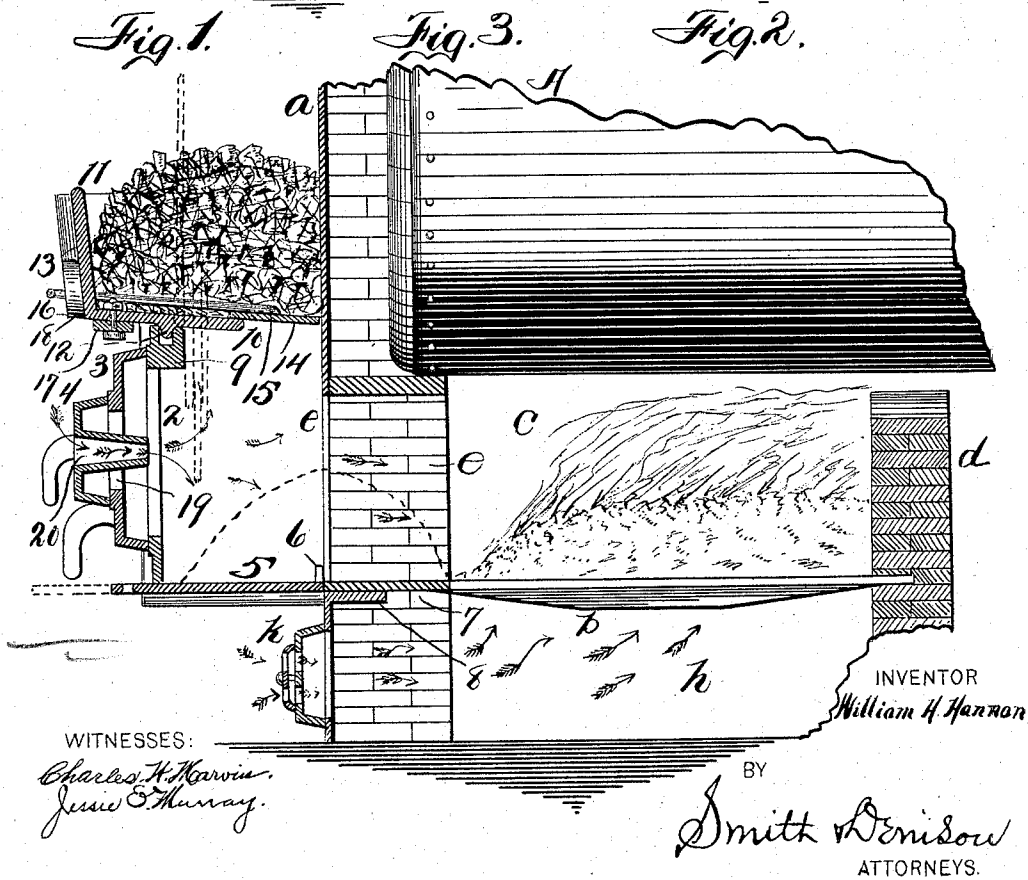
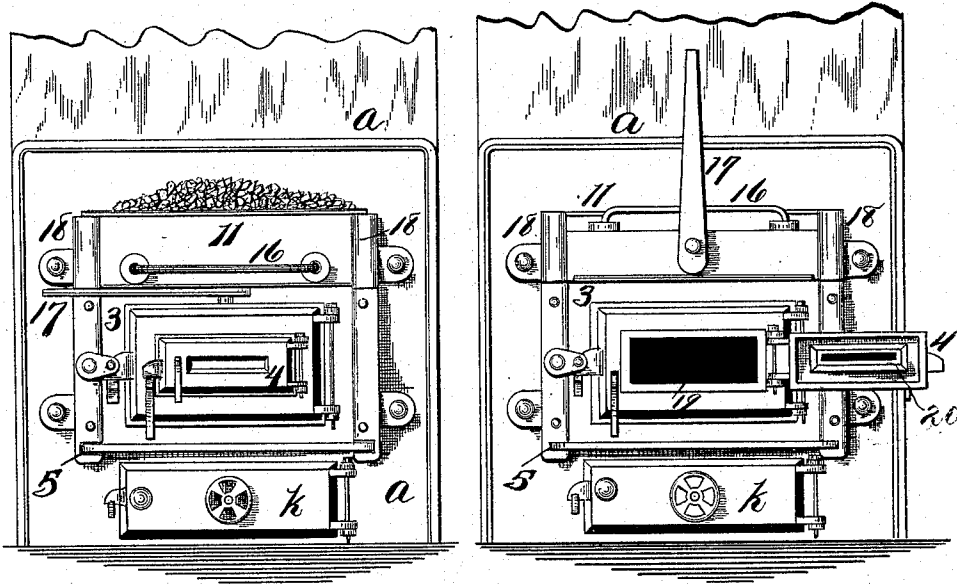


W. H. HANNAN.
COAL STOKER.

Patented Sept. 15, 1896.



UNITED STATES PATENT OFFICE.

WILLIAM H. HANNAN, OF SYRACUSE, NEW YORK, ASSIGNOR TO HARRIET E. HANNAN, OF SAME PLACE.

COAL-STOKER.

SPECIFICATION forming part of Letters Patent No. 567,710, dated September 15, 1896.

Application filed January 22, 1896. Serial No. 576,389. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. HANNAN, of Syracuse, in the county of Onondaga, in the State of New York, have invented new and useful Improvements in Coal-Stokers, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

My invention relates to stokers for boilers in which the coal is shoveled into a receiver having a bottom adapted to be tilted to dump the same into position to be distributed over the fire.

My object is to produce a tilting stoker which is adapted to be secured onto a boiler-front, having a tilting bottom which dumps the coal into a chamber in front of the fire and connected as through the ordinary opening for the hand-stoking door in said front, from which chamber the coal can be pushed back and distributed over the fire by any ordinary tools for that purpose introduced through a suitable door in the stoker-front, said door being also adapted to be opened and used for hand-stoking, in which the tilting bottom is sectional, the inner section being adapted to be reciprocated by force applied to it from the outside of the front of the tilter in order to vary the size of the opening between it and the boiler-front in order to adapt it to the use of coal of different sizes, the other section being suitably mounted to be manually rocked in or upon its supporting-bearing, in which the floor or bottom of the coal-chamber into which it is dumped is adapted to be reciprocated so as to create an opening in the said floor, through which all refuse will fall into the ash-pit when the fire is being cleaned in the usual manner, and in which the stoker in front is provided with a double door, one section of which is adapted to be opened for stoking the fire and the other to be opened for hand-stoking or shoveling the coal directly onto the grate.

My invention consists in the several novel features of construction and operation hereinafter described, and which are specifically set forth in the claims hereunto annexed.

It is constructed as follows, reference be-

ing had to the accompanying drawings, in which—

Figure 1 is a front elevation of the stoker and part of a boiler-front, showing the tilter filled with coal ready to be dumped. Fig. 2 is a like view of the same, showing the tilter dumped and the stoker-door opened. Fig. 3 is a vertical sectional elevation of the stoker, boiler-front, boiler, fire-box, ash-pit, fire-back, and ash-pit and door, the dotted lines indicating the position assumed by the tilting bottom when dumped, the position of the coal upon the floor of the chamber, and the position assumed by said bottom when pulled out for cleaning the fire.

A represents a boiler having a front *a*, grate *b*, fire-box *c*, fire-back *d*, and having an opening *e* in the front corresponding to the ordinary door-opening in an ordinary front, through which the coal is shoveled into the fire-box, *h* being an ash-pit, and *k* an ordinary door therefor in the front.

Upon the boiler-front a suitable box-like frame is mounted, comprising suitable sides, a front provided with an opening 2, double doors 3 4 mounted thereon to close said opening, a floor 5 mounted in a suitable manner so that it will slide in its mountings and can be drawn out a distance limited by a suitable stop 6, and thus open or close the opening 7 in the grate-floor 8. Across the top of this front is a grooved or suitable bearing-bar 9, in or upon which the main bottom section 10 of the tilter 11 is suitably mounted, as by the bearing-rib 12, fitting into said groove so as to rock therein, and this section is provided with a tilter-front or wall 13. A movable tilter-bottom section 14 is carried by the section 10, and suitable means, as a rod or rods 15, carried out through the wall 13, and provided with a suitable handle 16, by which said movable section can be reciprocated to vary the distance between the tilter-bottom and the boiler-front, according to the size of the coal, closing it entirely for fine coal.

Upon the section 10 a lever 17 is pivoted, to be used for tilting the bottom to dump the coal, and, when swung around, locking under suitable projections or lugs 18 upon the stoker-

frame to prevent accidental dumping. The sides of the tilter-frame are carried up so as to constitute the stationary side walls of the coal-receiving box. The door 3 is provided with a suitable stoke-hole 19, closed by the door 4, and the door 4 with a suitable draft-opening 20.

The coal is shoveled onto the closed tilting bottom, and when desired the lever 17 is swung forward and the bottom is tilted by raising said lever, the coal falling onto the bottom floor 5, as indicated by the dotted lines, and it is then ready to be pushed back and distributed over the fire in any usual manner by tools inserted through the stoke-hole, and while lying on said bottom is exposed to the heat of the fire, and thus becomes more or less heated and coked, so that substantially no cold coal need be supplied to the fire.

When it is desired to clean the fire, the bottom is pulled out and all of the rakings, clinkers, and other débris fall through the opening 7 into the front of the ash-pit and not out onto the floor of the boiler-room.

It will be readily seen that the opening 7 can be shifted forward far enough so that the rakings will fall in front of the ash-pit door.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination with a boiler, a boiler-front and fire-box opening outwardly through said front, of a frame secured to said front, a suitable door mounted thereon, a bearing-bar

across said frame and a tilter mounted and adapted to be rocked upon said bar between the sides of said frame.

2. The combination with a boiler, a boiler-front and a fire-box open outwardly through said front, of a frame secured upon said front, a suitable door thereon, a bearing-bar across said frame above the door, and a sectional tilter mounted and adapted to be rocked upon said bar between the sides of the frame, and means to reciprocate the movable section thereof.

3. The combination with a boiler, its front, grate and ash-pit and fire-box having a suitable outward opening through the boiler-front of a sliding plate in the bottom of said opening adapted to be reciprocated to open an aperture to permit the clinkers, &c., to drop through it into the ash-pit.

4. The combination with a boiler, its front, grate, ash-pit and fire-box open outward through said front, a frame mounted upon said front, a door closing and opening in said frame in line with the opening into said fire-box, a bearing-bar across said frame, a coal-receiver, a sectional tilting bottom therefor having its bearing upon said bar, and means to reciprocate the movable section thereof.

In witness whereof I have hereunto set my hand on this 15th day of January, 1896.

W. H. HANNAN.

In presence of—

JESSIE E. MURRAY,
HOWARD P. DENISON.