set forth.

Signed by me this 27th day of December, A. D. 1877.

SAMUEL SMYTH.

Witnesses:

GEO. T. PINCKNEY,

WILLIAM G. MOTT.