

W. CLERKIN.
GRATE FOR STOVES OR FURNACES.
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976,848.

Patented Nov. 29, 1910

2 SHEETS—SHEET 1.

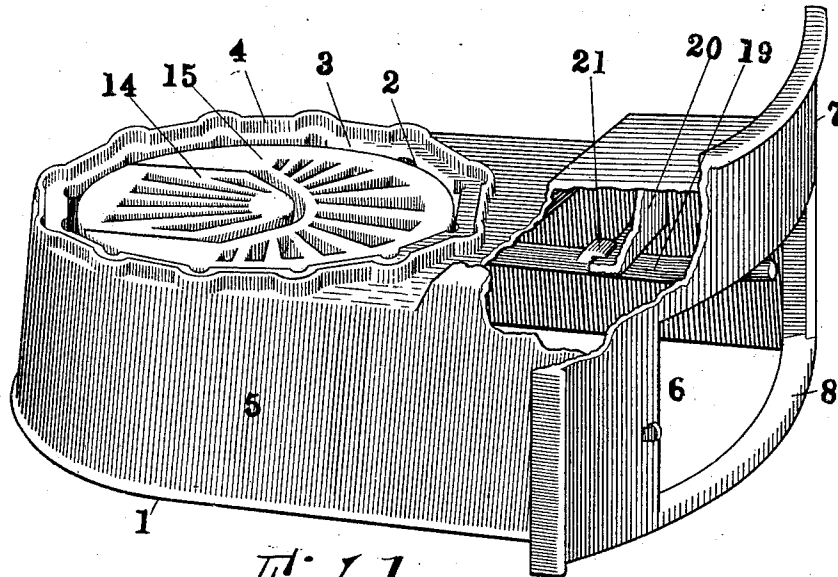


Fig. 1

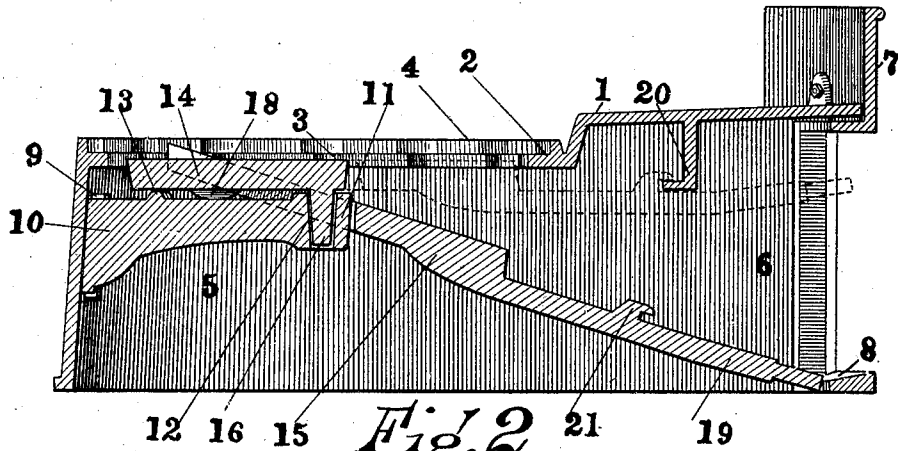


Fig. 2

Witnesses:

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WILLIAM CLERKIN, OF AKRON, OHIO, ASSIGNOR TO THE TAPLIN, RICE-CLERKIN COMPANY, A CORPORATION OF OHIO.

GRATE FOR STOVES OR FURNACES.

976,848.

Specification of Letters Patent.

Patented Nov. 29, 1910.

Application filed December 19, 1908. Serial No. 468,312.

To all whom it may concern:

Be it known that I, WILLIAM CLERKIN, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented new and useful Improvements in Grates for Stoves or Furnaces, of which the following is a specification.

This invention relates to grates for stoves or furnaces.

The object of this invention is to produce a grate comprising two portions hinged together having a pivot to permit the entire grate to be rotated horizontally for the removal of ordinary ashes, one of the portions of said grate provided with an extended arm projecting into the entrance to the ash-pit of the stove or furnace, in connection with which the grate is used, said extended arm constituting means for agitating or rotating the grate in the shaking operation.

A further object is to provide means for supporting the extended arm during the shaking operation, said supporting means being such that when the extended arm is disengaged therefrom, its outer or free end may be lowered or dropped until it rests upon the floor of the ash-pit, thereby inclining the portion of the grate which is attached to the same, permitting access to the surface of the grate for the removal of cinders, clinkers and other incombustible matter accumulated on said grate. The construction of the grate is such that if the extended arm is partially lowered so as to incline the grate slightly, only a portion of the contents of the fire-pot of the furnace will be precipitated into the ash-pit and access may be had to the grate surface for the purpose of removing large clinkers, etc.; but if the inclination is increased by lowering the end of the extended arm until it engages the floor of the ash-pit, a larger percentage of the contents of the ash-pit will be dumped or permitted to escape than if said arm is only partially lowered.

With the foregoing and other objects in view, the invention consists in the novel construction, combination and arrangement of parts constituting the invention to be hereinafter specifically described and illustrated in the accompanying drawings which form a part hereof wherein is shown the

preferred embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which come within the scope of the claims hereunto appended.

In the drawings, in which similar reference numerals indicate like parts in the different figures: Figure 1 is a perspective view of my improved grate with the ash-pit used in connection therewith, showing a portion of said ash-pit broken away to better illustrate the method of supporting the extended arm by which the grate is inclined or lowered. Fig. 2 is a vertical, central, longitudinal sectional view of the device shown in Fig. 1; and, Fig. 3 is a reverse or inverted plan of the same.

Referring to the drawings in detail, the reference numeral 1 denotes the ash-pit of a stove or furnace provided in its upper wall with an opening 2 surrounded by a horizontal annular flange 3. Inclosing the flange 3 and opening 2 is an upwardly-extending flange 4 adapted to form in connection with said ash-pit. The main portion of the ash-pit consists of an inclined wall 5 provided with an entrance or doorway 6, the edges of which are arranged to abut against a portion 7 of the outer casing of the stove or furnace, which is provided with an opening 8 adapted to be closed by a door (not shown in the drawings). The inner rear face of the wall of the ash-pit is preferably provided with a pair of inwardly and downwardly-inclined lugs 9 between which and held thereby is an arm 10 extending into the interior of the ash-pit and having its free end provided with a head 11 in which is a vertical aperture 12 constituting a bearing for a purpose to be hereinafter described. The arm 10 is also provided with an integrally-formed ridge 13, preferably slightly raised above the plane of the upper surface thereof and extending laterally therefrom, for a purpose to be later described.

The grate proper consists of two portions 14 and 15 adapted when united together (in a manner to be hereinafter described,) to constitute the entire grate member of the stove or furnace in connection with which it is used and to substantially fill the opening inclosed by the flange 3. The portion 14 of this grate has depending from its under

surface a pin 16 arranged to be received in the aperture 12 of the head 11 as a bearing and to swing freely horizontally thereon, the rear part of the portion 14 being supported during its horizontal rotation by the ridge 13. Projecting laterally from the sides of the portion 14 are trunnions 17, preferably formed integral with said portion and constituting pivoting means for the co-operating portion of the grate. The co-operating portion 15 of the grate is formed with a recess adapted to freely inclose the portion 14 and is provided on its under surface with oppositely-disposed notched lugs 18 the notches of which are adapted to receive the trunnions 17 and hinge thereon, whereby the portion 15 of the grate is pivotally-mounted with respect to the portion 14. The pivotal connecting means between the two portions 14 and 15 of the grate, comprising the trunnions 17 and notched lugs 18, is such that the two portions of the grate may be rotated horizontally in unison, with the pin 16 as a pivot, which is supported by the inwardly-extending arm 10.

Preferably formed integral with the portion 15 of the grate is an arm 19 which extends into the doorway or entrance 6 of the ash-pit and which constitutes means for rotating or agitating horizontally the united portions 14 and 15 of the grate. The arm 19 being mounted on or carried by the portion 15 and extending into said door way or entrance 6 also constitutes suitable means for lowering or controlling the vertical inclination of this portion of the grate with the trunnions 17 as pivots therefor. For instance, if it is desired to lower or incline the portion 15 sufficiently to have the cinders, clinkers or other incombustible matter raked from the surface of the grate, the arm 19 is lowered to a sufficient degree to permit this and if it is desired to rake or dump a larger portion of the contents of the fire-pot the inclination imparted to the arm 19 may be increased until it rests upon the floor of the ash-pit.

In order to support the arm 19 and the grate portion 15 united therewith, in a horizontal position, there is provided on the upper wall of the ash-pit a fixed ledge or flange 20 extending downwardly therefrom and transversely thereof adapted to be engaged by and receive a hook-shaped lug 21 formed on the upper surface of the arm 19. The fixed ledge or flange 20 does not ordinarily extend entirely across the entrance to the ash-pit but stops short of the side walls thereof so that when the arm 19 is moved either to an extreme right or left position the hook-shaped lug 21 carried thereby will pass from engagement therewith, permitting the extended end of the arm 19 to drop to the floor or bottom of the entrance to said ash-pit, allowing ready access to the entire

surface of the grate through the opening 8, provided for such purpose.

It will be noted that when the hook-shaped lug 21 carried by the arm 19 is in engaging relation with the fixed ledge or flange 20, the entire grate may be agitated or shaken horizontally for the purpose of rotating or shaking the grate to remove the fine ashes; but if it is desired to rake the clinkers or other incombustible matter from the surface of the grate the arm 19 is swung to the extreme right or left position which disengages the hook-shaped lug 21 from the fixed ledge or flange 20, thereby permitting the extreme free end of the arm 19 to drop to the bottom of the ash-pit, allowing ready access to all portions of the grate.

In rotating or shaking the grate horizontally, the two portions thereof move together with the pin 16 as an axis, the portion 14 being supported by the ridge 13 and the tiltable or dumping portion 15 being held in a horizontal position with respect to the portion 14, by the engagement of the notched lugs 18 with the trunnions 17 of the former and the co-operating engagement of the lug 21 with the fixed ledge 20.

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

1. A grate for stoves or furnaces comprising two portions pivotally hinged together and moving together when shaking the grate, a pivot for the entire grate, an arm carried by one portion, said arm provided with a hook-shaped lug, and an angle-shaped member depending from and arranged centrally of the upper wall of the entrance to the ash-pit of and within said stove or furnace adapted to hold said arm and grate portion horizontal during the shaking thereof.

2. A grate for stoves or furnaces comprising two portions pivotally hinged together and moving together when shaking the grate, a pivot for the entire grate, an arm carried by one portion, said arm provided with a hook-shaped lug, and a transversely-extending fixed ledge or flange depending from the upper wall of the entrance to the ash-pit of said stove or furnace stopping short of the side walls thereof and constituting a supporting medium for said arm and connected grate portion during the shaking operation, said lug adapted to be disengaged from said ledge or flange when said arm is moved to the extreme right or left position, thereby permitting said arm and grate portion to be inclined for the purpose of cleaning the grate.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM CLERKIN.

Witnesses:

C. E. HUMPHREY,
GLENARA FOX.