(No Model.)

J. B. BOSSLER.

ROTARY GRATE.

No. 346,712. Patented Aug. 3, 1886.

Fig. 1.

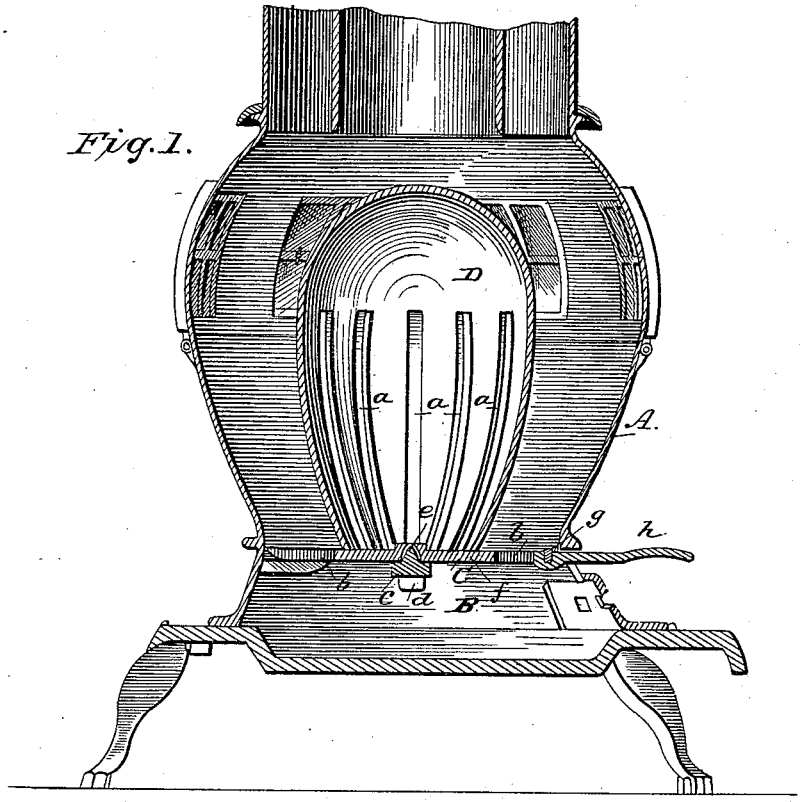


Fig. 2.

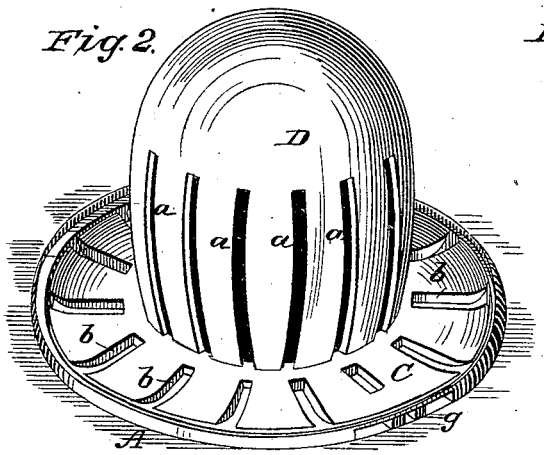
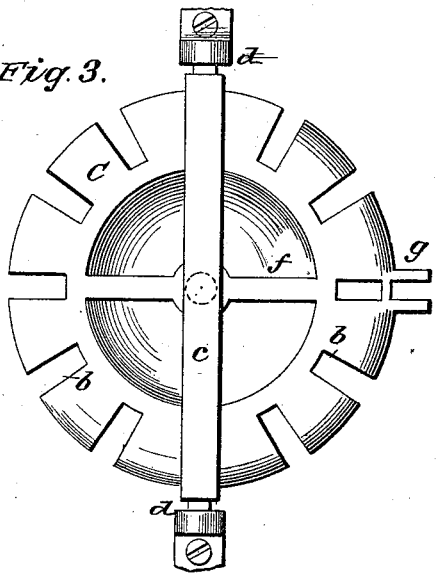


Fig. 3.



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JOSEPH B. BOSSLER, OF MIDDLETOWN, PENNSYLVANIA.

ROTARY GRATE.

SPECIFICATION forming part of Letters Patent No. 346,712, dated August 3, 1886.

Application filed April 5, 1886. Serial No. 197,865. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH B. BOSSLER, a citizen of the United States, residing at Middletown, in the county of Dauphin and State of Pennsylvania, have invented certain new and useful Improvements in Rotary Grates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to an improvement in shaking dumping-grates, and has for its object the construction of a simple, cheap, and durable grate adapted to aid combustion, radiate the heat produced thereby, and to be readily placed in any stove or heater.

The invention will be hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, which form a part of this specification, Figure 1 represents a vertical transverse section of a magazine-stove, showing the grate in position. Fig. 2 is a perspective view of the grate, and Fig. 3 is an inverted plan view of the same.

Reference being had to the drawings and the letters marked thereon, A represents a base-burning stove of ordinary construction, in which B is the ash-pit.

C indicates a grate, having cast thereon a hollow knoll, D, in which are formed slots *a*, which extend about two-thirds (⅔) of the height of the knoll, and are arranged intermediate of the slots *b* in the grate C. By this arrangement of the slots *a b*, the air entering both sets of slots permeates the entire mass of fuel, supplying oxygen thereto and effecting a very thorough combustion, and strength is added to the structure, rendering the grate more effective in crushing clinkers which may form in the stove. It will be observed that by this construction the slots and bars in the annular bottom and in the knoll alternate, thus imparting strength to the grate.

c indicates a flat cross-bar, journaled on either side of the ash-pit in lugs *d*, and provided with a pivot, *e*, in its center, upon which is seated the grate C, supported upon the the cross-bar *f*, having a hole in its center to receive pivot *e*, and said bar is cast integral with grate C, and is placed at right angles to cross-bar *c*, thus admitting of a tilting motion for dumping and a rotary motion for shaking the grate.

g represents a slotted lug, formed in the front or side of the grate C to receive the shaker-handle *h*.

I do not confine myself to any particular size or special construction of stoves used, as my grate is adapted to be placed in any stove or heater by riveting to either side of the stove lugs *d*, slotted to receive the rounded ends of cross-bar *c*, having in its center the pivot *e*, upon which the grate C is placed, and is then ready for use, as shown in Fig. 1. It is obvious that the lugs may be fastened to the front and back of the stove, thus adapting the grate to be operated from the side when desirable, or when the construction of an old stove demands this arrangement. The hollow knoll D, which extends up to within two and a half (2½) or three (3) inches of the magazine or stove door not only serves to distribute the fuel to the best advantage, and to afford an excellent draft through the medium of slots *a*, but it also serves to grind up cinders and clinkers between its outer surface and the inner surface of the stove-cylinder, thus insuring a most desirable shaking, dumping, and anti-clinker grate, which by practical experience has been shown to result in a great economy of fuel and an increased amount of heat from the quantity of fuel consumed, and in practice it has been found that the knoll should occupy about one-third (⅓) of the fire-chamber of the stove, and that by continuing the slots up to about two-thirds (⅔) of the height of the knoll the air which is admitted from below entering the chamber formed by the walls of the knoll is forced to pass through the slots *a* into the body of burning fuel, supply oxygen thereto, and mingle with the gases resulting from the combustion of the fuel, and is consumed thereby.

Having thus described my invention, what I claim is—

1. A rotary dumping-grate consisting of an annular bottom having radial slots therein, a hollow knoll formed integral therewith, said knoll having a closed top and provided with vertical slots arranged intermediate of the slots in the bottom, and a cross-bar having a central aperture in the lower end of the knoll, in com-

bination with a supporting-bar having a pivot in the center and arranged at right angles to the bars in the knoll, substantially as described.

2. A rotary dumping-grate consisting of an annular horizontal bottom having a knoll with a closed top formed integral therewith, said bottom having radial slots and the knoll vertical slots extending about two-thirds of its height and arranged intermediate of the slots in the bottom, in combination with a stove-cylinder and suitable connections for rotating and dumping the grate, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOSEPH B. BOSSLER.

Witnesses:
DAVID SHIRK,
MICHAEL STEWARD.