

(No Model.)

J. W. ALLAN.
AUXILIARY FIRE POT.

No. 486,067.

Patented Nov. 15, 1892.

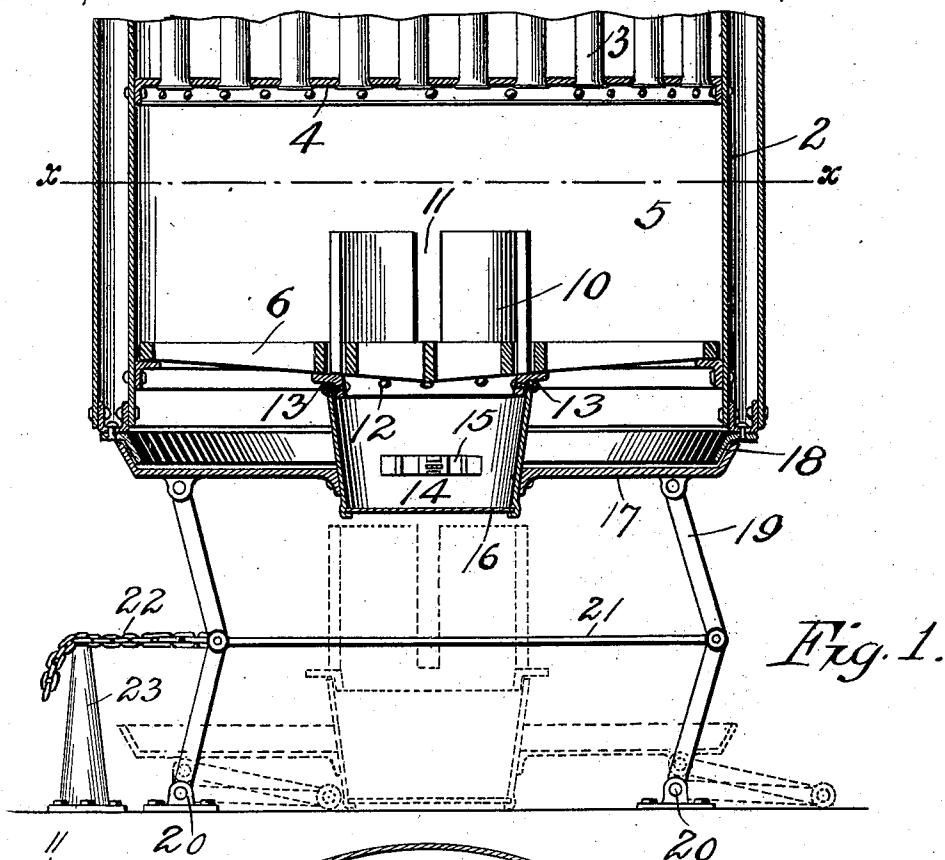


Fig. 1.

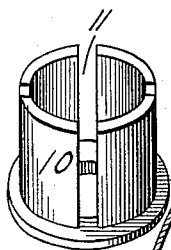


Fig. 3.

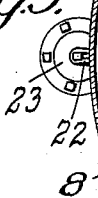


Fig. 2.

Witnesses,
C. E. Van Dorn,
J. S. Lyon

Inventor,
John W. Allan,
By Paul & Merwin
his Attorneys.

UNITED STATES PATENT OFFICE.

JOHN W. ALLAN, OF MINNEAPOLIS, MINNESOTA, ASSIGNOR OF ONE-HALF TO
ADOLPH G. SCHLENER, OF SAME PLACE.

AUXILIARY FIRE-POT.

SPECIFICATION forming part of Letters Patent No. 486,067, dated November 15, 1892.

Application filed July 26, 1892. Serial No. 441,240. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. ALLAN, of Minneapolis, in the county of Hennepin and State of Minnesota, have invented a certain
5 new and Improved Auxiliary Fire-Pot, of which the following is a specification.

My invention relates to an auxiliary fire-pot for use beneath a boiler in keeping up steam at times when the steam is not being
10 exhausted from the boiler; and in particular my object is to provide such a device for use in connection with a steam fire-engine boiler while the engine is in the engine-house.

Heretofore it has been common to keep up
15 the steam in fire-engine boilers while at the station by means of a separate boiler plant arranged in another part of the building and connected with the steam-chamber of the boiler by a separable joint which could be
20 disconnected when the fire-engine was drawn out. It has also been common to employ a separate gasoline-heater arranged on the outside of the boiler.

The disadvantages of the above methods
25 lie principally in the expense of installation and maintenance. To take the place thereof I have devised a small auxiliary fire-pot arranged to be lifted directly through the large grate of the boiler and employed in connection
30 with means for shutting off the draft through the other parts of the grate, whereby a small coal fire may be kept constantly burning beneath the boiler-flues, furnishing a degree of heat just sufficient to keep the steam
35 at the required pressure.

The invention will be more readily understood by reference to the accompanying drawings, forming a part of this specification, in which—

40 Figure 1 is a vertical sectional elevation of a steam fire-engine boiler provided with a device embodying my invention. Fig. 2 is a plan view taken from the line *xx* of Fig. 1. Fig. 3 is a small perspective view of the auxiliary fire-pot.

As shown in the drawings, 2 represents the walls of the boiler; 3, the flues thereof; 4, the flue-sheet, and 5 the fire-box. The box is provided with the usual flange, upon which
50 the large circular grate 6 rests. This grate is of a form different from that of any of the

grates in common use, being provided at its center with the annular opening or space 7, divided into four parts by the short bars or bridges 8, which serve to support the central
55 or smaller part 9 of the grate. The auxiliary fire-pot proper 10 has the straight vertical walls and the four vertical slots 11 to accommodate the short bridges 8 of the grate. The fire-pot walls thus divided at the top into four
60 parts are connected at the bottom by the integral rim 12, having the flaring flange 13, extending outwardly and adapted to entirely close the space between the outside of the fire-pot and the annular opening 7, and there-
65 by cut off any draft which might otherwise enter the fire-pot from that space. The rim also has the depending flange, to which is riveted the small ash-pan 14, which is provided with the draft-opening and chamber 15
70 and in its bottom with the slide 16, which may be drawn out to discharge the small quantity of ashes falling from the center of the grate 9, forming the grate for the auxiliary fire-pot. In order to cut off all draft from the
75 outside of the main grate, which, if allowed to enter, would greatly reduce the heat derived from the fire in the small fire-pot, I provide the sheet-metal pan 17, having the central opening to receive the bottom of the
80 ash-pan 14 and riveted thereto. The other edges of this pan are flared up and are adapted to make a close tight joint with the flanged ring 18, secured on the bottom of the boiler and beneath the grate. Thus it will
85 be seen that the inlet of air to the fire-box is entirely shut off, except through the draft-opening 15, and thus through the central section 9 and the small fire-pot. The pan 17, with the part 14 and the fire-pot 10, are all
90 supported in this position by four elbow-links 19, pivoted on the floor in blocks 20, and at their upper ends to lugs provided on the bottom of the pan 17. Links 21 extend between opposite pairs of elbow-joints, and
95 the joints are at all times allowed to stand off of center, the pan being held up by securing them in this position by any convenient means, such as the chain 22, fastened to a rigid base 23, as shown in Fig. 1. When this
100 chain or locking device is unfastened, the weight of the pan, &c., will cause them to

drop down into the dotted position of Fig. 1, withdrawing the walls of the fire-pot 10 from the main grate and allowing the body of the live coals therein to spread out over the top 5 of the large main grate, where they serve as kindling for fuel, which may be added while the engine is on its way to the fire.

When the engine is brought back into the house, it is backed over the small grate, its 10 exact position being located by suitable stops on the floor, after which the grate and pan are readily lifted and the fire-pot 10 slipped up through the annular opening 7, after which a small hard-coal fire is built up in the fire- 15 pot for the purpose defined.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination, with the boiler, of the 20 fire-box thereof and a smaller fire-pot arranged to be inserted therein or withdrawn therefrom, substantially as described, and for the purpose set forth.

2. The combination of a boiler and the fire- 25 box thereof with a smaller fire-pot arranged to be inserted therein and means for cutting off draft except through said small fire-pots, substantially as described.

3. The combination of a boiler and the fire- 30 box thereof with the main grate of the fire-box, said grate provided with an opening or openings, and a small fire-pot having walls arranged to be raised through said opening or openings into a position within said fire-box, 35 substantially as and for the purpose specified.

4. The combination, with the fire-box, of the main grate thereof, provided with a central opening or openings, a small fire-pot arranged to be raised through said opening or 40 openings into said fire-box, the center of the main grate forming the grate for the small fire-pot, and means for cutting off all draft into said fire-box except through the small fire-pot, substantially as described, and for 45 the purpose set forth.

5. The combination, with the fire-box and the main grate thereof, provided with a central opening or openings, of a removable small fire-pot arranged to be raised through 50 said opening or openings into said fire-box, means for cutting off all draft through said fire-box except through said small fire-pot,

and means for raising and for withdrawing said small fire-pot, substantially as described, and for the purpose set forth. 55

6. The combination, with the fire-box, of the main grate thereof, provided with a central opening or openings, the auxiliary fire-pot arranged to be raised through said opening or openings, a small ash-pan arranged be- 60 neath said fire-pot, and a pan adapted to close the entrance of air into the fire-box except through the auxiliary fire-pot, substantially as described.

7. The combination, with the fire-box, of 65 the main grate thereof, provided with the opening 7, a small fire-pot arranged to be raised through said opening, the central part of the main grate forming the grate for the small fire-pot, an ash-box arranged beneath 70 the small fire-pot, draft-openings therein, and a closing-pan 17, and means for raising and lowering the whole into the fire-box and beneath the boiler, substantially as described.

8. The combination, with the fire-box, of 75 the main grate thereof, provided with an annular opening 7, the fire-pot 10, whose walls are arranged to pass through said opening, the small ash-box 14, arranged beneath and attached to said fire-pot, the flanged ring 18, 80 arranged on the boiler, the closing-pan 17, and means for lifting and fixing said fire-pot, small ash-box, and pan, substantially as described.

9. The combination, with the fire-box, of 85 the grate thereof, the small fire-pot arranged to be inserted through the center of said grate and provided with the flange 13, arranged to close the opening in the grate through which it is inserted, the ash-box 14, secured 90 to the small fire-pot and provided with draft-openings, a ring 18, arranged on the boiler, the pan 17 to engage the same and supporting said part 14 and the fire-pot, and means for instantly withdrawing the small fire-pot 95 and the pan or for lifting the same into position, substantially as described.

In testimony whereof I have hereunto set my hand this 20th day of July, A. D. 1892.

JOHN W. ALLAN.

In presence of—

C. G. HAWLEY,
FRED S. LYON.