(No Model.)

J. B. JONES.

STOVE OR FURNACE GRATE.

No. 347,714. Patented Aug. 17, 1886.

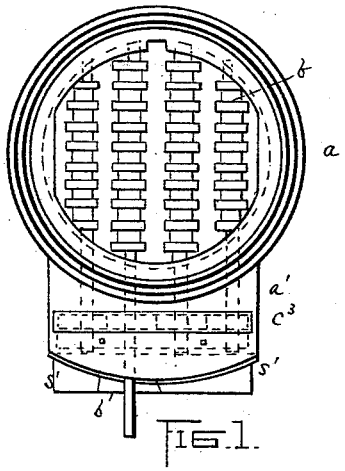

FIG. 1.

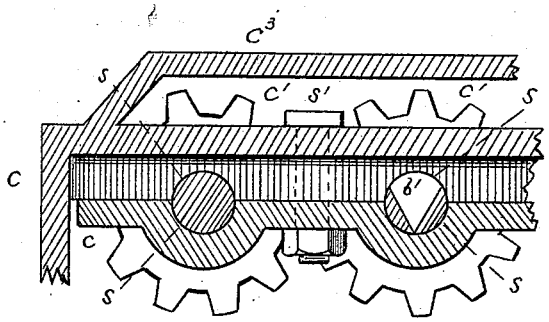

FIG. 3.

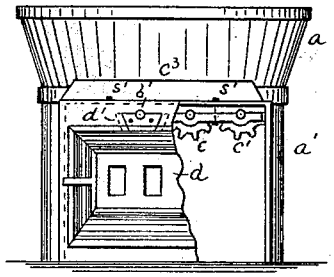

FIG. 2.

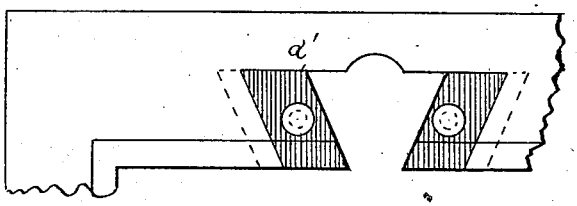

FIG. 4.

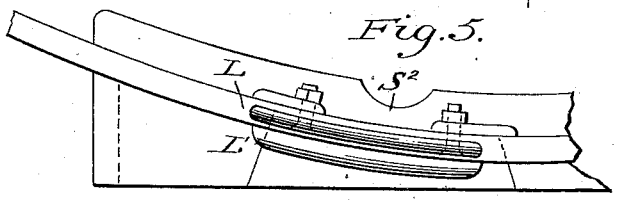

Fig. 5.

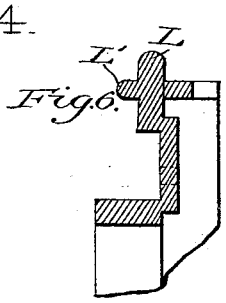

Fig. 6.

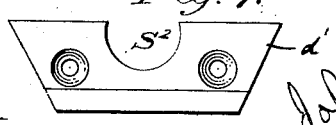

Fig. 7.

WITNESSES:
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Letta F. Stuart.

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John B. Jones
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UNITED STATES PATENT OFFICE.

JOHN B. JONES, OF UTICA, NEW YORK, ASSIGNOR OF ONE-THIRD TO THE CARTON FURNACE COMPANY, OF SAME PLACE.

STOVE OR FURNACE GRATE.

SPECIFICATION forming part of Letters Patent No. 347,714, dated August 17, 1886.

Application filed April 25, 1884. Serial No. 129,204. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. JONES, a resident of the city of Utica, in the county of Oneida and State of New York, and a citizen of the United States, have invented a new and useful Improvement in Stove or Furnace Grates; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters and figures marked thereon.

My invention relates to an improvement in the mechanism for supporting and removing angular grate-bars from a furnace without disturbing the gear-wheels mounted on the grate-bar or the housing over the ash-pit base; and it consists in the mechanism hereinafter pointed out and claimed.

In the accompanying drawings, Figure 1 represents a plan view of the grate, fire-pot, and housing. Fig. 2 is a front view of the ash-pit base and a section of the fire-pot mounted thereon, the broken lines representing a section of the door removed, exposing the gear-wheels and support. Fig. 3 is a section view of the upper portion of the housing, showing the grate-bearing. Fig. 4 is a section of the housing over the ash-pit door, showing a removable section of the housing. Fig. 5 is a top view of a portion of the housing. Fig. 6 is a vertical section of the same, and Fig. 7 is a front view of a removable section of the ash-pit housing over the ash-pit door.

Heretofore angular grate-bars have been used in furnaces provided with gear-wheels on the front of the bars, which were supported at the front in bearings located back of the gear-wheel, and have been so constructed that the gear-wheels had to be removed from the grate-bars to remove one or more of the grate-bars and to replace the same. This trouble necessitates the removal of the housing surrounding the ash-pit base, causing great expense and annoyance, as the grate-bars are quite likely to be destroyed when in use. I overcome these difficulties by providing a grate-bearing located in front of the gear-wheels and a removable section of the housing over the ash-pit door to allow the extension-bar of the grate to be removed, by which mechanism one or more of the grate-bars may be removed and others replaced without disturbing the housing or the gear-wheels on the grate-bar.

In the accompanying drawings, *a* represents the lower section of the fire-pot mounted on the ash-pit base.

a' represents a covering surrounding the ash-pit base, which may be of any suitable form for retaining the refuse from the fire and supporting the fire-pot.

b represents the angular grate-bars, which are placed under the fire-pot, and are constructed and mounted to be rotated by means of cog gear-wheels attached to the grate-bars near the front, which are constructed to mesh into each other. One of the grate-bars, *b'*, extends through the ash-pit housing to receive a crank or shaker for shaking or rotating the grate-bars. The grate-bars at the rear are fitted in sockets or bearings, and are supported at the front by supporting-bars, *c c*, with semicircular depressions in the upper portion of the ash-pit housing and corresponding semicircular depressions in the lower section, the two forming the bearings in front of the gears *c' c'*.

s s s s represent the semicircular depressions. The lower section of the grate-support in front is held in place by bolt or bolts *s'*.

c' c' represent the gears mounted onto the grate-bars near the front ends, which are rigidly secured to the grate-bars and are so located as to be back of the front grate-bar supports and mesh into each other.

c^3 represents the housing over the gears.

d represents the door opening into the ash-pit base of the ordinary construction. In the ash-pit housing above this door I provide a removable section, *d'*, with a semicircular depression in the upper portion of the section for fitting the extension grate-bar, which is accommodated by corresponding semicircular openings in the ash-pit housing, This removable section is attached to the ash-pit housing over the ash-pit door by screws or bolts, and is removable to accommodate the removal or replacement of the extension grate-bar when

the grate-bars are changed. It will be noticed that this removable section is not provided as a means of supporting the extension grate-bar, but is provided to facilitate its removal without disturbing the ash-pit base.

I am aware that grate-bars similar in construction, provided with gears on the front end which mesh into each other, have heretofore been used; but, so far as I am aware, the supporting-bars have been placed back of the gear-wheels.

I am also aware that extension grate-bars have been provided for accommodating a shaker, extending beyond the ash-pit housing, supported at its outer end in a hanging box, provided with a hinge to facilitate the removal of the grate-bar. This I do not claim.

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

1. The combination, with a supporting-frame, of grate-bars provided with gear-wheels meshing with each other, and a removable bearing-bar in front of said gear-wheels supporting said grate-bars, substantially as described.

2. The combination, with a supporting-frame, of grate-bars provided with gear-wheels meshing within each other, a removable bearing in front of said gear-wheels supporting said grate-bars, the ash-pit housing with one of said grate-bars extending through the same, and a removable section of the housing above the ash-pit door partially surrounding said grate-bar, substantially as set forth, for the purposes stated.

JOHN B. JONES.

Witnesses:
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GEO. P. PERRY.