(No Model.)

H. M. RYDER.

GRATE FOR STOVES.

No. 249,205. Patented Nov. 8, 1881.

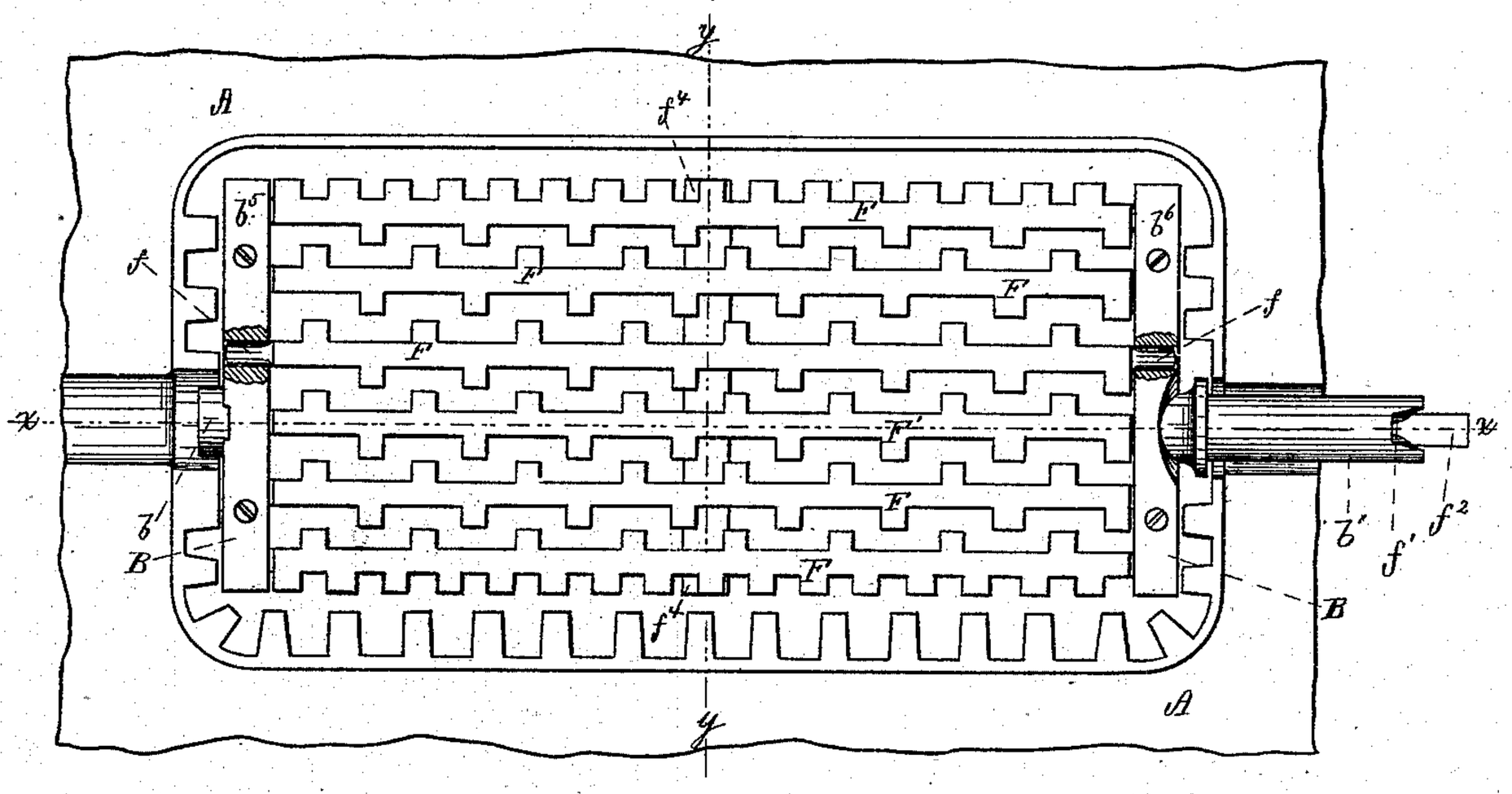

Fig. 1.

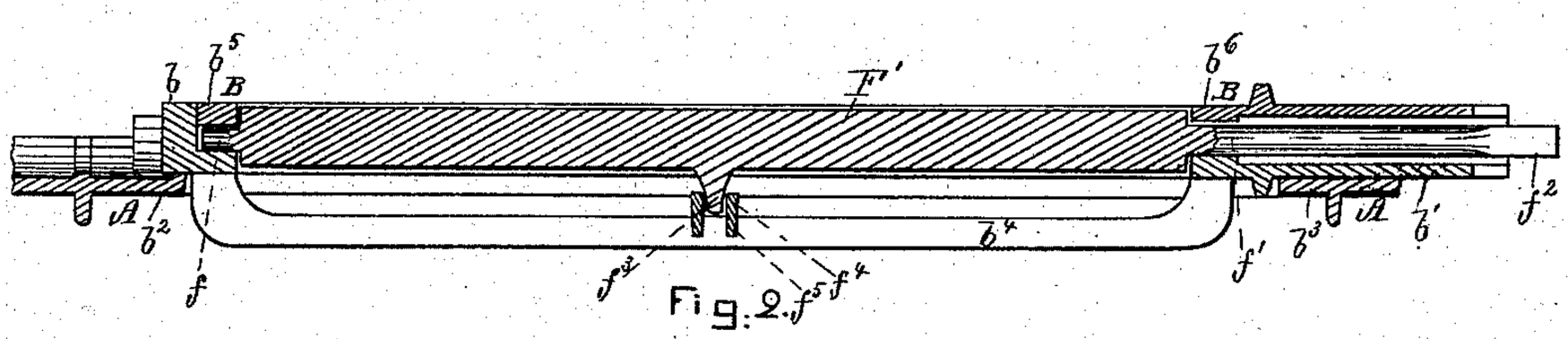

Fig. 2.

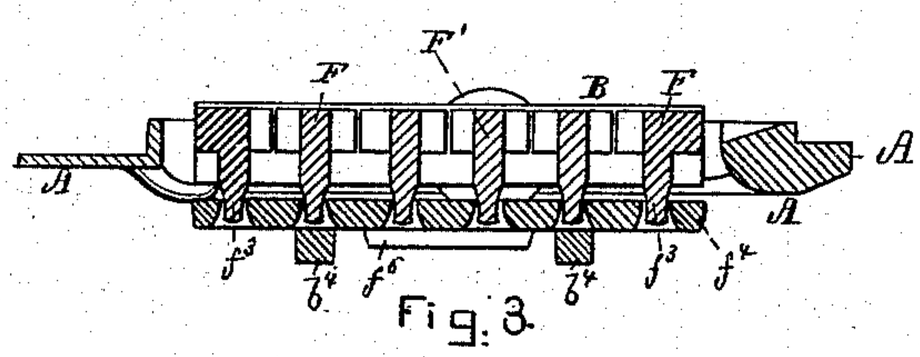

Fig. 3.

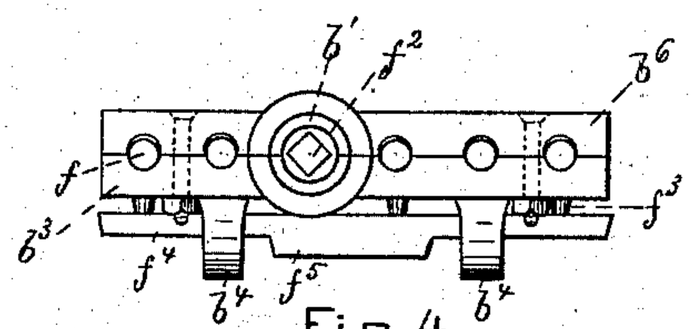

Fig. 4.

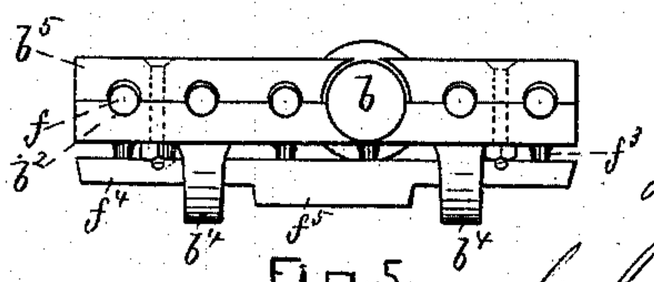

Fig. 5.

Witnesses.
G. B. Maynadier
J. R. Snow.

Inventor:
Henry M. Ryder
by J. R. Maynadier
his atty

UNITED STATES PATENT OFFICE.

HENRY M. RYDER, OF TAUNTON, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO JOHN F. MONTGOMERY, OF SAME PLACE.

GRATE FOR STOVES.

SPECIFICATION forming part of Letters Patent No. 249,205, dated November 8, 1881.

Application filed August 29, 1881. (No model.)

To all whom it may concern:

Be it known that I, HENRY M. RYDER, of Taunton, in the county of Bristol and State of Massachusetts, have invented an Improved Grate for Stoves, Ranges, and the like, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, in which—

Figure 1 is a plan. Fig. 2 is a section on line *x x*. Fig. 3 is a section on line *y y*. Figs. 4 and 5 are end views.

My invention relates to mechanism for shaking the grate; and it consists in means for causing the vibration of the grate-bars and in connecting the grate-bars together so that the oscillation of one will cause all the others connected with it to oscillate.

In the drawings I have shown the best form of grate known to me and embodying my invention.

A is the bed-plate, in which the grate-frame B is supported upon the journals *b b'*, one of which, *b'*, projects through the stove, so that a suitable wrench may be applied for dumping the grate, as will be clear without further description.

In order that a suitable wrench may be applied to one of the grate-bars, F', to oscillate it on its journals *f f'*, the journal *f'* is elongated, as shown more clearly in Figs. 1 and 2, the extremity f^2 of the elongation *f'* being squared to receive the wrench. Each grate-bar is mounted on journals *f f* in the grate-frame B, and each has a finger, f^3, on it. These fingers enter holes in a rod, f^4, and consequently the grate-bars are connected together by this rod f^4 and the fingers f^3, so that when bar F' is oscillated all the others will oscillate with it.

The grate-frame is best cast in three parts, as shown clearly in the drawings. This is in order that the journals *f f'* of the grate-bars F F' may be laid in the half-boxes in the lower cross-pieces b^2 b^3 and secured in place by letting in the upper cross-pieces, b^5 b^6. The connecting-pieces b^4 also serve as a support for the rod f^4. The projection f^5 on rod f^4 serves as a stop to limit the reciprocating motion of rod f^4, and consequently to limit the degree of oscillation of the grate-bars, for when grate-bar F' is turned on its journals *f f'* by the wrench the finger f^3 will slide rod f^4 endwise until the projection f^5 comes against one of the connecting-pieces b^4, as will be clear from Figs. 2, 3, and 4.

A minor feature of my invention consists in making journal *b'* hollow and oscillating the grate-bar F' through it, the advantage being that only the usual opening through the stove is required, for it is obvious that if any other of the grate-bars were oscillated, except the one whose axis is substantially coincident with the axis of the journals *b b'*, two openings would be necessary, one for a projection from the wrench to take hold of one of the grate-bars (corresponding to elongation *f'*) and the other for the journal *b'*.

Although I have described my invention as applied only to a stove, it is clear that it is applicable not only to stoves and the like, but may be desirable in other cases.

What I claim as my invention is—

1. In a grate, the bars F F', journaled respectively, at *f f'* in the grate-frame, and connected together by fingers f^3 and rod f^4, the bar F' having the elongation f^2 for oscillating it, all combined together substantially as described.

2. The grate-frame B, journaled at *b b'*, the grate-bars F F', journaled respectively at *f f'* in the grate-frame, and connected together by fingers f^3 and rod f^4, the elongation f^2 of bar F' passing through the hollow journal *b'* of frame B, all combined together as set forth.

HENRY M. RYDER.

Witnesses:
J. E. MAYNADIER,
JOHN F. MONTGOMERY.