R. A. SHINN.

Devices for Removing Snow from Street-Railway.

No. 154,964. Patented Sept. 15, 1874.

Fig 1.

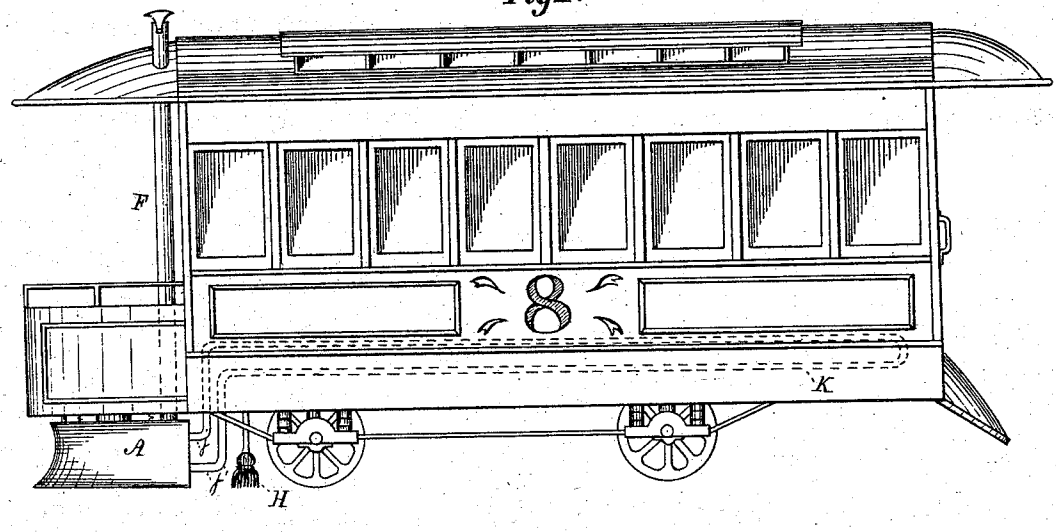


Fig 2.

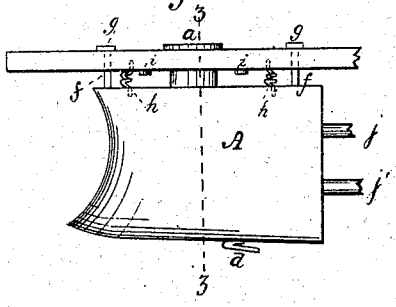


Fig 3.

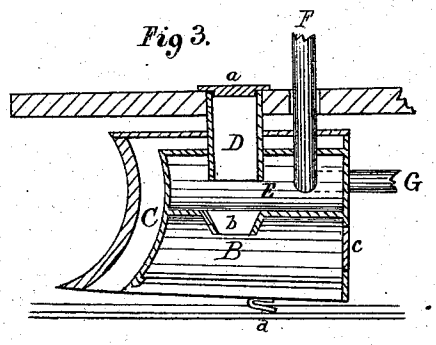


Fig 4.

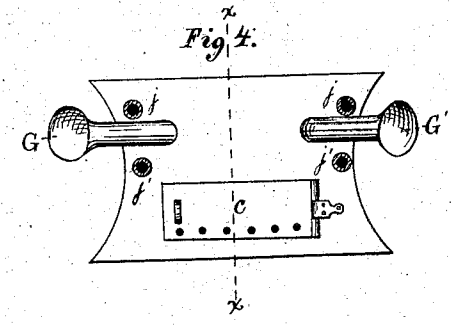
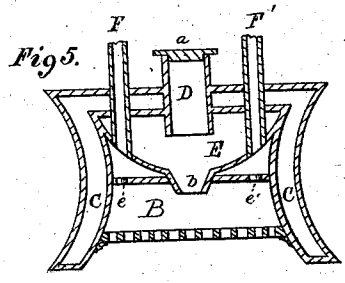


Fig 5.



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UNITED STATES PATENT OFFICE.

RILEY A. SHINN, OF GEORGETOWN, DISTRICT OF COLUMBIA.

IMPROVEMENT IN DEVICES FOR REMOVING SNOW FROM STREET-RAILWAYS.

Specification forming part of Letters Patent No. **154,964**, dated September 15, 1874; application filed March 2, 1874.

To all whom it may concern:

Be it known that I, RILEY A. SHINN, of Georgetown, in the county of Washington and District of Columbia, have invented certain new and useful Improvements in Machine for Clearing Street-Railroad Tracks of Snow, of which the following is a specification:

The object of my invention relates to an improved means for removing snow from street-railroad tracks; and consists of the attachment of a heated metallic plow to the under side of the platforms of street passenger-cars, the operation and construction of which will hereinafter be more fully shown and described. It also consists of a novel means for heating cars, by the combination of return-pipes placed under the seats of the same, with the hot-air chamber of my improved plow.

Referring to the drawings, forming a part of this specification, Figure 1 is a side elevation of a street passenger-car, with my improved plow attached to the platform; also showing the position of the pipes used for the heating of the car. Fig. 2 is an enlarged side elevation of the plow, attached to a platform broken away from the car. Fig. 3 is a longitudinal section of the same, taken on the line *x x*, on Fig. 4. Fig. 4 is a rear elevation, and Fig. 5 is a transverse section, taken on the line *z z*, on Fig. 2.

Similar letters of reference occurring on the several figures indicate like parts.

I will now proceed to describe my invention by referring to the drawing, in which—

A represents plates of boiler-iron, formed not unlike in shape to the mold-board of an ordinary field-plow, and which compose the front and sides of my improved machine. In the center of the same is placed a self-feeding furnace, B, so arranged and combined with the plow A as to leave a recess or hot-air chamber, C, between the two. E is a receptacle for coal or other fuel, and is filled from the platform of the car by means of the hollow cylinder D, provided with a removable lid, *a*. A hopper, *b*, supplies the furnace B with the necessary fuel. The rear of the plow is composed, also, of boiler-plate iron, and is provided with a door, *c*, for the purpose of removing ashes from the furnace, and also for giving draft to the same. The smoke from the furnace B is carried up through the openings *e e'*, thence to the smoke-stacks F F', which run directly up from the body of the plow to and through the roof of the car, as in Fig. 1; or the smoke may be carried off by the pipes G G', as shown on Fig. 4. The plow A is provided with two V-shaped springs, *d d'*, attached to the bottom or heel of the same, and are so arranged as to closely fit in the groove of the rails, one on each side; the object of which is such that, when the plow is being propelled over the track, these springs serve to keep the same in a steady position on the rails, and also to press down or ride over loose spikes or ends of rails which may be projecting up. The plow is attached to and hung from the platform of a car by means of the bolts *f*, which work loosely in the platform, and of which any suitable number may be used, the same being provided with nuts *g* at their upper ends. The arrangement is such that a small space is left between the top of the plow and the bottom of the platform, for the introduction of spiral springs *h h*, and rubber buffers *i i;* the object of which is, that when the V-shaped springs on the heel of the plow strike any projection on the rails, the plow will not be subject to any sudden jar, but follow the irregularities of the track and the motion of the car in an easy manner. On each side of the plow, and in the rear of the same, are placed two pipes, *j j'*, one above the other, and communicating with the hot-air chamber on the inside of the plow, and coupled on the outside with the return-pipe K, placed under the seats of the car, for the purpose of heating the same. A broom, H, follows in the rear of the plow, for the purpose of cleaning off any snow or slush which may have been left by the plow. Owing to the track between the rails being somewhat higher in the center than at the sides, I so construct my plow that the forward or front end is somewhat raised from that of the rear end or heel of the same.

In the operation of my improved plow the snow will be readily turned from off the track and rails by coming in contact with the heated surface of the plow, and the ashes from the furnace dropping on the rails will prevent the sliding of the wheels.

The advantages in using my invention will be readily seen, inasmuch as by its use the tracks of street passenger-cars can a great deal more readily be cleared of snow and ice, and at far less cost than by the use of any of the well-known devices now used; and the great expense attending the placing on of extra teams, and the loss of time and money in lifting the cars off the track for the passage of the snow-plow and revolving brooms now in use, can all be done away with.

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

1. A heated metallic plow, A, provided with a self-feeding furnace, B, and smoke-stacks F F′, attached to the platform of a car, and constructed for operation substantially as shown and described.

2. The combination of the furnace B and coal-chamber E, cylinder D, and hopper *b*, with the plow A, as and for the purpose specified.

3. The combination of the metallic plow A with the platform of a street-car, by means of the bolts *f f* and nuts *g g*, spiral springs *h h*, and rubber buffers *i i*, substantially as and for the purpose specified.

4. The combination of the return-pipe K and pipes *j j′* with the hot-air chamber C in the plow A, for the purpose specified.

5. The V-shaped springs *d d′*, in combination with the plow A, substantially as and for the purpose specified.

In testimony that I claim the foregoing I have hereunto set my hand.

RILEY A. SHINN.

Witnesses:

PARKER H. SWEET, Jr.,

A. MOORE.