J. LEMAY.

COAL PUSHER.

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1,275,708. Patented Aug. 13, 1918.

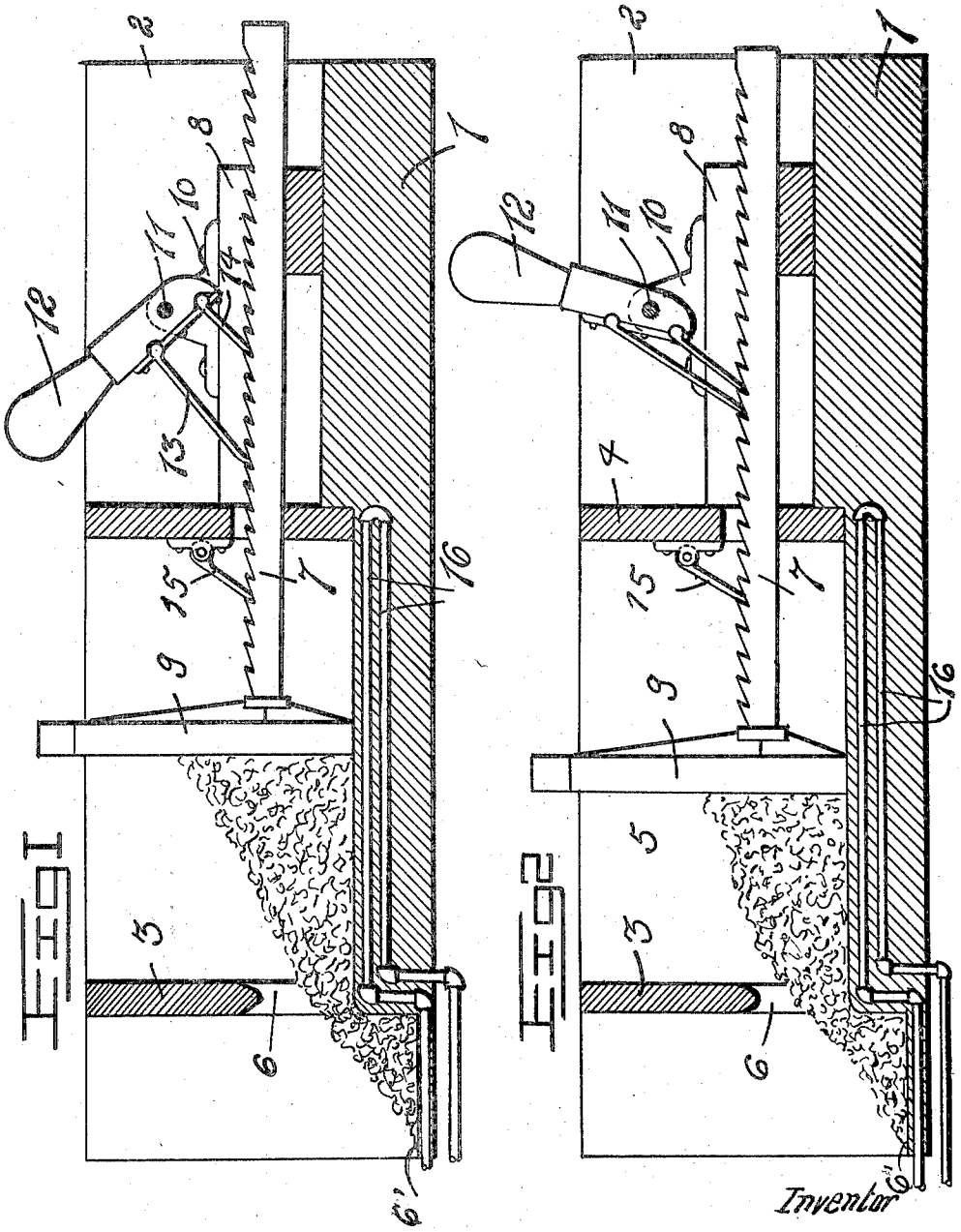

FIG 1

FIG 2

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COAL-PUSHER.

1,275,708. Specification of Letters Patent. Patented Aug. 13, 1918.

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To all whom it may concern:

Be it known that I, JOSEPH LEMAY, a subject of the King of Great Britain, residing at Sault Ste. Marie, Province of Ontario, Canada, have invented certain new and useful Improvements in Coal-Pushers; and I do hereby declare that the following is a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

The present invention relates to an automatic fuel feeding or ejecting device to be used in connection with locomotives, and an object of the present invention is to provide an ejecting device of this character which may be carried by the tender of the locomotive whereby the fuel may be properly fed in front of the fire box of the locomotive, so that the fireman will have at all times the proper amount of coal in his reach for feeding the fire box of the locomotive.

With the above and other objects in view which will hereinafter appear as the description continues, the invention consists of the novel features of construction, combination and formation of parts as will be hereinafter more fully described and particularly pointed out in the appended claims.

In the accompanying drawings has been shown the simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details herein exhibited, but the right is hereby reserved to any changes, alterations or modifications to which recourse may be had that come within the scope of the claims without departing from the spirit of the invention or sacrificing the efficiency of the same.

In the accompanying drawings:

Figure 1 is a vertical section through the device embodying the present invention showing the operating lever in one position; and,

Fig. 2 is a similar view showing the operating lever in another position.

Referring now more particularly to the accompanying drawings wherein like and corresponding parts are designated by similar reference characters throughout the several views,

The device as herein shown comprises a body portion 1 having supported thereupon the side walls 2 which are connected by means of the transverse walls 3 and 4 forming a coal bin 5 therebetween. This coal bin is arranged upon the tender of the locomotive and may be provided with the proper amount of coal to be fed to the furnace of the locomotive and the present invention resides in means for forcing the coal from this bin through the opening 6 upon the platform 6′, whereby the proper amount of coal will be in ready access of the fireman. The feeding mechanism as herein shown comprises a rack bar 7 which extends through an opening formed within the partition 4, passes through the guidways formed within the support 8 and one end of this bar 7 is provided with a piston head 9 which is mounted for reciprocating movement in the bin 5 so that the coal may be forced from said bin. Journaled within the bearings 10 carried by the support 8 is a shaft 11 upon which is mounted a manually operating handle 12. Pivotally connected to one face of this lever 12 are the pawls 13 and 14 respectively. The smaller pawl 14 being connected to the lower end of the lever 12, whereas the longer pawl 13 is connected to the lever 12 at the upper side of its connection to the shaft 11 and both of these pawls are adapted to engage the teeth of the rack bar 7. Also pivotally connected to the inner face of the partition 4 is a pawl 15 adapted to engage the teeth of the rack bar 7.

From the foregoing it is obvious that when the lever 12 is forced in its forward direction as shown in Fig. 1 the pawl 13 will engage one of the teeth of the rack bar and cause the rack bar to move a slight distance and upon the rearward motion of this lever 12 as shown in Fig. 2 the pawl 14 will engage one of the teeth of the rack bar and still move the rack bar another notch forward and likewise through the continual reciprocation of the lever 12 the rack bar will be intermittently moved in a forward direction so that the piston 9 will force the coal gradually from the bin 5. The pawl 15 will prevent the rack bar 7 from moving in a rearward direction, but in filling the bin 5 with a new supply of coal the pawl 15 may be raised and the lever 12 swung upon its pivoted connection so that the pawls 13 and 14 will be out of engagement with the rack bar 7 and in this way the piston may be moved in a rearward direction so that the bin may be again supplied with coal. Arranged within the base 1 below the bin 5 are a plurality of heating

coils 16 which may be supplied with hot water or steam so that the coal within the bin 5 may be heated to prevent the same from freezing, which would prevent the ready removal of the coal from the bin 5.

It is also obvious that instead of the lever 12 and the pawls carried thereby for actuating the rack bar 7, this rack bar may be connected to a suitable motor or engine which may be brought into use for moving the rack bar 7 in either direction in a continuous or intermittent manner.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a coal feeding device the combination with a storing bin, a piston arranged within said storing bin, a rack bar connected to said piston, a pivotally mounted lever, and pawls carried by said lever for engaging the teeth of said rack bar whereby upon the reciprocating movement of said lever said rack bar will be moved intermittently in a forward direction.

2. In a coal feeding device of the character described the combination with a supply bin, a piston mounted therein for reciprocating movement, a rack bar secured to said piston, a pivotally mounted pawl for engaging the teeth of said rack bar, a pivotally mounted lever, a pair of pawls pivotally connected to said lever and arranged one at each side of its pivoted connection, said pawls adapted to engage the teeth of said rack bar whereby upon the reciprocating movement of said lever said piston will be caused to move in a forward direction.

3. In a coal feeding device the combination with a supply bin, comprising a pair of end walls, one of the end walls having a discharge opening, a piston mounted for reciprocating movement within said bin, a rack bar connected to said piston and extending through the other of said end walls, a pivotally mounted pawl carried by one of said end walls and adapted to engage the teeth of said rack bar, means for intermittently moving said rack bar in a forward direction, and heating coils arranged below said bin substantially as and for the purpose specified.

In witness whereof I have hereunto set my hand.

JOSEPH LEMAY.

In the presence of—
ETHEL HUGILL,
IRENE TORAN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."