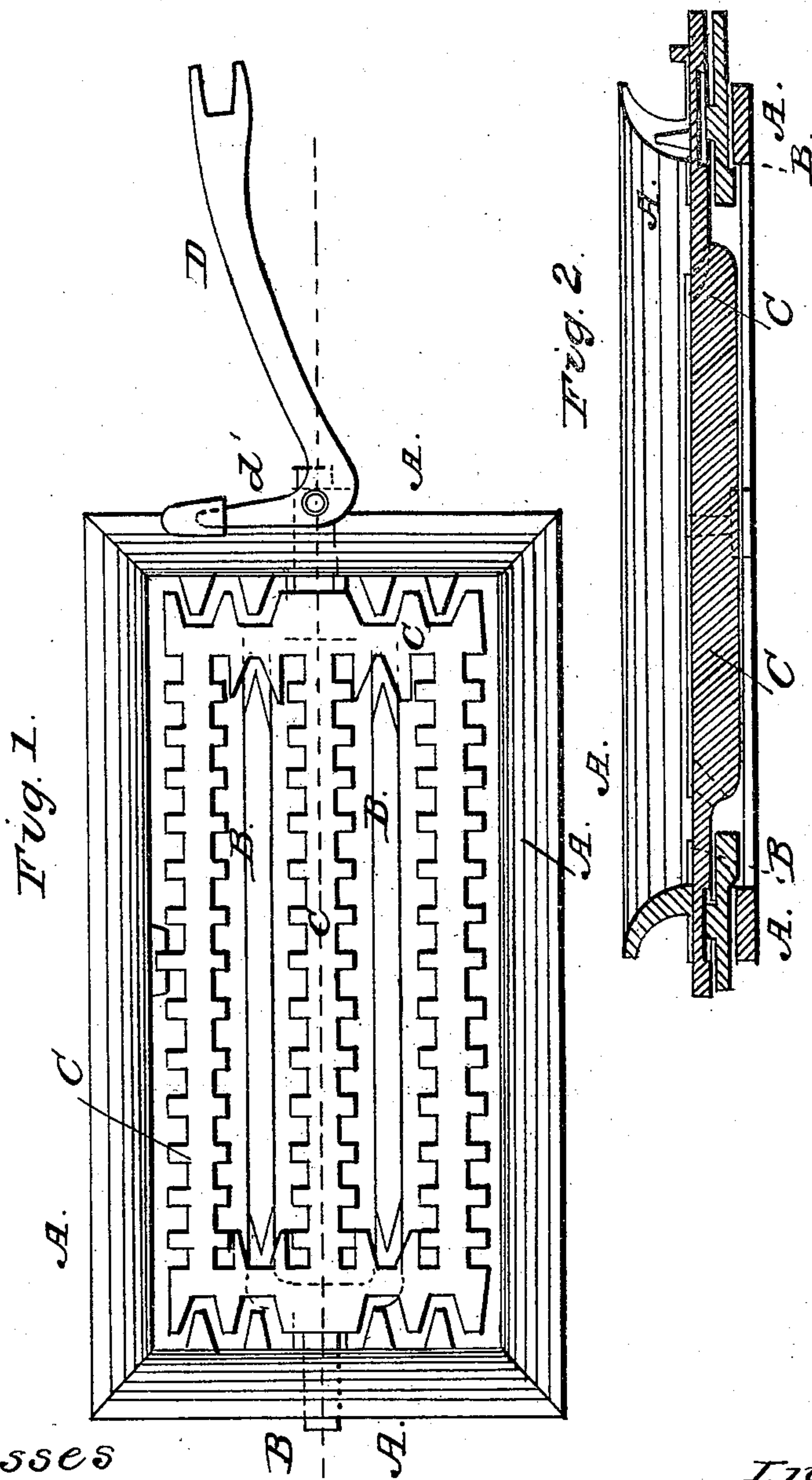


G. WILLIAMSON.

Grate.

No. 89,720.

Patented May 4, 1869.



Witnesses  
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# United States Patent Office.

GEORGE WILLIAMSON, OF MILWAUKEE, WISCONSIN.

*Letters Patent No. 89,720, dated May 4, 1869.*

## FIRE-GRATE.

The Schedule referred to in these Letters Patent and making part of the same.

*To all whom it may concern:*

Be it known that I, GEORGE WILLIAMSON, of Milwaukee, Milwaukee county, in the State of Wisconsin, have invented a new and useful Improvement in Fire-Grates; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is a top or plan view of my improved grate.

Figure 2 is a longitudinal section of the same, taken through the lines *x x*, fig. 1.

Similar letters of reference indicate corresponding parts.

My invention has for its object to improve the construction of fire-grates, in such a way that when the grate is agitated, the ashes may be shaken down from above the entire surface of the grate, instead of being displaced only around the edges of the grate, as is the case with grates constructed in the ordinary manner.

A represents the frame in the stove, or furnace, in which the grate is placed.

B are two bars, extending longitudinally across the grate, and the ends of which unite near each end of the frame A, into a single shank, or pivot, which passes through the pivoting-holes of the grate frame A.

In the case of a narrow grate, only one bar B need be used, and in the case of wide grates, more than two bars may be used, the number of bars used depending entirely upon the width of the grate.

The bars B should be so formed, that their middle parts may rise through longitudinal slots, or openings in the grate, so that their upper sides may be flush with the upper surface of the grate.

C is the grate, the configuration of which is immaterial, so long as it is made with longitudinal openings to receive the upper parts of the bars B.

The pivots of the bars B and of the grate C, are made in the form of half cylinders, so that they may fit together, and thus form pivots for the whole grate.

Upon the half-cylindrical pivots of the one part, as those of the bars B, are formed projections, which enter grooves in the half-cylindrical pivots of the other part, as the grate C, so that the said grate may have a longitudinal movement upon the said bars B, while at the same time the bars and grate may be moved together in dumping the cinders, or shaking, or oscillating the entire grate in the ordinary manner.

The projecting end of the semi-cylindrical pivots of the bars B and grate C, is squared off to receive the wrench D for oscillating, or dumping the grate in the ordinary manner.

The other end of the wrench D has an arm, *d*, projecting at right angles from it, as shown in fig. 1.

In the angle of the wrench, or handle D, is formed a hole to receive a pin projecting from the upper side of the semi-cylindrical pivot of the grate C.

The end of the arm *d* of the wrench, or handle D, enters a socket formed upon the frame A, or upon the side of the stove or furnace, so that by means of the said wrench, or handle D, the grate C may be moved back and forth, so that alternate sliding and stationary surfaces may be formed over the entire surface of the grate, thus freeing the fire from ashes throughout its entire lower part.

If desired, the grate may be so constructed, that the bars B may divide the motion with the grate C.

Having thus described my invention,

What I claim as new, and desire to secure by Letters Patent, is—

An improved fire-grate, formed by the combination of one or more bars B, whether movable or stationary, with the main or sliding grate C, in such a way that the upper part of the said bar, or bars B may project through openings in the said grate C, substantially as herein shown and described, and for the purpose set forth.

GEO. WILLIAMSON.

Witnesses:

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M. A. REDFIELD.