

No. 830,444.

PATENTED SEPT. 4, 1906.

Z. M. LITTLE.
LOCOMOTIVE TENDER.
APPLICATION FILED OCT. 2, 1905.

2 SHEETS—SHEET 1.

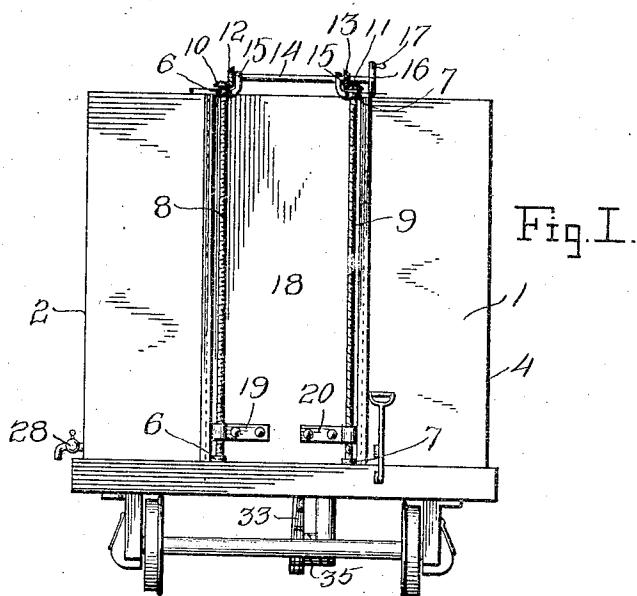
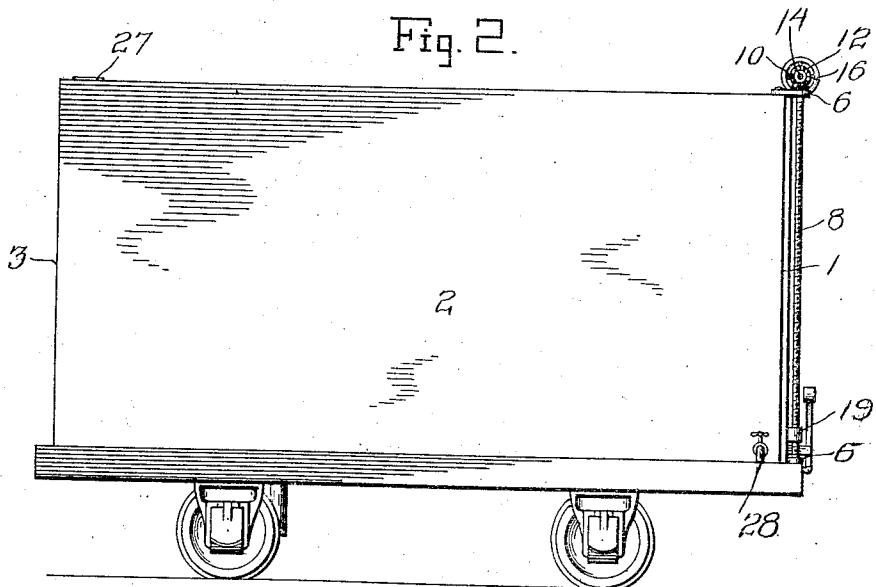


Fig. 2.



Witnesses

C. K. Reichenbach
E. M. Gofford

Inventor

J. M. Little

By *Franklin Franklin*

Attorneys.

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Fig. 3

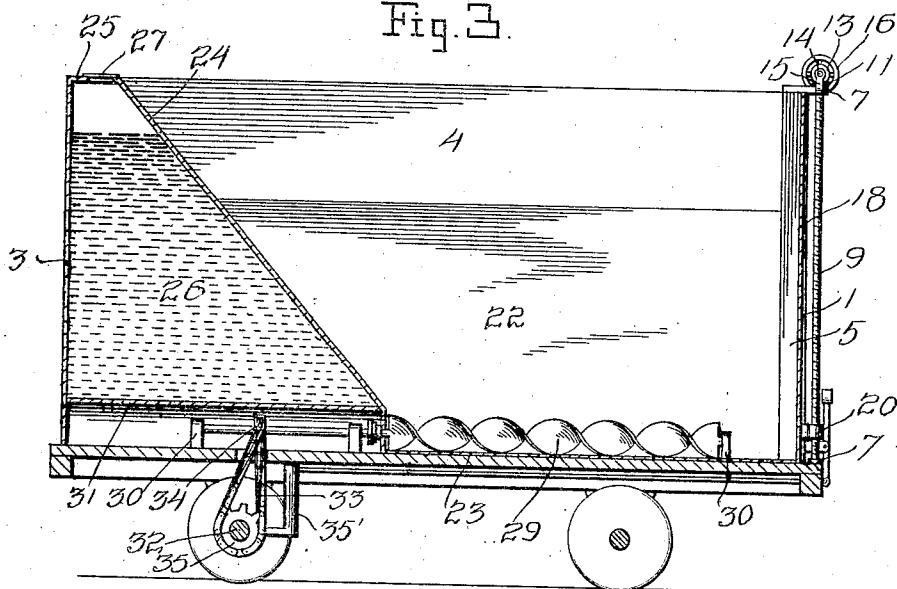
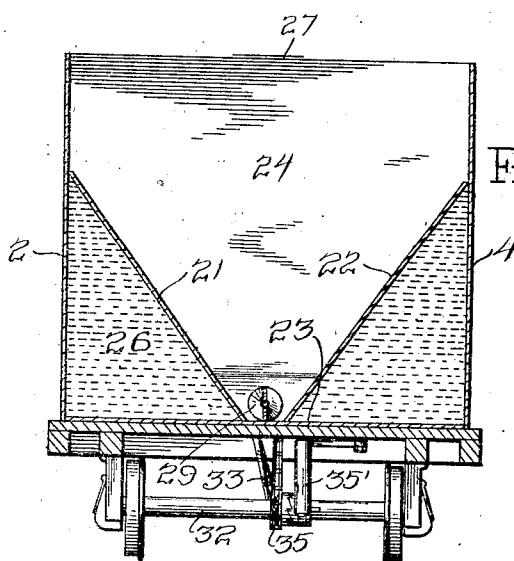


Fig. 4



Witnesses

W. H. Peirce
C. K. Peirce
E. M. C. Oxford

34 Inventor.
J. M. Little.

Attorneys.

UNITED STATES PATENT OFFICE.

ZEBULON M. LITTLE, OF MONROE, NORTH CAROLINA.

LOCOMOTIVE-TENDER.

No. 830,444.

Specification of Letters Patent.

Patented Sept. 4, 1906.

Application filed October 2, 1905. Serial No. 280,986.

To all whom it may concern:

Be it known that I, ZEBULON M. LITTLE, a citizen of the United States, residing at Monroe, in the county of Union, State of North Carolina, have invented certain new and useful Improvements in Locomotive-Tenders; and I do hereby declare the following to be 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.

This invention relates to locomotive-tanks.

One object of the invention is to provide a tank embodying such characteristics that the fuel may be fed evenly therefrom.

Another object of the invention resides in the provision of a tank so constructed and arranged that the door thereof may be readily and quickly opened.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a front elevation of my invention. Fig. 2 is a side elevation. Fig. 3 is a longitudinal sectional view. Fig. 4 is a transverse sectional view.

Referring now more particularly to the accompanying drawings, the reference characters 1 2 and 3 and 4 designate the front, rear, and sides proper of the tank, the front having a door-opening 5 extending from top to bottom and midway of the sides. Disposed upon the outer face of the front adjacent the sides of the door-opening 5 are separate series of eyes 6 and 7 for working fit therein of the corresponding elongated screw-threaded rods 8 and 9. These screw-threaded rods 8 and 9 extend beyond the upper end of the front of the tank, and each has a beveled gear 10 and 11, respectively, designed to mesh with the corresponding gears 12 and 13, respectively, carried by a horizontal shaft 14, revolvably mounted in the upper ends of a pair of hangers 15, disposed upon the top of the tank directly over the said door-opening 5. Secured upon one end of the revolvble

shaft 14 is a wheel 16, provided with the end piece 17, which may be grasped by the fireman or other attendant and rotated, causing rotation of the shaft 14 and the aforesaid elongated screws 8 and 9 through the instrumentality of the said beveled gears. This operation causes the opening and closing of the door 18, for the reason that the door 18 has oppositely-disposed brackets 19 and 20, mounted upon the screw-threaded rods 8 and 9, respectively, and each provided with a screw-threaded eye 21 for engagement with the screw-threaded rods 8 and 9, so that when the latter are rotated in the manner just stated the door is raised or lowered, according to the direction of rotation of the wheels 16.

It will be observed that the tank in the present instance is double-walled on its sides and back. The inner wall members 21 and 22, respectively, of the main sides converge toward each other to the bottom 23 of the tank. It will be seen that these inner convergent walls 21 and 22 terminate considerably short of the upper edges of the main sides. The inner rear wall 24 has its upper end 25 bridging the main sides of the tank and connected to the rear of the latter and is then directed downwardly upon an incline to the bottom of the tank, as shown. The formation of these inner walls result in a water-reservoir 26, which extends upon the sides and rear of the tank. Water may be inserted through the opening 27 in the upper horizontal portion of the inner wall 24 and let out through the spigot 28, disposed in front of the tank adjacent one side thereof.

In order to facilitate an even discharge of the fuel from the tank, I provide a worm-shaft 29. This worm-shaft, which is mounted in suitable bearings 30, lies flat on the floor of the car and just terminates short of the door-opening 5 and is protected, from the weather by a semicylindrical-shaped covering 31. Power is transmitted to this worm-shaft by the axle 32 of the car or tank by means of a sprocket-chain 33, engaging the sprocket-wheel 34 at the rear end of the worm-shaft, and a sprocket-wheel 35, mounted upon the said axle-shaft. A suitable clutch mechanism 35' is provided for the purpose of throwing the worm-shaft out of operation when desired, said clutch mechanism being likewise mounted upon said axle-shaft

and having an operating-lever at the forward end of the car within reach of the fireman in the cab of the locomotive.

What is claimed is—

- 5 1. A locomotive-tank comprising a compartment having inner and outer walls upon its sides and rear, said inner walls being arranged upon an inclined plane, the front of the compartment having a door-opening, a screw-threaded rod arranged upon each side of the door-opening, a door having connection with the screw-threaded rods, means for rotating the said rods and thereby raising or lowering the door, and a worm-shaft mounted in the compartment to permit of an even discharge of fuel therefrom.
- 10 2. A locomotive-tank comprising a compartment having a water-reservoir and provided in its front with an opening, a screw-threaded rod arranged upon each side of the opening, a door for the opening having connection with said rods, a horizontal shaft,

connections between the shaft and said screw-threaded rods, a wheel whereby the door may be opened or closed, a worm-shaft mounted in the compartment and terminating short of the door-opening, and means for automatically operating said worm-shaft. 25

3. A locomotive-tank, comprising a compartment, a door slidably mounted upon the compartment, means for opening and closing the door, a worm-shaft mounted in the compartment for discharging fuel therefrom, means mounted on one of the tank-axles for automatically operating said worm-shaft, 30 and means likewise mounted on said axle for throwing the last-named means into and out of operation.

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

ZEBULON M. LITTLE.

Witnesses:

J. C. MORGAN,
W. H. BIVENS.