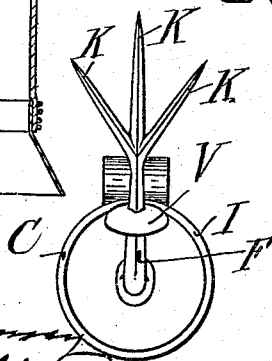
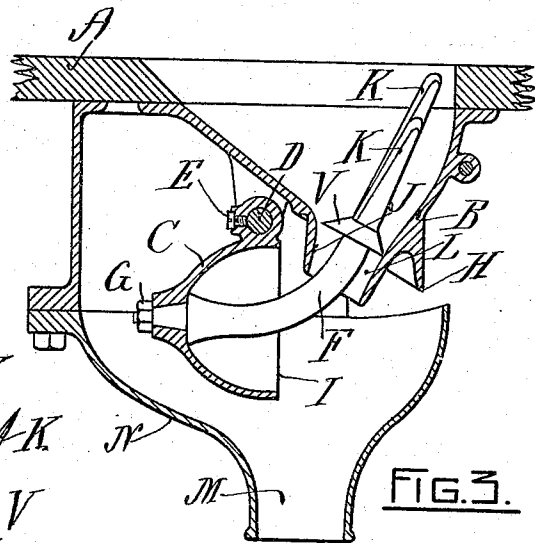
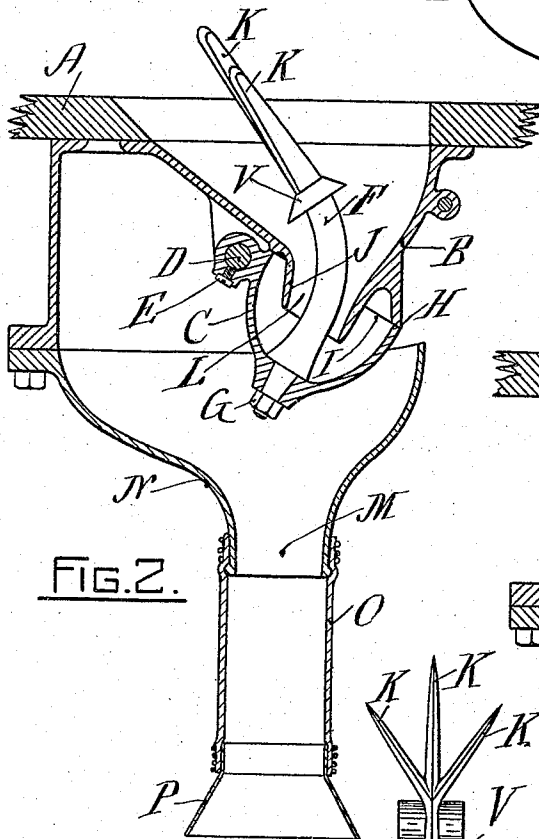
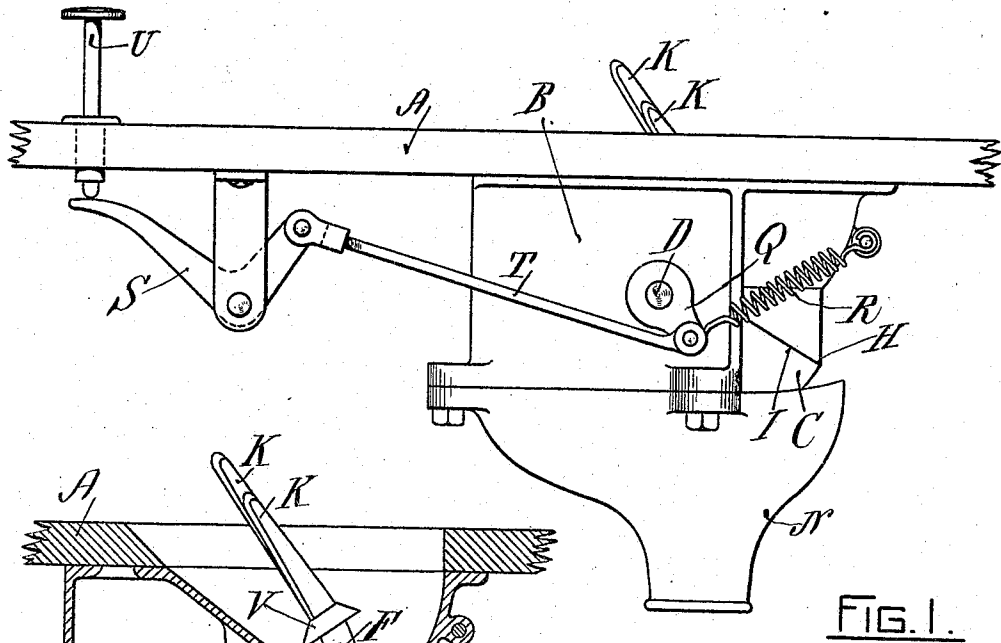


W. D. ROSS.
 APPARATUS FOR DEPOSITING SAND ON RAILROAD TRACKS.
 APPLICATION FILED OCT. 19, 1908.

936,567.

Patented Oct. 12, 1909.



WITNESSES.

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WILLIAM DONALD ROSS, OF PROVIDENCE, RHODE ISLAND.

APPARATUS FOR DEPOSITING SAND ON RAILROAD-TRACKS.

936,567.

Specification of Letters Patent.

Patented Oct. 12, 1909.

Application filed October 19, 1908. Serial No. 458,531.

To all whom it may concern:

Be it known that I, WILLIAM DONALD ROSS, a citizen of the United States, residing at Providence, in the State of Rhode Island, have invented a new and useful Improvement in Apparatus for Depositing Sand on Railroad-Tracks, of which the following is a specification.

Heretofore in the means employed for depositing sand on a railroad track from the moving car, it has been found that the device employed for causing the discharge of the sand becomes soon clogged and rendered ineffective under the occurring conditions of the weather, and it is the object of my invention to overcome the difficulties heretofore experienced in the use of sanding devices on railway cars, and my invention consists in the improved arrangement of a cup valve for the throat of the hopper, and in the combination therewith of a device for stirring the sand in the hopper to prevent clogging and in the combination with the flexible tube of the discharging tunnel of an expanding throat as hereinafter set forth.

In the accompanying drawing:—Figure 1 represents the side view of the apparatus as attached to the under side of the floor of the car. Fig. 2 represents a vertical axial section also showing an axial section of the flexible discharge tube and the expanding throat the cup valve being shown in its closed condition. Fig. 3 represents a vertical axial section showing the cup valve opened for discharging the sand from the hopper. Fig. 4 represents a face view of the cup valve.

In the drawing, A represents the floor of the car to which the apparatus is attached.

B represents a casting which forms the lower end of the hopper from which the sand is to be withdrawn.

C represents a cup valve which is pivoted to the casting B, by means of the shaft D, the said cup valve being secured to the said shaft by means of the set screw E. The sand stirring arm F, is secured to the bottom of the cup valve C, by means of the nut G. The casting B is provided with a preferably inclined seat H for the edge I of the valve, and also with a correspondingly inclined annular flange J which enters the cavity of the cup valve C, when the said valve is at its seat as shown in Fig. 2. The said stirring arm F is preferably provided with the de-

flected points K, K, K, and so curved as to admit of pivotal movement in and out of the throat L, through which the sand passes.

To the throat M of the discharging tunnel N, is secured the flexible tube O, and to the lower end of the said flexible tube is attached the expanding throat P, whereby the clogging of the end of the flexible tube O by the formation of ice thereon as heretofore may be avoided.

The crank arm Q is attached to the outer end of the pivot shaft D of the cup valve C, the said valve being held to its seat by means of the spring R, and connection is made from the crank arm Q to the bell-crank lever S, by means of the connecting rod T, the said bell-crank lever being operated to open the valve to allow the escape of sand, by means of the foot of the motorman placed upon the top of the pedal U.

The annular flange J, forms within the cup valve C, a trap which prevents the accidental escape of sand when the valve meets with an obstruction in closing to its seat.

In order to prevent the waste of sand in case the motorman forgets to immediately take his foot from the pedal U, so that the cup valve may automatically close to its seat, I arrange a disk V transversely of the stirring arm F, the said disk serving to form a valve for closing the throat L through which the sand is discharged, from the hopper, whenever the cup valve C is carried back from its seat.

I claim as my invention:

1. In an apparatus for depositing sand on a railroad track, the combination of the hopper provided with a valve seat and the downwardly projecting throat of the hopper within the said valve seat, with the pivoted cup valve provided with a stirring means extending through the throat of the hopper into the cavity of the said hopper, to prevent the clogging of sand in the said throat.

2. In an apparatus for depositing sand on a railroad track, the combination of the hopper provided with an inclined valve seat, and the inclined downwardly projecting throat of the hopper within the said valve seat, with the pivoted cup valve, and the stirring means extending through the throat of the hopper into the cavity of said hopper, to prevent the clogging of sand in the throat.

3. In an apparatus for depositing sand on

a railroad track, the combination of the hopper provided with a valve seat, and the downwardly projecting throat of the hopper within the said valve seat, with the pivoted
5 cup valve provided with a stirring means extending through the throat of the hopper into the cavity of the said hopper, and the

valve operatively connected with the said stirring means, for preventing the waste of sand from the hopper.

WILLIAM DONALD ROSS.

Witnesses:

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