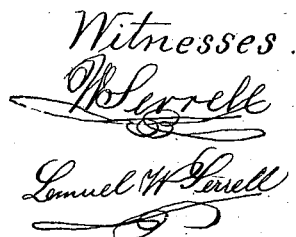


Stove Grate.

Patented Sept. 4, 1847.



George A. Philip

UNITED STATES PATENT OFFICE.

GEO. A. PHILIP, OF NEW YORK, N. Y.

STOVE-GRATE.

Specification of Letters Patent No. 5,277 dated September 4, 1847.

To all whom it may concern:

Be it known that I, GEORGE A. PHILIP, of the city of New York, State of New York, stove manufacturer, have invented and made certain new and useful improvements in the application, constructive arrangement, and combination of mechanical means to effect cleansing the grates in closed stoves, heaters, or furnaces by a two-fold motion, that shakes out the dusty residuum, combined with a means of emptying the fuel or cinders into a box beneath and of replacing the grates for use without opening the stove or furnace, for which improvements I seek Letters Patent of the United States, and that the said improvements are constructively and substantially set forth in the following description and shown in the drawing annexed to and making a part of this specification, wherein—

Figure 1, shows a plan of a grate, in place for use; Fig. 2, is a plan of the parts, as seen from beneath, with the grate leaves opened, for discharging the fuel, or cinders; Fig. 3, is a sectional elevation, through the line A B, Fig. 1; Fig. 4, is a sectional elevation, through the line C, C, Fig. 1; Fig. 5, is a plan of one leaf of the grate, with the parts that carry the joint pins shown in elevation, at each end of the grate leaf; and the same letters and numbers, as marks of reference, apply to the like parts in each figure.

a, is the metal shelf of the stove.

b, is a fixed ring, to sustain the brick lining *d*, see Fig. 4, and made with the curved cross bar *e*, cast as an integral part or riveted on beneath; the ring *b*, is made with a depression *c*, see Figs. 2, 3, and 4, to pass the handle of the shaking and carrying bar *f*, beneath a small bridge piece 4, see Figs. 1, 3, and 4, which, in place, keeps the brick lining from the handle *f*, and at this part, the circumference of the ring *b*, and bridge piece 4, are slightly reduced, to admit between them and the shell *a*, a small curved sliding plate 5, see Figs. 1, 3 and 4, with a notch to take the handle *f*, and in this situation, this plate 5, serves as a shutter, or fence, to close the horizontal slot in the shell *a*, in which the bar *f*, slides and this keeps the ash dust in the stove.

The cross bar *e*, has a center 1 on which the shaking and carrying bar *f*, has a lateral alternating or swiveling motion, this bar has, on its ends, inside the stove, crutches

3, 3, with holes, seen best, at the ends of Fig. 5, to take the pins on the ends of the two leaves *i*, *i*, forming the grate, one end, of each of these grates, has a notch cut into the rim, by the side of the pin, as at 6, see Fig. 5, and when the pin is run through the clutch, to the depth of the notch, the pin, at the other end of the grate leaf, is disengaged from that crutch, and the grate leaf can be lifted out, for any repairs, or replacement, without moving any fixed portion of the parts. Beneath each grate leaf, and nearly at a right angle with the pins and crutches, is an eye, into which one end of one of the two levers *h*, *h*, is hooked, the opposite end of each of these, standing slightly diagonal to the center of the grates, is jointed at 2, to the slide bar *g*, the head end of which goes through the shell *a*, below the ring *b*, and the body, beyond the joint 2, goes through the head of the center 1, by this constructive arrangement, when the bar *f*, is pushed in one lateral direction, the distance between the outer point of one lever, and the longitudinal center of the bearing bar *e*, is shortened, under one leaf of the grate, which gives that leaf a slight vertical rock, upward, while the other lever produces the contrary effect, on the opposite leaf of the grate, and this motion, combined with the horizontal intermittent circular motion, given by the shaker bar *f*, cleans out, or shakes down the ashes, and dust, out of the fuel. And by pulling out the bar *g*, the grates will assume the position, shown in reverse, or upside down, in Fig. 2, and discharge the fuel, or cinders, into the box beneath; while, on pushing the bar *g*, in again the grates will reassume the proper position for use and both these operations may be effected, while the stove or furnace is kept closed.

I do not claim to have invented any of the parts, herein described, as used by me, for these purposes; but I do not know if any such arrangement as is herein described, by which the construction of the shaking bar *f*, and the combination thereof, with the levers *h*, *h*, gives a lateral and horizontal movement, at the same time with a slight vertical rock to the grates, to shake down the ashes; nor do I know of any arrangement similar to that, by which the slide bar *g*, and levers *h*, *h*, will both let down the grate, to empty the fuel, or cinders, and afterward replace the grates, for use, with-

out opening the stove, or furnace, therefore,

I claim as new and of my own invention,
The application, constructive arrangement,
5 ment, and combination of these parts, for
these purposes, substantially in the manner
described and shown.

In witness whereof, I have hereunto set

my hand, in the city of New York, this
seventeenth day of February, one thousand 10
eight hundred and forty-seven.

GEORGE A. PHILIP.

Witnesses:

W. TERRELL,

LEMUEL W. TERRELL.