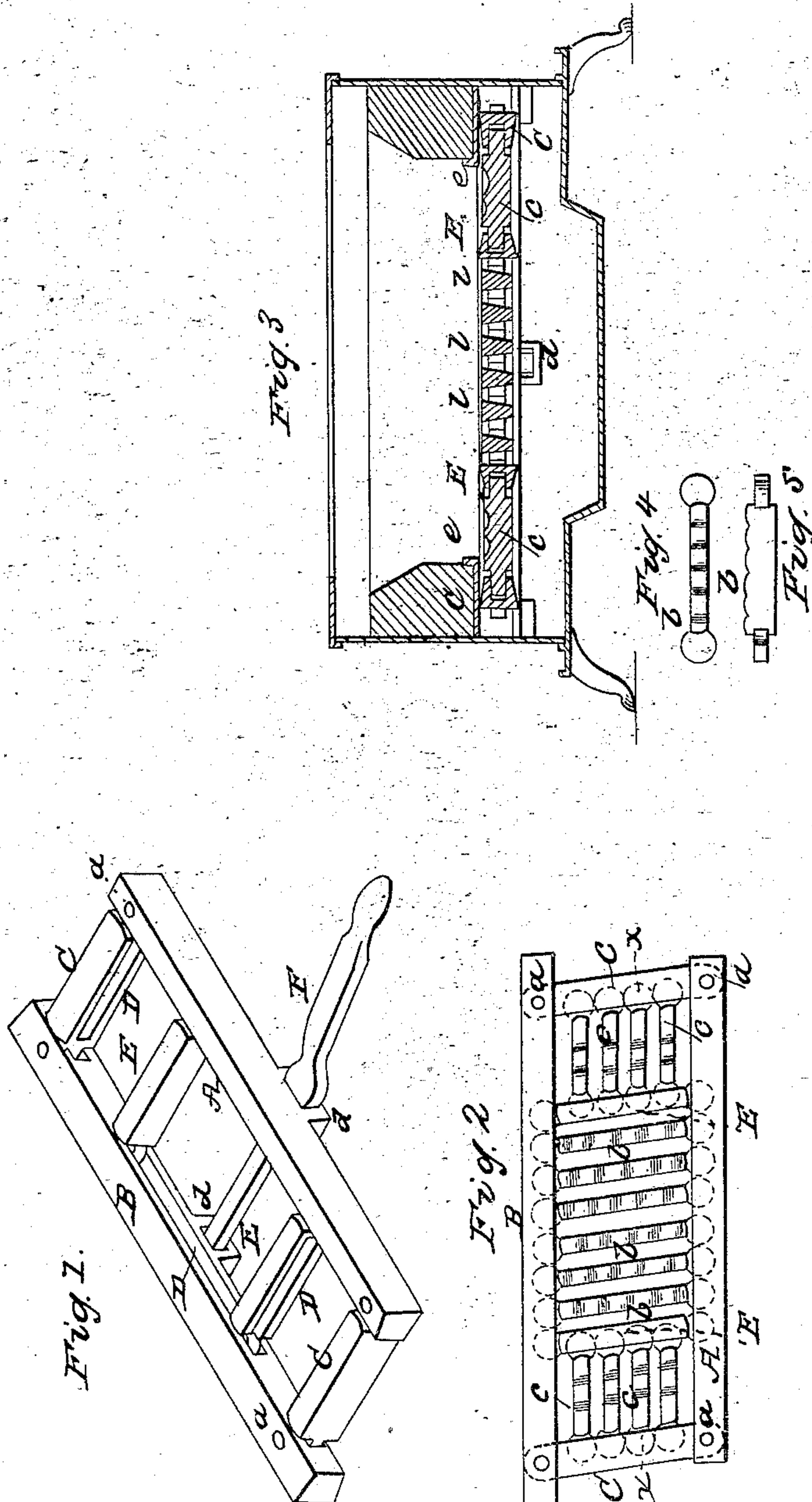


G. W. GARDNER.

Stove Grate.

No. 8,523.

Patented Nov. 18, 1851.



UNITED STATES PATENT OFFICE.

GEORGE W. GARDNER, OF ALBANY, NEW YORK.

IMPROVEMENT IN STOVE-GRATE BARS.

Specification forming part of Letters Patent No. 8,523, dated November 18, 1851.

To all whom it may concern:

Be it known that I, GEORGE W. GARDNER, of the city and county of Albany, and State of New York, have invented new and useful Improvements in the Construction of Stove Fire-Grates; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of the frame, the bars being removed. Fig. 2 is a top view of the grate, and Fig. 3 a vertical section in the line *x x* of Fig. 2, as placed in the fire-chamber of the stove. Fig. 4 is a top view, and Fig. 5 a vertical side view, of one of the grate-bars *b*.

The same letters have reference to like parts in all the figures.

The nature of my invention consists in the formation of a grooved frame which supports grate-bars so that they may be vibrated laterally for sifting the ashes from the coal.

The frame *A B C C*, I form with grooves *D D* and secure it together by rivets *a a*. In the grooves I place the ends of the bars *b b*, which ends are circular and are placed close together, as represented in dotted lines. The short bars *c c* are placed in like manner in the grooves of the end frame-bars *C C* and cross-bars *E E*.

The front bar *A* of the frame is made shorter

than the back bar *B*, in proportion to the amount of motion to be given to the grate. The shaker-bar *F* is placed in the loops *d d* and vibrated, giving the whole of the frame and bars, excepting the back bar, a horizontal motion. The object of the bars *c c* being arranged longitudinally with the motion is so as that the coal may not catch upon (as it would upon the bars *b b*) against the plate *e* and obstruct the motion of the grate. The bars *b b*, *c c*, and *E E* are all placed loosely into the frame and retained in their respective positions by their round ends, which also allow them to move freely against each other, and each bar is free to expand and contract without binding or obstruction. The tops of the bars *b b* are fluted, and the raised parts are placed opposite the hollow in the next succeeding bar for the purpose of more effectually stirring the coal in the motion of the grate.

Having thus described my construction of fire-grate, what I claim as new, and desire to secure by Letters Patent, is—

The manner described of forming separate grate-bars for vibrating grates, rounded at their ends, secured, and working in grooves of the frame, as described.

GEORGE W. GARDNER.

Witnesses:

E. L. BRUNDAGE,
P. P. STEWART.