W. WALSH.

Stove-Grate.

No. 160,370. Patented March 2, 1875.

Fig. 1.

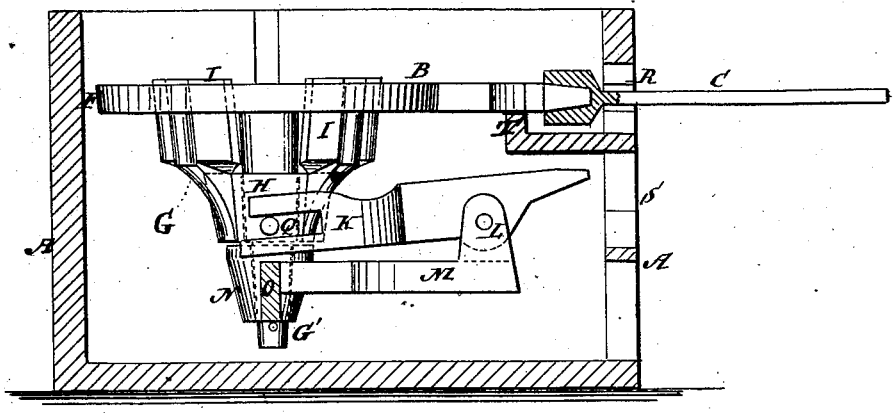


Fig. 2.

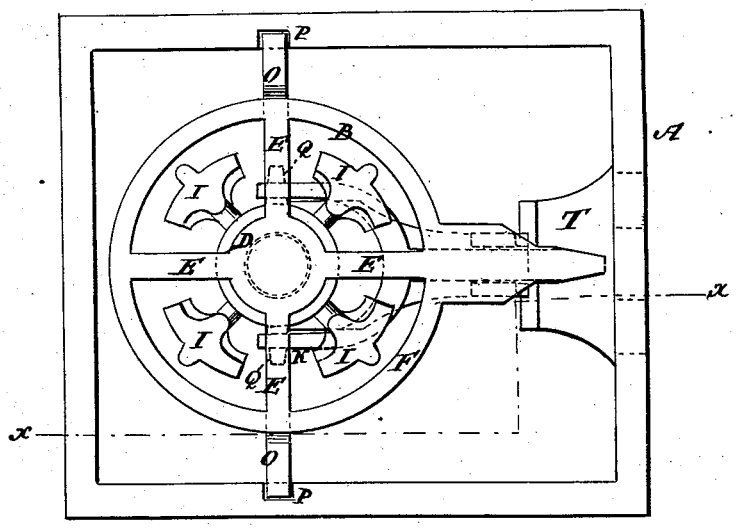
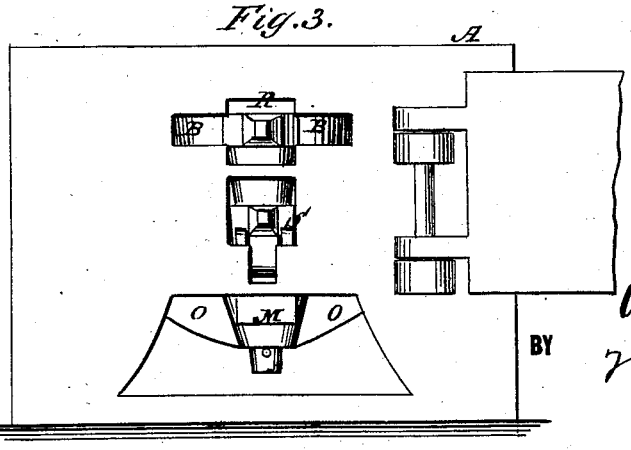


Fig. 3.



WITNESSES:

E. Wolff

A. F. Perry

INVENTOR:

W. Walsh

BY

ATTORNEYS.

UNITED STATES PATENT OFFICE.

WILLIAM WALSH, OF ALBANY, NEW YORK.

IMPROVEMENT IN STOVE-GRATES.

Specification forming part of Letters Patent No. **160,370**, dated March 2, 1875; application filed January 30, 1875.

To all whom it may concern:

Be it known that I, WILLIAM WALSH, of Albany, in the county of Albany and State of New York, have invented a new and useful Improvement in Stove-Grates, of which the following is a specification:

The present invention relates to new and useful improvements in grates for stoves; and consists in a grate made in two parts, one of which parts is vibrated laterally similar to ordinary grates, while the other part is susceptible of a perpendicular movement to raise the fuel from the other part, the construction and arrangement being as hereinafter described.

In the accompanying drawings, Figure 1 is a side view of the grate. Fig. 2 is a top view. Fig. 3 is a section of Fig. 2, taken on the line *x x*.

Similar letters of reference indicate corresponding parts.

A represents the fire-box of a stove. B is the portion of the grate which is vibrated horizontally with an intermitting rotary motion, with a shaking socket-lever, C. This portion of the grate has a center, D, from which radiate four arms, E, which connect the center with the outer ring F.

From the under side of the center extends a stem, G′, which passes down through the entire grate, as seen in Fig. 1. The other part of the grate G is supported by this central stem G′. H is the hub of this portion G. I I I I are lugs attached to the hub H, which extend up between the arms E, the upper ends of which are on a level with the top of the vibrating grate B, when they are in their lowest position. There is a space between the two hubs, which allows this portion of the grate to be raised vertically to force the coal or fuel upward to allow the ashes to descend. This tossing motion is produced by means of the shaker C, attached to a slotted lever, K, whose fulcrum is at L on the plate *m*. This plate is attached to hub N, from which extend the two arms O O, which support the entire grate in the fire-box, as seen at P P. The slots of this lever receive pins Q on the opposite sides of the hub. The end of this lever receives the shaker, which shaker forms the long end of the lever. By bearing down on the shaker the part G is raised. The lugs I are thrown up above the grate B, which forces up the fuel and allows the ashes to descend into the ash-pit.

In the front of the stove are openings for the introduction of the shaker C. The upper opening is broad, to allow of the lateral motion described, and the lower opening allows of the up and down motion of the lever. R is the upper opening and S is the lower opening. T is a plate which extends inward from the front of the stove to support the grate B. The two parts B and G form a compound grate, arranged, one to agitate the fuel in the usual manner or by a lateral vibration, and the other by a vertical movement to raise the fuel as described. The lugs I may be in any form to suit the purpose, but should not be so large as to prevent sufficient play to the arms E of the grate B.

The vibration of the circular part of the grate does not belong to my claim. It is only put there to show its connection with the improvement.

The shaker and the place it will enter will be so constructed that the shaker cannot come out till the grate is down to its place; therefore it will be a self-regulator. The shaker is an indispensible item in the improvement.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of the circular horizontally-oscillating part B, and the vertically-movable part G, having lugs I formed on its hub H, and projecting up in the spaces between the radial arms E of part B, as shown and described, to operate as specified.

2. The combination of slotted lever K, fulcrum-plate M, the vertically-adjustable grate G, having hub H, provided with pins Q and the supporting-bar O, as shown and described.

WILLIAM WALSH.

Witnesses:

JOHN J. WALSH,

PATRICK J. FLYNN.