

(No Model.)

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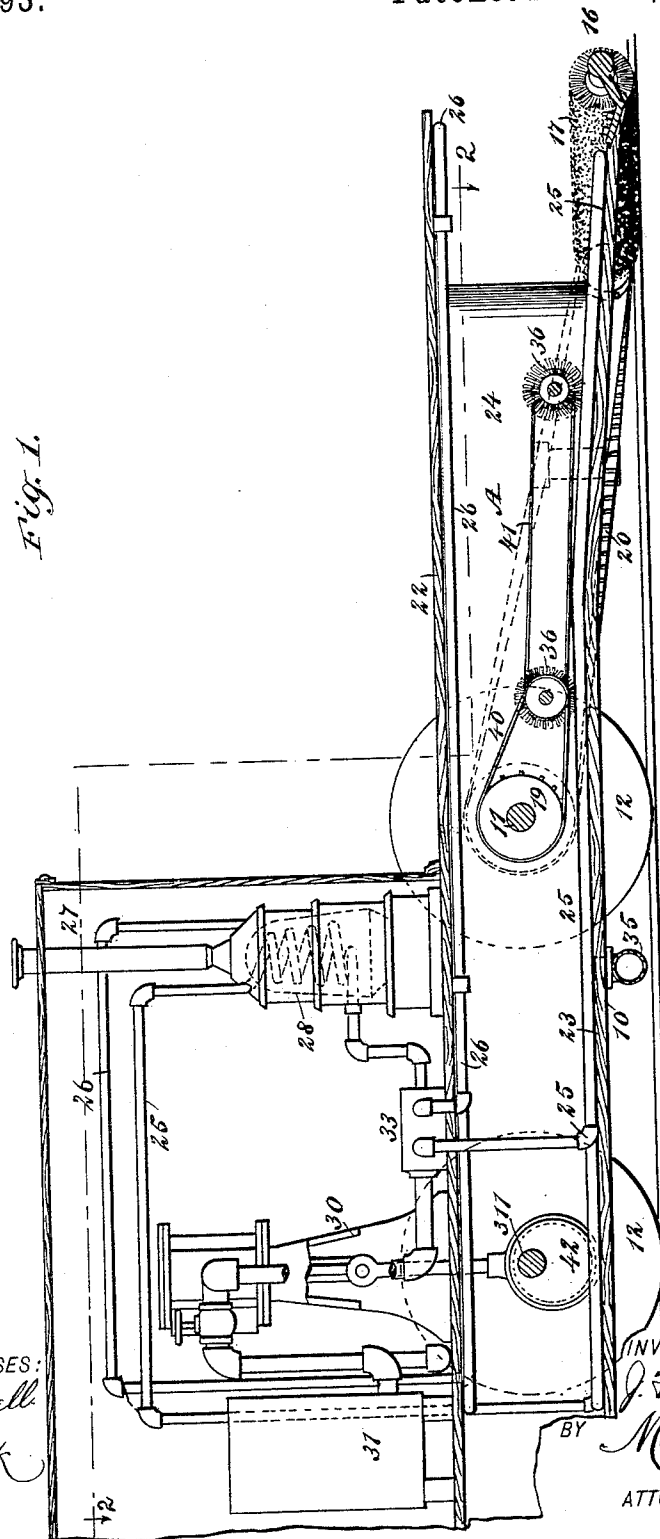
J. F. SEERY.

APPARATUS FOR REMOVING SNOW FROM ROAD BEDS.

No. 460,893.

Patented Oct. 6, 1891.

Fig. 1.



WITNESSES:
J. M. Griswold
C. Sedgwick

INVENTOR:

J. F. Seery
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ATTORNEYS

(No Model.)

2 Sheets—Sheet 2.

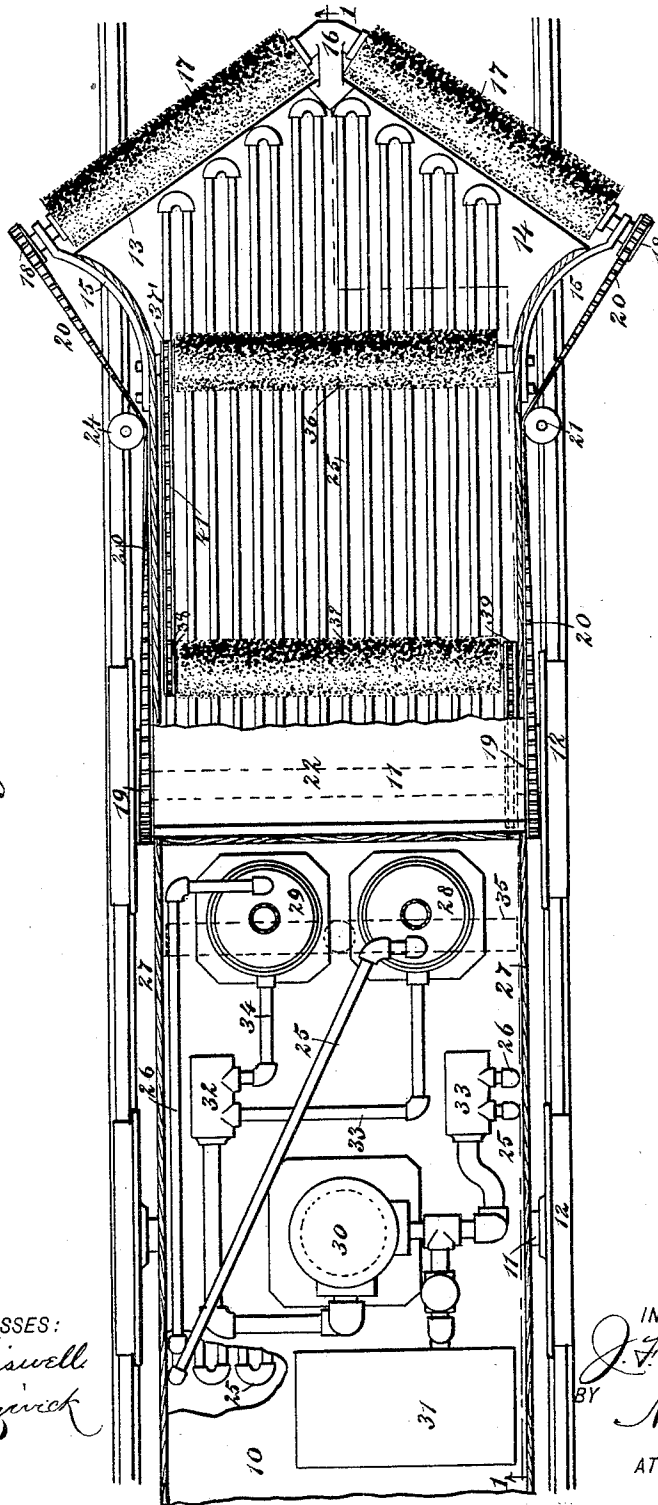
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Fig. 2.



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UNITED STATES PATENT OFFICE.

JAMES F. SEERY, OF KINGSBRIDGE, ASSIGNOR OF ONE-HALF TO DAVID C. ANDREWS, OF NEW YORK, N. Y.

APPARATUS FOR REMOVING SNOW FROM ROAD-BEDS.

SPECIFICATION forming part of Letters Patent No. 460,893, dated October 6, 1891.

Application filed June 19, 1891. Serial No. 396,831. (No model.)

To all whom it may concern:

Be it known that I, JAMES F. SEERY, of Kingsbridge, in the county and State of New York, have invented a new and Improved Apparatus for Removing Snow from Road-Beds, of which the following is a full, clear, and exact description.

My invention relates to an apparatus for clearing railway-tracks and road-beds of snow. The apparatus consists of rotary brushes arranged so as to sweep the snow upon heated pipes or into a heated chamber, and snow that may be piled upon the pipes being carried along by auxiliary brushes and distributed over the lower pipes or thrown in engagement with pipes located above the lower coils. The snow thus treated is converted into heated water, which, falling upon the road-beds or tracks, will effectually dispose of any snow which may have escaped the brushes. The entire arrangement of the brushes, pipes, heaters, &c., is connected with or mounted upon a traveling platform or car.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in both the views.

Figure 1 is a central vertical section through the apparatus, being taken, practically, on the line 1 1 of Fig. 2, and Fig. 2 is a horizontal section through the apparatus, the section being taken practically on the line 2 2 of Fig. 1.

A truck 10, of any suitable or approved construction, is provided with axles 11, said axles being adapted to carry supporting-wheels 12, which wheels may be flanged for traveling upon a track, or shaped as traction-wheels, if in practice it is so desired. The front end of the truck is carried downward at an inclination to within a short distance of the surface over which the truck is to travel; and the forward end of the truck, forming the lower portion of its inclined surface, is preferably beveled from the center to form two angular front surfaces 13 and 14.

At each side of the front portion of the

truck a hanger 15 is secured in any suitable or approved manner, and a hanger 16 is located at the forward central portion of the inclined section of the truck, as is best shown in Fig. 2; the latter being ordinarily made somewhat T-shaped.

In the hangers 15 and 16 the trunnions of brushes 17 are held to revolve. The brushes are two in number and are adapted to feed the snow from the street or surface over which the truck is passing upon the inclined portion or front of the truck. The brushes are arranged one the length of and parallel with the inclined surface 13 of the truck and the other in front of the inclined surface 14. These brushes are preferably circular in cross-section and may be driven in any well-known manner. Ordinarily, however, the outer trunnions of the brushes are provided with sprocket-wheels 18, and the front axle 11 has secured thereon near each end a larger sprocket-wheel 19. The sprocket-wheels 19 of the axle and the wheels 18 upon the trunnions of the feed-brushes are connected by chain belts 20, which belts are preferably made to pass over idlers 21, as is best shown in Fig. 2. Thus as the apparatus is carried forward the feed-brushes 17 are given a continuous rotary motion.

Upon the inclined surface or front portion of the truck a heating-chamber A is located, which extends some distance back from the front. This chamber is preferably constructed by supporting a flooring or horizontal partition 22 some distance above the floor proper of the truck, the supports being afforded by side vertical partitions 24, as shown in Fig. 1. The said vertical partitions preferably may be made to flare outward at their outer extremities.

Within the chamber A, upon the floor thereof, a coil of pipe 25 is located. This coil of pipe preferably extends the entire length of the chamber, the forward ends of the coils being flush, or essentially so, with the forward lower end of the truck, as shown in Fig. 2. Other coils of pipe 26 are located within the chamber A, and are secured in any suitable or approved manner to the upper partition or floor 22.

Upon the upper floor or partition 22 a com-

partment 27 is erected in any approved manner, as is best shown in Fig. 1, and in this compartment heaters 28 and 29 are located, preferably water-heaters of any suitable type, and within the compartment a distributing-pump 30 is also located. The pump has connection with a suitable tank 31 and with two receivers 32 and 33. The upper coil of pipe 26 is connected with the heater 29, and the lower coil of pipe 25 with the heater 28, and the receiver 32 is connected by branch pipes 33 and 34, respectively, with the heaters 28 and 29. Both the lower and upper coils of pipe are connected directly with the receiver 32.

A discharge-pipe 35 is located beneath the truck and connected with the chamber A, which pipe is adapted to carry off the melted snow and distribute it upon the ground over which the car passes.

One or more (preferably two) distributing-brushes 36 and 37 are held to revolve transversely within the chamber A in engagement with the lower coil 25. The trunnions of these brushes are mounted to turn in suitable bearings. The forward brush is preferably provided with a sprocket-wheel 37' at one end and the rear brush with sprocket-wheels 38 and 39, one wheel being located at each extremity. The rear brush 37 is driven directly from the axle 11 through the medium of a belt 40, passing over the sprocket-wheel 39, and the forward brush is driven by a belt 41, passing over the sprocket-wheel 38 of the rear brush and the wheel of the forward brush.

The circulating-pump 30 may be driven through the medium of an eccentric 42 and a link connection between the rear axle and the pump, as shown in Fig. 1. It will thus be observed that the distributing-brushes insure an equal distribution of the snow within the heating-chamber and effectually prevent the snow fed to the chamber from stopping near the front end of the truck, thus overloading that portion thereof.

In operation the snow is fed from the street or surface over which the apparatus is traveling by the feed-brushes 17 and delivered by said brushes into the heating-chamber and in engagement with the heated coils of pipe. The said snow, as heretofore described, is distributed within the chamber and is melted by contact with the heated coils. The hot water into which the snow is converted passes downward from the chamber

through the outlet-pipe 35, as illustrated in Fig. 1. A perfect circulation of water is obtained throughout the coils as the water is forced by the pump into the receiver 32 and from thence into the heaters, and the water passes into the coils from the heaters and is emptied again into the receiver 33, from whence it is drawn by the pump.

In the event the water should become low, it may be taken from the tank 31, the connection between the said tank and pump being provided with suitable valves.

It is evident that snow may in this manner be expeditiously and conveniently removed from a road-bed or other surface, and that the implement will at all times act correctly and positively, and, further, that as the snow melts the water or products of condensation will escape from the apparatus into the street or upon the road-bed, causing any snow which may have escaped the brushes to be melted.

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

1. In a machine for removing snow from road-beds, the combination, with a car having a downwardly-inclined end, of heating-coils carried by said end and brushes held to rotate in front of the inclined end and adapted to convey the snow from the road-bed to the coils, as and for the purpose specified.

2. In a machine for removing snow from road-beds, the combination, with a car having an inclined end and a heated chamber located at said end and extending rearwardly therefrom, of delivery-brushes held to rotate at the forward portion of the inclined end, carrying the snow from the road-bed into the chamber, and distributing-brushes located within the chamber, as and for the purpose specified.

3. In a machine for removing snow from road-beds, the combination, with a car, a chamber constructed upon the car, and heating agents carried by the car and connecting with the chamber, of brushes held to revolve in front of the car and adapted to convey the snow from the road-bed into said chamber, distributing-brushes located within the chamber, and a driving mechanism connected with the brushes and actuated by the movement of the car, as and for the purpose set forth.

JAMES F. SEERY.

Witnesses:

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