(No Model.)

H. W. MERRITT.

STOVE GRATE.

No. 382,543. Patented May 8, 1888.

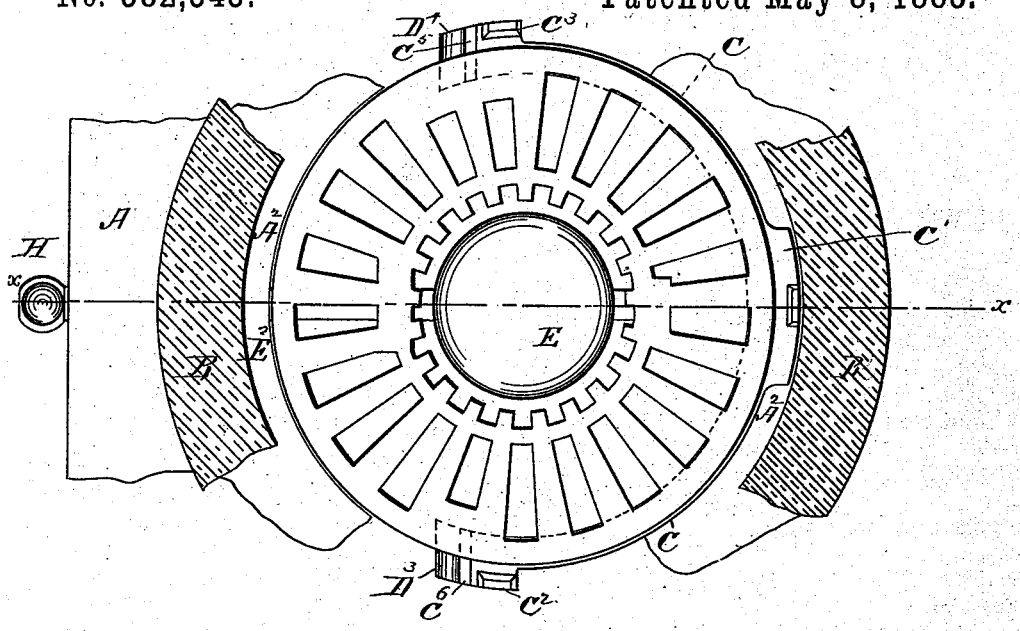

Fig. 1.

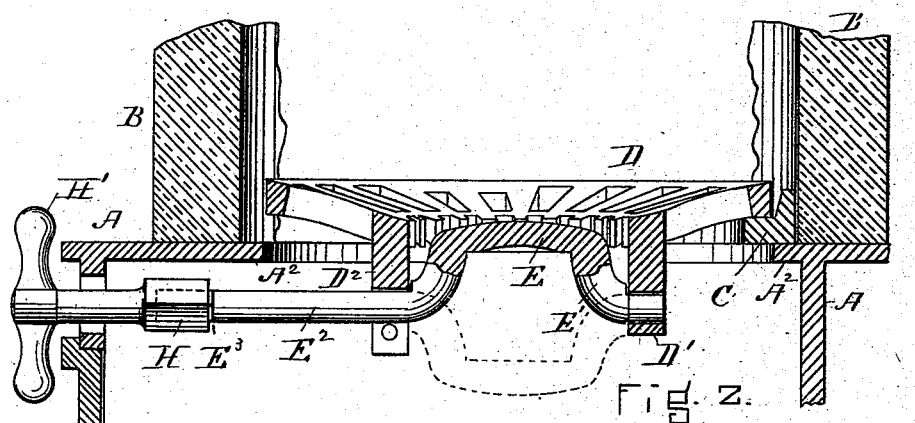

Fig. 2.

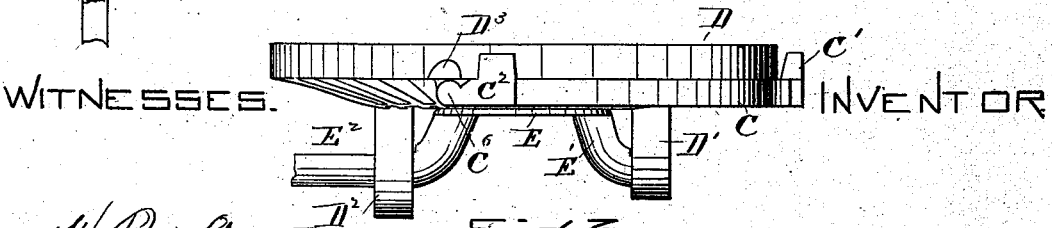

Fig. 3.

WITNESSES.

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HENRY W. MERRITT, OF SOMERVILLE, MASSACHUSETTS.

STOVE-GRATE.

SPECIFICATION forming part of Letters Patent No. 382,543, dated May 8, 1888.

Application filed September 14, 1887. Serial No. 249,719. (No model.)

To all whom it may concern:

Be it known that I, HENRY W. MERRITT, of Somerville, in the county of Middlesex and State of Massachusetts, have invented a new and useful Improvement in Furnace and Stove Grates, of which the following, taken in connection with the accompanying drawings, is a specification.

The object of my invention is to so construct a stove-grate that it shall be particularly adapted to round or nearly round fire-boxes, and has a dished or inclined upper surface extending from the lining toward the center, but leaving in the center an opening of about one-third of the diameter of the fire-pot. This central opening is filled by a circular independent piece, which may be a perforated or unperforated disk, as thought best. Both the exterior and interior portions of the grate can be oscillated by means of a cross-handled shaker or wrench on a vertical axis—that is, in a horizontal plane. The central part may be turned bottom side up, so as to drop considerably below the opening in the exterior portion of the grate, thus leaving a sufficient opening for clearing out the dead coal and reviving the fire. The entire grate can be tipped on lateral trunnions, so that the front portion is sufficiently lowered to admit of a complete clearing out of the fire-box. This object I attain by the mechanism shown in the accompanying drawings, in which—

Figure 1 is a plan showing my grate and a portion of the fire-pot. Fig. 2 is a vertical section of the same, taken on line *x x* of Fig. 1; and Fig. 3 is a side elevation of the grate and supporting-piece.

I construct my device as follows:

A represents the lower part of a stove or furnace, and B, Figs. 1 and 2, a part of the lining of the fire-pot.

A^2 A^2, Fig. 2, represent the bed-plate upon which the lining of the fire-pot, and also my grate-supporting piece, rests.

The grate-supporting piece C C in all the drawings is in the form of a semi-circle, as indicated by the full outside line and dotted inside line in Fig. 1. The grate-supporting piece C C has ears C', C^2, and C^3, which rest upon the bed-plate A^2 A^2, Figs. 1 and 2. At each end of the supporting-piece I make a rounded bearing, one of which is shown at C^6, Fig. 3, and both at C^5 C^6, Fig. 1. The rounded bearings C^5 C^6 receive trunnion-sockets made in the grate D. One of these sockets is shown at D^3, Fig. 3, and the location of both are shown at D^3 D^4, Fig. 1. By hanging the grate D on the lateral trunnion-sockets D^3 D^4, which rest on rounded bearings C^5 C^6, connected to the sliding supporting-plate C, I am able to dump the entire grate in the usual manner. The grate D rests on the supporting-piece C C, as shown in Fig. 3, and is above the bearings C^6 C^5, so that it may be oscillated freely in its horizontal plane by means of the handle H′ H and stem E′ E^2.

E in all the figures represents a central part, which may be without perforations or with as many as may be desired. This center grate is supported on trunnions or stems E′ E^2, which rest in sockets made in the depending ears D′ D^2 of the grate D. (See Figs. 2 and 3.) The trunnion E^2 is extended to form a stem or shank, E^3, the end of which is made square to receive the shaking-crank H H′, Fig. 2.

The crank H H′ extends through the front of the ash-pit, as shown in Fig. 2, and may be removed, when it is desired to dump the entire grate, by tipping it on the lateral bearings C^6 C^7.

From the above description it may be understood that inner grate, E, may be turned over on its trunnions E′ E^2, so as to occupy the position shown in the dotted lines in Fig. 2, so as to allow the clearing out of the dead coal or clinkers from the fire-box.

By hanging the inner grate, E, on trunnions that are bent downward, as indicated at E′ E^2, Fig. 2, I am enabled to set the axis on which the grate E turns much below the annular grate D, so that in making a quarter-turn of this grate E, I throw it to one side of the opening in the annular grate D, thus leaving a much larger clear opening for the passage of clinkers, &c., than there would be in case the axis of the grate E was on a line with the general plane of the annular grate D.

To tip or dump the entire grate, the handle H′ H^2, Fig. 2, is removed and the door of the ash-pit is opened, so as to allow the user to insert his or her hand or a poker, and by using the

stem E′ E² of the grate as a lever the front side of the grate may be turned down and the whole contents of the fire-box discharged.

I claim—

1. In a furnace or stove, the combination of the bed-piece A² A², the sliding supporting-piece C, having rounded bearings C⁵ C⁶, the annular grate D, provided with trunnion-sockets D³ D⁴, adjusted to receive said bearings and having downwardly-projecting ears D′ D², with the central piece, E, having trunnions E′ E², all arranged to operate together substantially as described, and for the purpose set forth.

2. In a stove-grate, the combination of the annular grate D, having a central opening and downwardly-projecting ears D′ D², with an inner grate, E, having downwardly-inclined trunnions E′ E², adapted to throw the grate E out of the center of the opening in the grate D, substantially as described, and for the purpose set forth.

HENRY W. MERRITT.

Witnesses:
W. R. STEARNS,
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