

S. SMYTH.  
Stove-Grates.

No. 149,959.

Patented April 21, 1874.

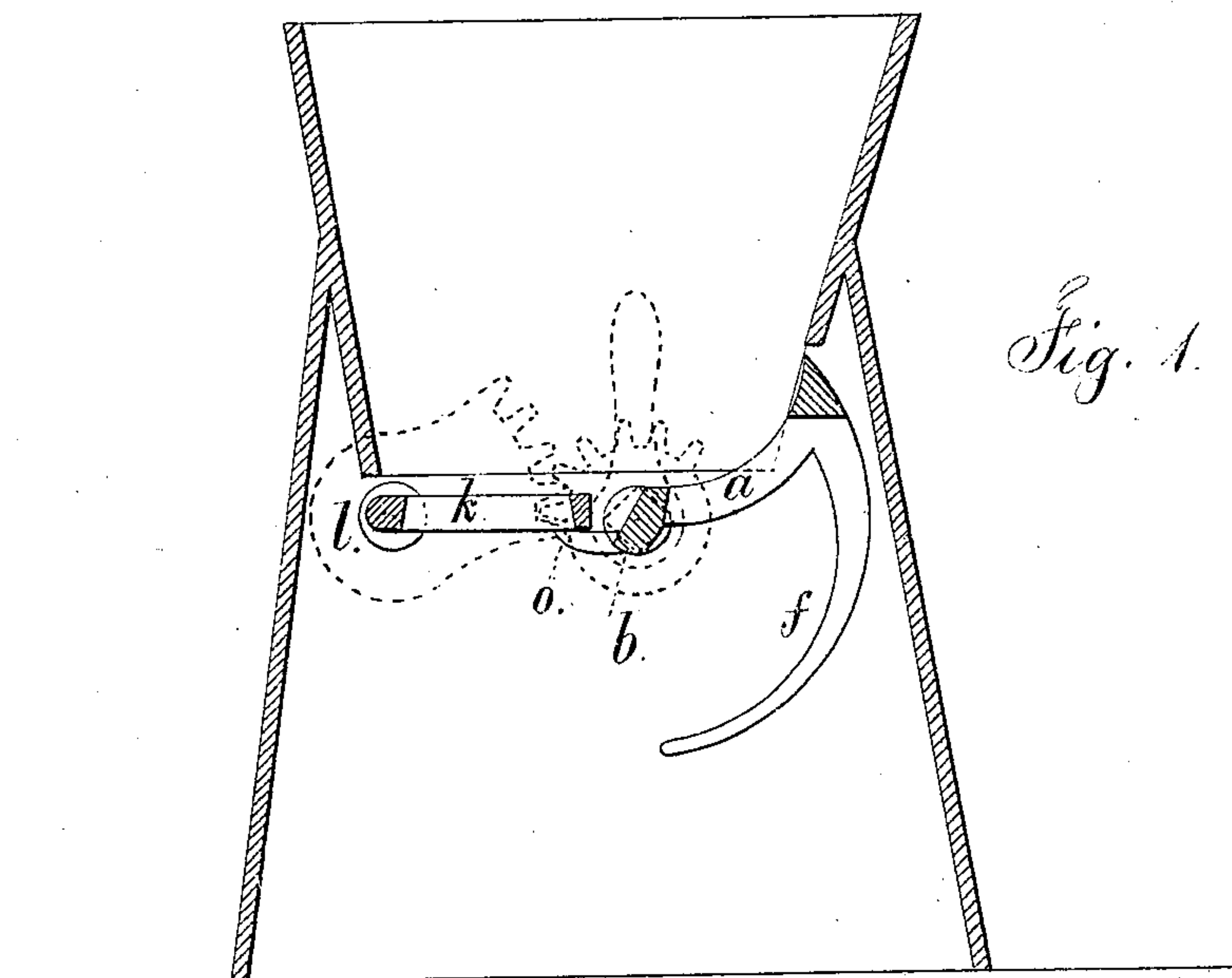


Fig. 1.

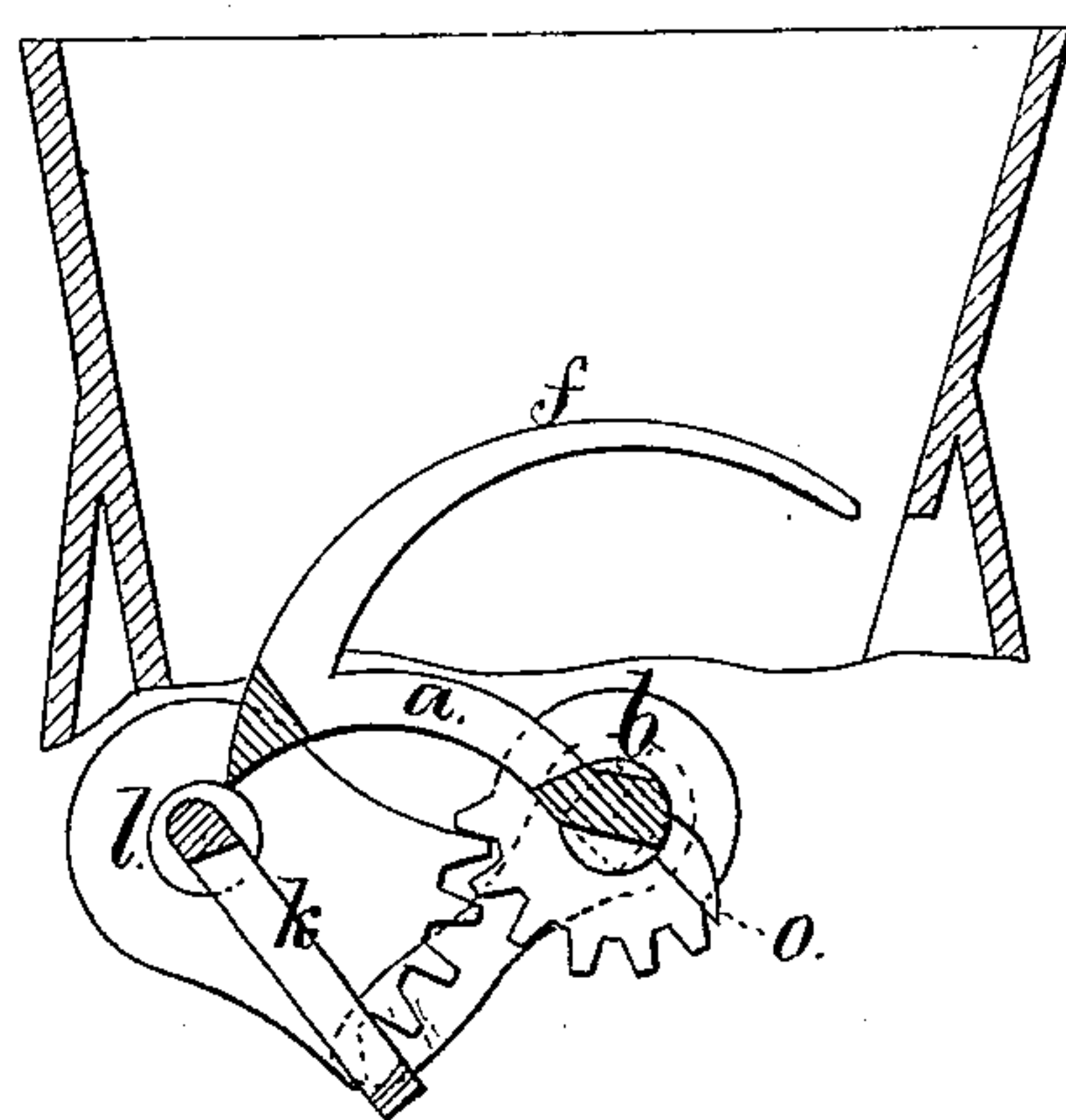


Fig. 2.

Witnesses

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Inventor

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per Lemuel W. Serrell

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# UNITED STATES PATENT OFFICE.

SAMUEL SMYTH, OF EAST BRIDGEWATER, PENNSYLVANIA.

## IMPROVEMENT IN STOVE-GRATES.

Specification forming part of Letters Patent No. **149,959**, dated April 21, 1874; application filed March 31, 1874.

*To all whom it may concern:*

Be it known that I, SAMUEL SMYTH, of East Bridgewater, in the county of Susquehanna and State of Pennsylvania, have invented an Improvement in Grates for Stoves, Ranges, &c., of which the following is a specification:

This invention is for removing clinker and slate from the fire, and freeing the fuel from accumulated foreign matter, without allowing the fire to fall into the ash-pit.

A grate has been made in two parts to swing upward and separate the clinker from the fire, as in Letters Patent No. 143,856, granted to me October 21, 1873.

I make use of a swinging segmental grate, in combination with a grate-section that is dropped after the swinging section has been turned partially over to support the fuel that is burning, the clinker, slate, and other foreign matter that have accumulated upon the grate being passed out when the section is dropped.

A semi-cylindrical grate has been employed, and the fire has been agitated by rocking this grate. In my improvement the fuel, in a normal position, rests upon nearly flat grates, and the foreign matter is delivered by dropping one grate after the other has been turned over; the semi-cylindrical grate supporting the fuel meanwhile, and passing back out of the way as the other grates resume their place.

In the drawing, Figure 1 is a section of the grates as in place for use, and Fig. 2 shows the grates in position for delivering foreign substances.

The grate *a* is attached at one edge to the

cross-shaft *b*, that is near the center of the fire-chamber, and runs either longitudinally or transversely, as may be most convenient. The grate *a* extends to one side of the fire-pot, and is preferably sloped upwardly or curved; and to the swinging edge of this grate *a* the bars *ff* are cast or attached, and extend in the form of a cylindrical segment, the shaft *b* occupying the center, so that when the shaft *b* and grate are swung by a lever, or other device applied to the said shaft *b*, the cylindrical segmental bars *ff* extend below the fuel, as seen in Fig. 2, and support the same. In moving the grate from the position of Fig. 1 to that of Fig. 2, the ashes, clinkers, slate, or other foreign matters are carried across and downwardly toward the section *k* of the grate, that is attached at one edge by the shaft *l*, and the other edge is allowed to drop, and, in its normal position, the moving edge of this grate *k* rests upon supports formed by lugs *o o* upon the shaft *b*, so that this grate *k* is freed from the lugs *o* by the turning of the shaft *b*, and can fall. The shafts *b* and *l* can be connected by segmental gears, or they may be operated by separate keys or levers applied to the shafts.

I claim as my invention—

The grate *a*, with the segmental bars *f*, swinging upon the shaft *b*, in combination with the grate *k*, shaft *l*, and lugs *o*, substantially as specified.

Signed by me this 23d day of March, 1874.  
SAMUEL SMYTH.

Witnesses:

GEO. T. PINCKNEY,  
CHAS. H. SMITH.