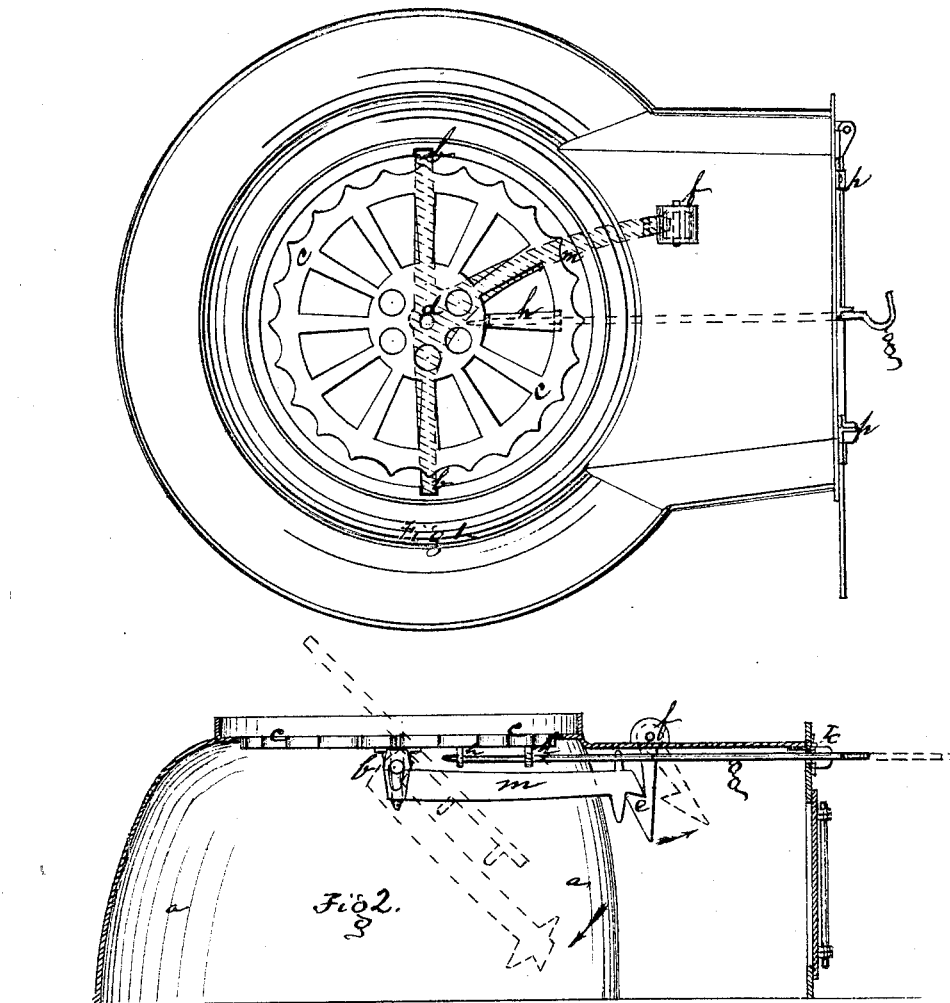


CHARLES R. HARVEY & JAMES H. FOOTE.

Improvement in Stove-Grates.

No. 114,290.

Patented May 2, 1871.



Charles R. Harvey
James H. Foote } In presence of
Thomas Pruden
N. H. Harvey

United States Patent Office.

CHARLES R. HARVEY AND JAMES H. FOOTE, OF NEW YORK, N. Y.,
ASSIGNORS TO CHARLES R. HARVEY.

Letters Patent No. 114,290, dated May 2, 1871.

IMPROVEMENT IN STOVE-GRATES.

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

To all whom it may concern :

Be it known that we, CHARLES R. HARVEY and JAMES H. FOOTE, both of the city, county, and State of New York, have invented certain new and useful Improvements in Grates for Furnaces, Stoves, &c.; and that the following, taken in connection with the drawing, is a full, clear, and exact description thereof.

In the drawing—

Figure 1 is a top view or plan of the grate and ash-pit.

Figure 2 is a vertical section through the same, showing the grate and its accessories in elevation.

This invention relates to that class of grates which both shake or oscillate and dump. Grates of this class are usually fitted so that they may be oscillated on a pin rising from a horizontal axis resting in journals at the bottom of the fire-pot or chamber which contains the coals, and have at their periphery two lips which, when the grate is in place, rest and slide upon ledges standing out from the periphery of the top of the ash-pit toward its center. These lips hold the grate up so long as they overlie the ledges, but when the grate is oscillated so that the lips pass the ends of the ledges the grate turns with its axis and dumps the contents of the fire-pot.

The grate is oscillated about a center by a handle or projection sticking out radially from it, such oscillation serving to shake out the ashes, and by means of the same handle it can be placed in the dumping position.

There are two difficulties which occur in the use of this common contrivance, viz:

First, that the grate is sometimes unintentionally oscillated while shaking out the ashes so as to dump the contents of the fire-box, thus putting out the fire when it ought not to be.

Second, that the grate sometimes dumps completely over and jams the coal between it and the back wall of the ash-pit.

In the drawing an ash-pit is shown at *a a*, a grate-axle at *b b*, and an ordinary shaking grate at *c c*, pivoted upon the axle at *d*.

To this axle is attached a rod, *m*, like the tongue or pole of a carriage. The rod rests just under the top of the ash-pit, and, it is plain, prevents the grate from upsetting or dumping too far and except toward

the ash-pit door. This remedies the first difficulty above enumerated.

From the top of the ash-pit is hung a catch, *e*, pivoted at *f* in such wise that the rod *m*, when lifted, first shoves the hook to one side and is then caught by it. This catch holds the rod up unless purposely unlatched, and the rod then drops, (see dotted lines in fig. 2,) and the grate tilts so as to dump out the coal.

We shape one end of the shaking-handle *g*, hereafter described, so that it can be used as a hook to unlatch the rod and permit it to drop.

The grate may be shaken by a bar, *g'*, which can be shoved into a socket, *h*, in the grate, and it is plain that it may be oscillated to any extent without any danger of unlatching and tilting the grate. The combination of the latch with the rod, therefore, cures the second difficulty.

Any kind of catch or button may be used to hold up the rod so long as there is something which will hold the rod up, and which can be removed so as to let it drop.

The shaking-bar or handle is to be removed when the grate is tilted, and we prefer to let it enter the ash-pit, when it is desired to shake the grate, through an aperture, *k*, closed at times by sliding doors *p p*, which regulate the draught.

It is hardly necessary to say that there are no lips on the grate and no ledges projecting inward from the bottom of the fire-pot.

We sometimes intend to use the rod *m* attached to the axle, even when the grate has lips and is free to dump when they slide over ledges.

We claim as of our own invention—

1. In combination with a grate, free to oscillate upon a center, an axle supporting the grate, and a rod attached to and projecting from the axis, substantially as described, the combination being and acting substantially as set forth.

2. In combination with a grate, an axle, and a rod projecting therefrom, a catch or latch, the combination being and operating substantially as herein described.

CHARLES R. HARVEY.
JAMES H. FOOTE.

Witnesses:

THOMAS PRUDEN,
W. NYE HARVEY.