(No Model.)

G. JONES.

FIRE GRATE.

No. 347,352. Patented Aug. 17, 1886.

Fig. 1.

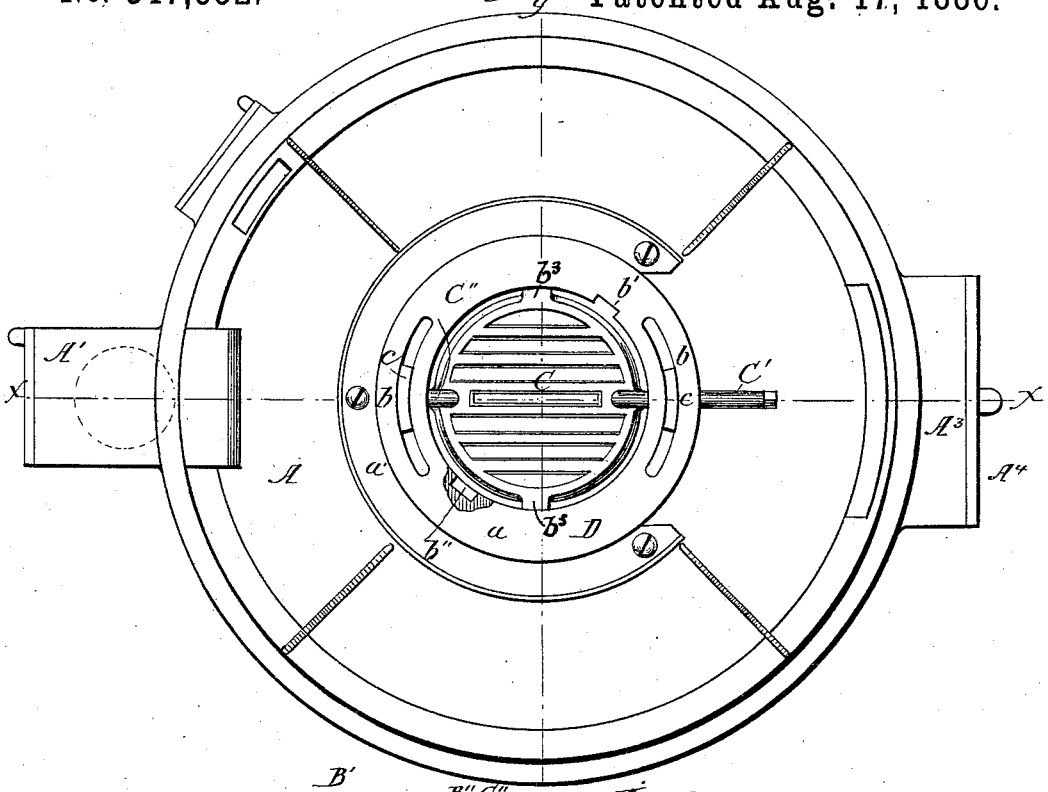


Fig. 2.

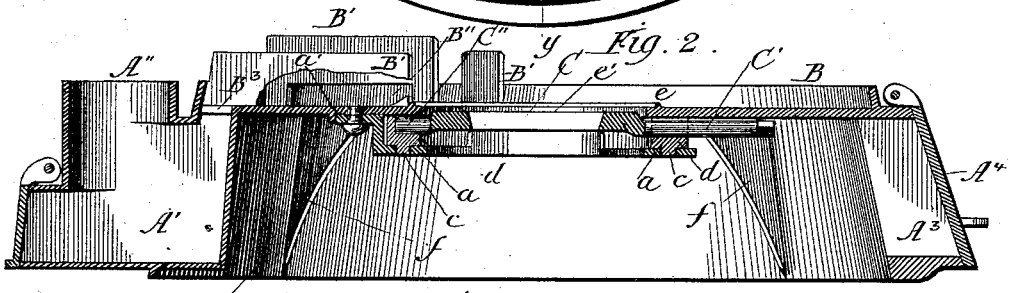
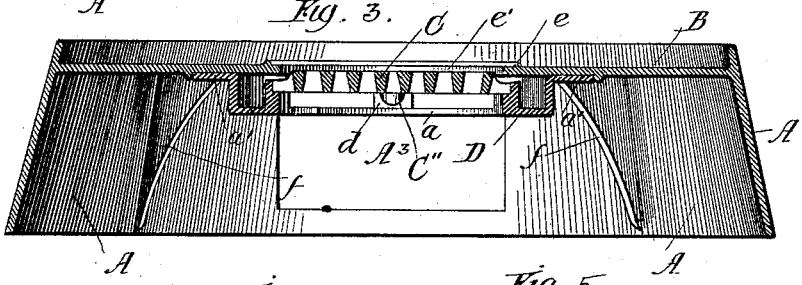


Fig. 3.



Witnesses
Albert H. Adams.
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Fig. 4.

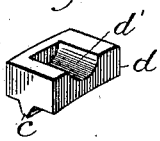
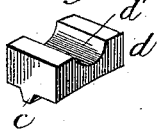


Fig. 5.



Inventor:
Geo Jones

UNITED STATES PATENT OFFICE.

GEORGE JONES, OF CHICAGO, ILLINOIS.

FIRE-GRATE.

SPECIFICATION forming part of Letters Patent No. 347,352, dated August 17, 1886.

Original application filed September 11, 1885, Serial No. 176,845. Divided and this application filed February 12, 1886. Serial No. 191,696. (No model.)

To all whom it may concern:

Be it known that I, GEORGE JONES, residing at Chicago, in the county of Cook and State of Illinois, and a citizen of the United States, have invented a new and useful Improvement in Fire-Grates, of which the following is a full description, reference being had to the accompanying drawings, in which—

Figure 1 is a bottom view; Fig. 2, a vertical section on line *x x* of Fig. 1; Fig. 3, a vertical section on line *y y* of Fig. 1; Figs. 4 and 5, details, being perspective views of the bearing-blocks in which the grate is journaled.

This invention has for its object to improve the construction and operation of fire-grates for furnaces, stoves, &c., in regard to the support or manner of mounting the grate, so that it can be oscillated for shaking purposes, or tipped for dumping; and its nature consists in the several parts and combinations of parts hereinafter described, and pointed out in the claims as new.

In the drawings, A represents the base, made of cast-iron or other suitable material, and, as shown, of a circular form, having a wall or side and a top plate, with an open bottom, the wall having on one side a continuation laterally, forming a chamber, A′, with a ring, A″, on its upper side to receive a pipe leading to the chimney or other exit, and, as shown, the inner end of the chamber A′ extends some distance into the interior of the base A, and the side wall on the opposite side from the extension A′ has an opening or extension, A^3, closed by a door, A^4, through which access can be had to the interior of the base A, the base in effect forming an ash-pit.

B is a circumferential flange on the top of the base, and extending from the inside of this flange to the opening, at the center of the top plate of the base, is a series of tangential flanges, B′, some of which are higher than the flange B, and some corresponding in height, or nearly so, to the flange B, as shown in Fig. 2, and, as shown, these flanges B′ are arranged to have a high and low flange alternate, and the high flanges are provided with an opening, B″, as shown in Fig. 2, thus forming a smoke-passage around the top of the base, by which the smoke is deflected—that is, passing under the high flanges and over the low flanges—and the top plate of the base, at a point in line with the exit or chamber A′, is provided with an opening, B^3, through which the smoke passes into the chamber and out therefrom to to the chimney or other exit, the smoke being made to pass in one direction only by making the flanges on one side of the smoke-exit B^3 of sufficient height and solidity to close the passage-way at that point, turning the smoke to pass around over the top of the base and out at the exit B^3. As shown in Fig. 2, the deflecting-plates are omitted on one side.

C is the grate, of a circular form, as shown, and fitting a circular opening therefor in the top of the base A, the grate on one side having a bar, C′, with a square end to receive a shaker, as usual, and having on the other side in line with C′ a journal, C″, a portion of the bar C′ forming the other journal on which the grate can be turned or tipped.

D is a support attached to the under side of the top of the base by screws or bolts passing through a flange, *a′*. This support on the side of the rod C′ of the grate is open to allow the grate to be shaken, and the bottom of the support has a flange or ring, *a*, in opposite sides of which are curved slots *b*, as shown in Fig. 1, each of which receives a projection, *c*, on a block or head, *d*, each block or head having a semicircular recess, *d′*, to receive the journals C C′ of the grate. The slots *b* are of sufficient length to allow of the necessary movement to shake the grate, and are struck on the arc of a circle corresponding to the circle of the grate. This arrangement gives a firm support for the grate, and at the same time allows perfect freedom in oscillating the grate for shaking purposes, and in order to allow the grate to be tipped for dumping purposes the ring portion *a* of the support is provided with a notch or recess, *b′*, and the edge of the opening in the top plate is provided with a notch, *b″*, in line with the notch *b′*, so that by bringing the supporting-lugs b^3 of the grate in line with these notches *b′ b″* the grate can be turned edgewise through the rod or bar C′; and it will be seen that in thus dumping the grate the bearings *d* are still supported by the ring *a*, so that the grate cannot drop down when turned for dumping purposes, as is the case with ordinary grates, and in putting the

grate into place no trouble will be experienced, as all that is necessary is to drop the grate into the bearing *d*, insert the ends *c* of the bearings in the curved slots *b*, and then secure the support D to the top plate by screws or bolts passing through the flange *a'*, and when in position the grate is perfectly free to be shaken or dumped.

The base shown is one designed for use with a furnace, for which purpose the annular ring B receives the lower end of the casing for the furnace, and, as shown, the top plate of the base is provided with an annular bead, *e*, around an opening, *e'*, for the purpose of holding a fire-pot (not shown) in position to properly line with the opening *e'*, and, as shown, the top plate of the base is strengthened and supported by ribs or flanges *f*, connecting the top plate with the side wall.

The block *d*, which supports the stem C' of the grate, has the opening *d'* entirely across its face, to allow of the passage of the stem, while the block *d* for the journal C'' has its opening *d'* within the block, as shown in Fig. 4, Fig. 5 showing the other block. The block of Fig. 4 could, however, have its groove entirely across the face, if so desired, and these blocks, in connection with the grooved ring which receives and forms a support for them, embody the essential features of this invention for use with a shaking and tipping grate, the base represented being only for the purpose of illustrating the invention in connection with the base.

The present application is a division of an application heretofore filed by me under date of September 11, 1885, Serial No. 176,845, and I make no claim herein to anything contained in said prior application.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with a supporting-frame, of the grate C, provided with journals, a support, D, connected to said frame, and having slots *b*, and bearings *d*, having tongues *c* to enter the slots *b*, for shaking and dumping the grate, substantially as specified.

2. The base A and grate C, in combination with the ring or support D, having slots *b*, and bearings *c d*, substantially as and for the purpose specified.

3. A ring or support, D, having slots *b* to receive bearings on which the grate can be supported, in combination with the bearings *d d*, having tongues *c c*, and provided with half-round bearings *d*, and the grate having journals C' C'', substantially as and for the purpose specified.

GEO. JONES.

Witnesses:
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