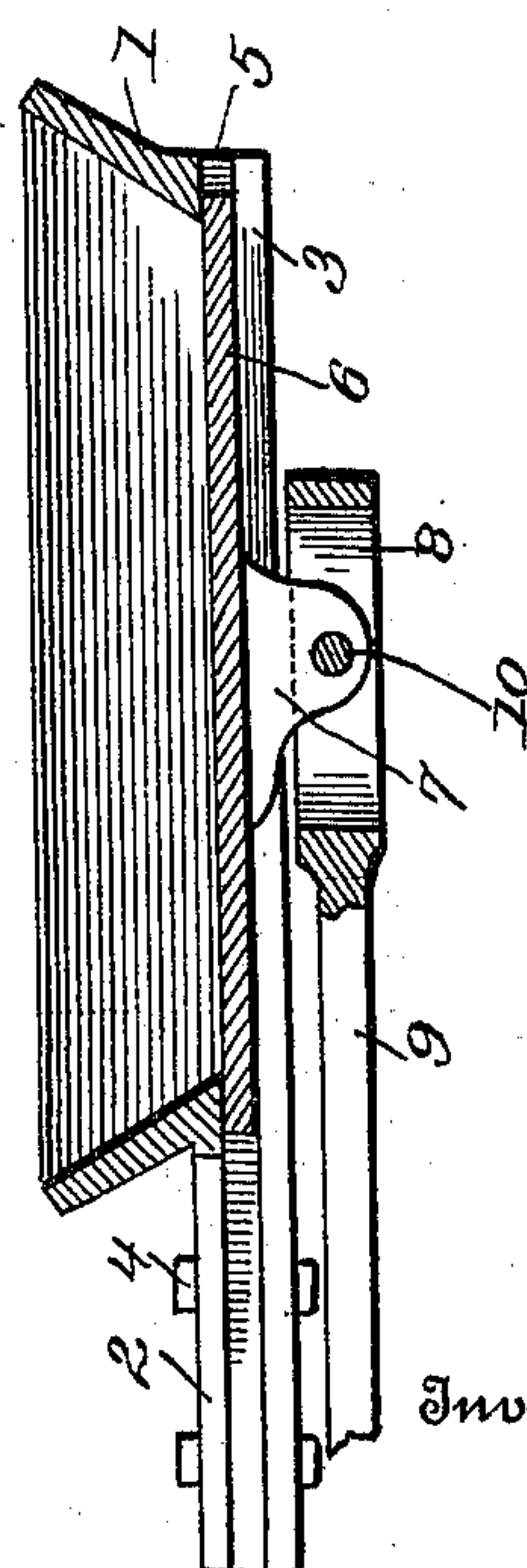
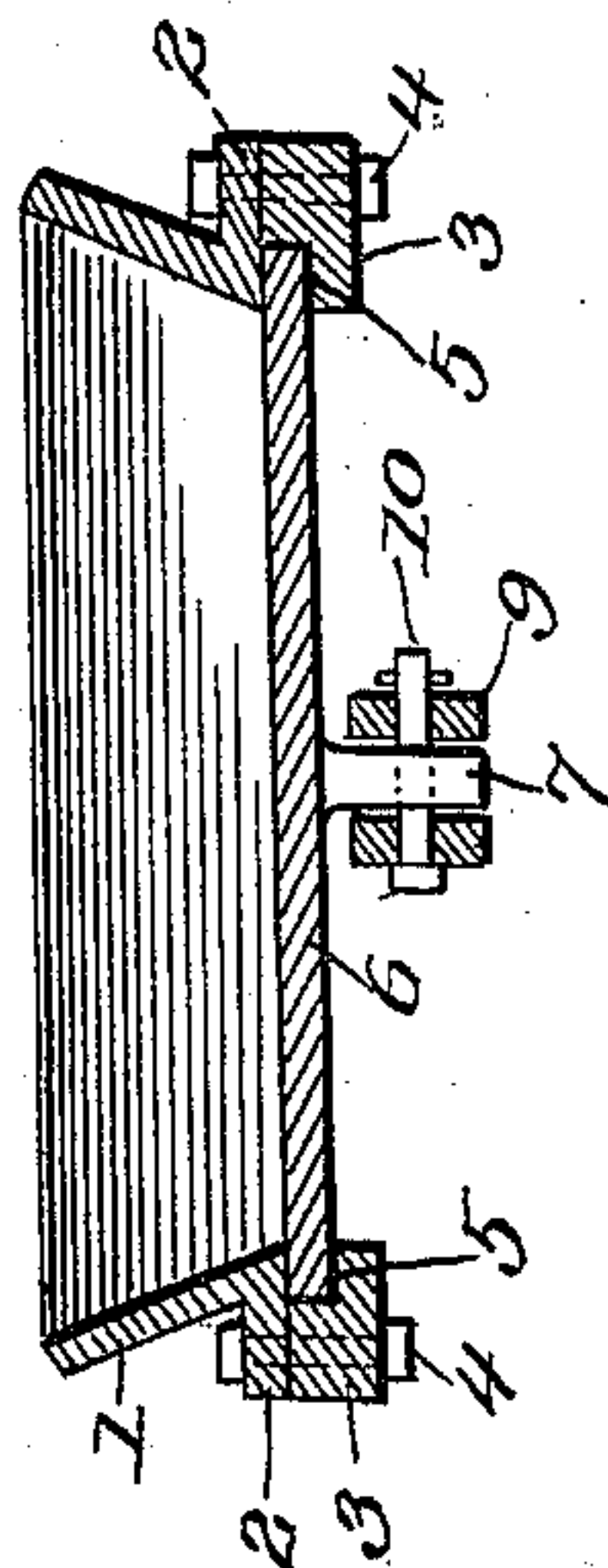


989,862.

2 SHEETS—SHEET 1.



Inventor

L.C. Mooney

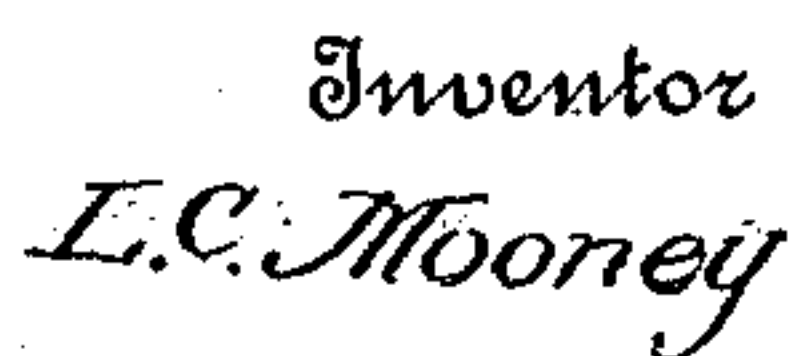
Juana M. Fallin.

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A. B. R. A. C. Y., Attorneys.

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2 SHEETS—SHEET 2.



Witnesses
W. V. Woodson.
Juana M. Fallin.

A. A. Macy, Attorneys.

UNITED STATES PATENT OFFICE.

LAWRENCE C. MOONEY, OF MONTGOMERY, ALABAMA.

LOCOMOTIVE ASH-PAN.

989,862.

Specification of Letters Patent.

Patented Apr. 18, 1911.

Application filed September 13, 1910. Serial No. 581,893.

To all whom it may concern:

Be it known that I, LAWRENCE C. MOONEY, a citizen of the United States, residing at Montgomery, in the county of Montgomery and State of Alabama, have invented certain new and useful Improvements in Locomotive Ash-Pans, of which the following is a specification.

This invention comprehends certain new and useful improvements in ash pans for locomotives and dumping devices therefor, and the invention has for its primary object a simple construction of hopper bottom slide controlled dumping ash pan, the parts of which may be easily made and assembled and the slides thereof easily controlled.

The invention also has for an object an improved ash pan of this type which will effectually fulfil all of the requirements of the existing laws relative to the regulation and maintenance of devices of this character, which, in its use, will not present an element of danger to the road in that all liability of burning the ties of bridges, trestle work and other ties, will be precluded, and which will promote the thermal efficiency of the locomotive boiler furnaces by its capability of ease of operation and its property of discharging the ashes over a relatively large superficial area.

With these and other objects in view as will more fully appear as the description proceeds, the invention consists in certain constructions, arrangements and combinations of the parts that I shall hereinafter fully describe and claim.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a side elevation of a locomotive ash pan embodying the improvements of my invention; Figs. 2 and 3 are, respectively, longitudinal and transverse sectional views through one of the hoppers; Fig. 4 is a top plan view of the hoppers and operating mechanism; Figs. 5 and 6 are detail perspective views of the parts of the operating mechanism; and, Fig. 7 is a detail perspective view of a handle that may be employed to manually actuate the discharge slides.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The main upper or body portion of an ash

pan equipped with the improved features of my present invention may be of any desired construction, type, or design, the one in the present instance being shown as embodying the usual front and rear chambers, and being preferably constructed of sheet metal, riveted or otherwise secured at the seams or edges and supported from the engine framework in any desired way, said body portion, designated A, being provided with any desired number of screened openings B, the screens being preferably securely held in place by marginal binding strips which not only serve as retaining devices for the screened panels or openings, but also serve to strengthen the sides of the pan.

My invention resides, essentially, in the bottom portion of the pan and embodies front and rear hoppers 1, each of which is preferably a single solid casting with upwardly flared side walls fitting over the bottom discharge ends of the front and rear chambers of the body portion A. Each hopper is secured to the body portion by rivets, as shown, there being two rows of these fastening devices in the present instance, namely, a top row and a bottom row, as clearly illustrated in the drawing. Each of these hoppers 1 is formed at its lower edge with an outstanding marginal flange 2 designed to directly support guide bars 3 secured to the flanges by bolts 4 or the like, as shown, and these guide bars are recessed in their inner sides, as indicated at 5, so as to form channels for the preferably cast iron solid slides 6, which work longitudinally therein and control the bottom discharge openings through the respective hoppers 1. Each of these two slides 6 is formed, preferably at about its middle, with a depending transversely apertured lug 7, and said lugs are designed to fit down into longitudinal slots 8 that are formed in the opposite ends of a longitudinally extending connecting rod 9. The lugs may be secured to the rod in any desired way, as by bolts 10 passed through the apertures of the lugs 7 and through corresponding apertures in the slotted portion of the rod, the bolts being held in place by cotter pins, or otherwise.

At its rear end, the connecting rod 9 is formed with a horizontally disposed rearwardly projecting apertured lug 11 which is designed to fit in the forked end 12 of a link 13, a bolt 14 or other fastening devices being slipped down through the lug 11 and

through apertures formed in the fork 12. The rear end of the link 13 is also forked, as indicated at 15, and receives the apertured end of an actuating lever 16. A bolt, as shown, connects the forward end of this lever with the forked end 15 with the link 13, the link thereby pivotally connecting the lever with the rod 9.

The lever 16 is fulcrumed intermediate of its ends in the forked lower end 17 of a hanger 18 which is riveted or otherwise secured to the engine framework and extends downwardly therefrom, and the rear end of the lever 16 is preferably tapered, as indicated at 16^a, whereby, if it be desired to operate the slide by hand, the socketed end 19 of a handle 20 may be slipped over this tapered end of the lever to rock the latter. Preferably, the apparatus is controlled by fluid pressure, such as steam or air and to this end I provide an operating cylinder 21 provided at opposite ends with ports to which piping 22 is connected, said piping leading to a three-way valve (not shown) located in the engine cab. It is, of course, to be understood that there is a piston within the cylinder 21 and that by allowing the fluid to flow to one end of the cylinder or to the other, the piston may be moved in one direction or the reverse and said piston is connected to a rod which has a knuckle joint connection 23 with a forked link 24 pivotally connected to the obliquely extending actuating lever 16 forward of the fulcrum point of the lever, as clearly illustrated in Fig. 4. Hence by admitting the fluid into one end of the cylinder, the lever 16 may be rocked in one direction to open the bottoms of the discharge hoppers 1, and by permitting the fluid to flow into the other end of the cylinder, the lever 16 may be rocked in the opposite direction to work the slides in a direction to close the discharge openings of the hoppers.

From the foregoing description in connection with the accompanying drawings, the operation of my invention will be apparent. In the practical use of the apparatus, the operator, within the cab, may control the movements of the slides 6 and easily open the bottom discharge openings of the hoppers 1, the entire hoppers being open so as to equally discharge the ashes over a rela-

tively large area, the ashes being thereby spread out and the liability of burning the ties being thereby reduced to a minimum. Obviously, the device may be very easily controlled by fluid pressure, as above indicated, or if desired, should for any reason fluid pressure supply become exhausted or the fluid pressure apparatus become inoperative for any reason, the handle 20 may be applied to the rearwardly projecting end of the lever 16 and the ash pan dumped by hand.

It is to be particularly noted that in my construction of ash pan, a single connecting bar is employed for the slides, the draft or pull of said bar being on the exact median or center line of the slides and the connection between said bar and the slides being comprised in a single lug 7 for each slide mounted in an elongated slot in the connecting rod with a single connecting pin 10, the slots of the rod 9, as best seen in Fig. 3, being slightly wider than the lugs 7, by which entire arrangement the slides are permitted to adjust themselves in the channels of the guide bars 3, all binding or sticking being thereby effectually prevented.

Having thus described the invention, what is claimed as new is:

In a locomotive ash pan of the character described, the combination with the body portion of the pan, of discharge hoppers embodying solid integral castings secured to the body portion and provided with longitudinally extending guide channels, slides mounted for movement in said channels, each of said slides being formed midway between its side edges with a longitudinally disposed and downwardly projecting lug, a single connecting rod formed at each end with a vertically opening longitudinally extending slot in which the lugs are received, bolts connecting the respective lugs in their slots, the slots being slightly wider than the lugs, and means for imparting a longitudinal movement to the single connecting rod, as and for the purpose set forth.

In testimony whereof, I affix my signature in presence of two witnesses.

LAWRENCE C. MOONEY. [L. S.]

Witnesses:

R. S. HARRIS,

E. H. LINES.