

J. B. WOOD.
LOCOMOTIVE ASH PAN.

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[illegible]

J. E. Luchette
Louis Dieterich

J. B. WOOD.

BY
Fred G. Dietrich & Co
ATTORNEYS

UNITED STATES PATENT OFFICE.

JAMES BUCKHANNAN WOOD, OF GATE CITY, VIRGINIA, ASSIGNOR OF ONE-HALF TO GEORGE A. EWING AND C. M. CARTER, OF SAME PLACE.

LOCOMOTIVE ASH-PAN.

SPECIFICATION forming part of Letters Patent No. 569,905, dated October 20, 1896.

Application filed July 29, 1896. Serial No. 600,932. (No model.)

To all whom it may concern.

Be it known that I, JAMES BUCKHANNAN WOOD, residing at Gate City, in the county of Scott and State of Virginia, have invented a new and Improved Locomotive Ash-Pan, of which the following is a specification.

My invention relates to improvements in ash-pans for railroad-engines; and such invention primarily has for its object to provide a fire-box having a pan or ash-holding compartment provided with suitable means adapted to be operated from the engine-cab whereby the ash-pan can be relieved of ashes and cinders without the necessity of getting under the engine.

Furthermore, my invention seeks to provide an ash-holder for locomotives having means whereby to hold the ashes until cold before finally discharging them on the track.

With other objects in view, which will hereinafter be referred to, my invention consists in an ash-pan embodying the peculiar and novel combination and arrangement of parts, such as will be first described in detail, and then be specifically pointed out in the appended claims, reference being had to the accompanying drawings, in which—

Figure 1 is a longitudinal section of a locomotive fire-box provided with an ash-pan constructed in accordance with my invention. Fig. 2 is a perspective view of a portion thereof. Fig. 3 is a detail cross-section of the ash-pan, and Fig. 4 is a detail view illustrating the construction and arrangement of the slide members.

Referring to the accompanying drawings, A indicates the locomotive fire-box, B the water-jacket or boiler portion, and C the grate, all of which may be of ordinary type.

D indicates the ash pit or pan portion of the fire-box, which in my form of construction is divided into an upper compartment E and a lower compartment F, which are divided by a slotted division-plate G, the bottom plate F' of the lower compartment being also slotted, as at *f f*. The bottom plate F' and the division-plate G are secured to the sides of the ash-pan by riveting or otherwise and have formed therewith or attached thereto horizontal guideways H H', in which are

movably held the cut-off slide-plates J J', which slide over the plates G and F' and have slots *j j'*; which are adapted to be brought into register with the slots in the said plates G and F' or to cover such slots, as conditions may require.

To each of the slides J J' at one end is secured an arm *j² j³*, which arms extend through the slotted hinged damper or valve-plate D² and connect, respectively, with the lower ends of the crank members *j⁴ j⁵*, projected down from the independent rock-shafts K K', journaled in brackets *k k'*, which extend out from the ash-box, which shafts have at one end crank members *k² k⁴*, to which connect the pitman-rods *l l'*, which in turn are connected to the crank portions 12 14 of the vertical rock-shafts L L', journaled on the side of the fire-box and extended up within the cab in convenient reach of the fireman. The solid or cover portions *j⁶* of the slides J J' are made curved or dished in cross-section, as shown, to facilitate the ready discharge of the ashes and cinders when the slots in such plates are brought into register with the slots in the plates G and F'.

The manner in which my improvements operate is best explained as follows: Normally the parts are in the position shown in Fig. 1, *i. e.*, the lower slide is adjusted to cover the bottom plate F, while the slide J is moved to allow for a free discharge of ashes and cinders through the division-plate G into the lower compartment of the ash pan or box. When it is desired to empty the ashes, the top slide is moved to a cut-off position to close off the lower compartment F' and the ashes in such lower compartment allowed to cool, after which the fireman moves the bottom slide to an open position and thereby allows the ashes and cinders to discharge on the track, it being obvious that during this operation the ashes and cinders dropping through the grate will be collected in the upper compartment of the ash-pan.

From the foregoing description, taken in connection with the accompanying drawings, it is thought the advantages of my invention will readily appear.

It will be seen the entire operation of dis-

charging the ashes is effected from the engine-cab, thereby avoiding any necessity of going under the engine.

Furthermore, my improvements are of such a nature that they can be readily fitted to the ordinary forms of locomotive fire-boxes without requiring any change of structure thereof more than to slot one of the hinged damper or valve members.

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

1. An ash-pan for locomotive fire-boxes formed with an upper and lower compartment, the lower compartment having a slotted bottom, a slotted division-plate dividing such compartments, and independently-movable cut-off plates held to slide over the slotted division and bottom members and means for operating such slides from the engine-cab substantially as shown and described.

2. The combination with the fire-box having an ash-pan portion having hinged dampers one of which is slotted, said pan having a slotted bottom member and a slotted horizontal division-plate, of the slotted slides J J' having operating-arms projected through the slotted damper, and crank and lever

mechanism connected to such arms substantially in the manner shown and for the purposes described.

3. In an ash-pan of the kind described, the combination of the pan-casing having a slotted bottom and a horizontal slotted division-plate, of the cut-offs J J' held to slide independently over the slotted division bottom members, said slides having their solid or cut-off portions made curved or dished shape and means for operating the said slides all arranged substantially as shown and described.

4. The combination with the ash-pan casing D, having a slotted bottom F' and a slotted division-plate G the rock-shafts K K' having cranks $j^4 j^5$ and $k^2 k^4$ of the slotted slides J J' movable over the bottom F and plate G, said plates having arms $j^3 j^3$ connected to the cranks $j^4 j^5$, the rock-rods L L' having cranks $l^2 l^4$ and the pitmen $l' l'$ connecting the cranks $l^4 l^2$ with cranks $k^2 k^4$ all being arranged substantially as shown and for the purposes described.

JAMES BUCKHANNAN WOOD.

Witnesses:

N. M. HORTON,

J. J. ALLEY.