

J. MULLALY.

Machines for Removing Snow From Railways.

No. 154,992.

Patented Sept. 15, 1874.

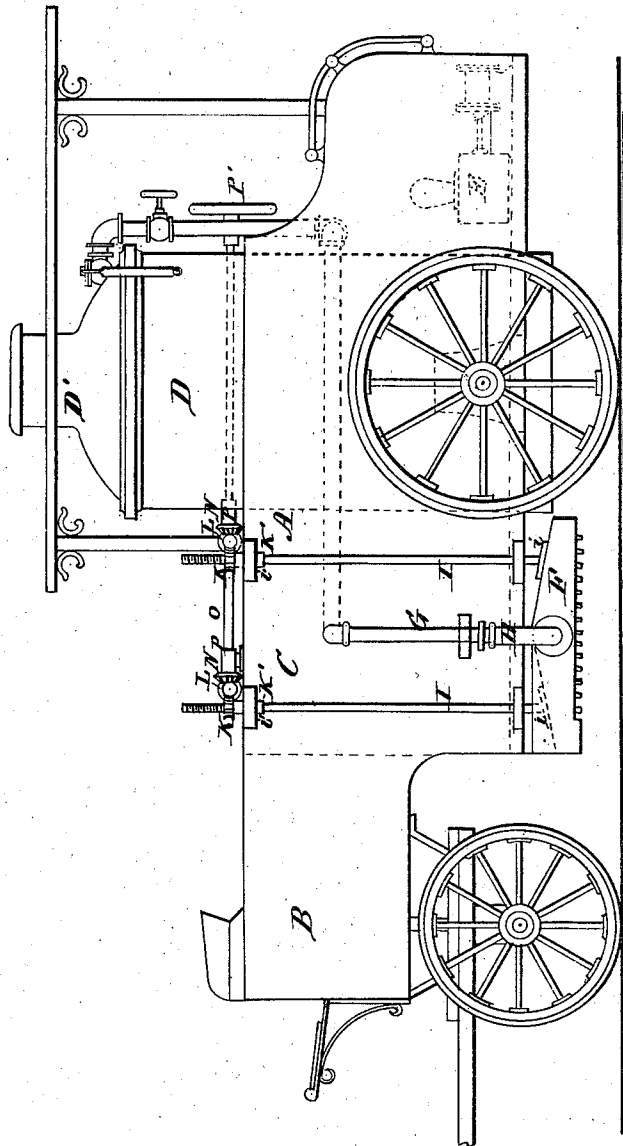


Fig. 1

WITNESSES

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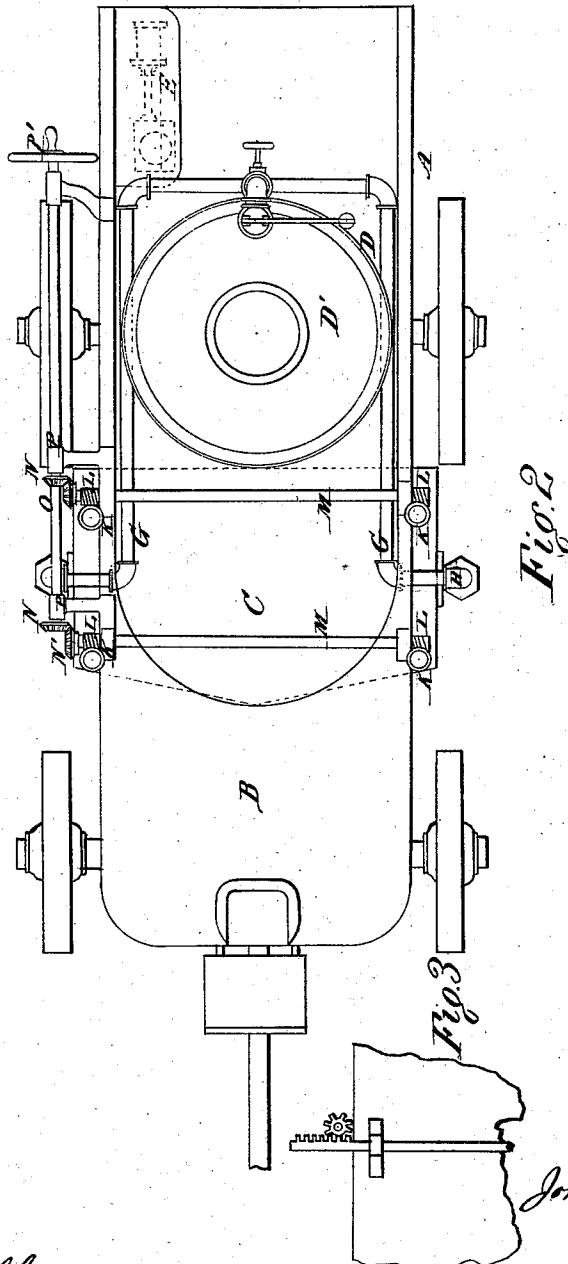
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UNITED STATES PATENT OFFICE

JOHN MULLALY, OF NEW YORK, N. Y.

IMPROVEMENT IN MACHINES FOR REMOVING SNOW FROM RAILWAYS.

Specification forming part of Letters Patent No. 154,992, dated September 15, 1874; application filed January 2, 1874.

To all whom it may concern:

Be it known that I, JOHN MULLALY, of New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Machines for Melting Snow and Ice on Streets and Railways; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification, in which—

Figure 1 is a side elevation of my invention. Fig. 2 is a plan view of the same. Fig. 3 is a detail view, showing modification of gearing for elevating tank.

This invention has relation to machines for melting snow and ice, particularly of the class represented in my patent of March 18, 1873, No. 136,853; which embraces a steam-generator and furnace, portably mounted, and a perforated tank or distributor for diffusing the steam or melting medium upon the snow or ice covered surface traversed by the machine.

The present improvements consist, essentially, in having said tank or distributor vertically adjustable, and in the provision of means whereby its adjustment may be properly and conveniently effected. Less important features of the machine, to which said improvements appertain, are included in the general construction and arrangement of parts, embracing an upright boiler or steam-generator, a superheater, water-tank, steam-pump, and coal-receptacle.

Referring to the accompanying drawings, A designates the body of a machine embracing my improvements, which body may be of any suitable character in general form or details of construction. B designates the water-tank; C, the coal-receptacle, and D the boiler or steam-generator.

The water-tank and coal-receptacle may be differently located, or dispensed with on the machine altogether, and water and fuel supplied from other convenient sources.

I employ an upright boiler, as being most convenient and suitable, for various considerations. The boiler is constructed with a dome, D', immediately beneath which is located the

superheating apparatus, consisting of a coil of pipe so arranged as to be subjected to direct and reflected heat from the flame rising through the boiler-tubes, and from the reverberatory dome. The details of construction of the superheater and boiler do not constitute features of the present improvement. Their more particular description and illustration in the drawings are, therefore, reserved.

E designates the steam-pump, by means of which the boiler is supplied with water from the tank B. F designates the distributing tank or chest, located beneath the body of the machine, as shown, or in any other available position where it can serve the purpose for which it is designed, viz., to distribute the steam over a comparatively extensive superficial area of snow or ice surface. The distributing-tank may be of any desirable form, consisting, for instance, of a rectangular chest, having its under side perforated for the escape of steam, or of a series of communicating horizontal, or approximately horizontal, perforated tubes, or the equivalents of either. When pipes are used, I prefer such a construction of the distributor as will admit of the use of any desirable number of pipes, and which will also admit of the dimensions of the tank being varied. The equivalent use of valves or cocks at various points to regulate the discharge from the tank, so as to cover a greater or less area of surface, is also suggested in connection with the employment of the perforated pipes. Steam, natural or superheated, as may be, is conveyed to the distributor through the pipes G G, which have sliding or telescopic-joint connections with the branches H H, extending upward from the sides of the distributor, so that the distributing-tank may be vertically adjusted. The sliding joints are stuffed to prevent the escape of steam. I I designate vertical shafts attached to and supporting the distributing-tank. These shafts have their bearing in boxes i i', the former being secured to the tank. The upper ends of the shafts are threaded, and pass through correspondingly-threaded worm-wheels K, having collars K', which rotate in boxes i'. The worm-wheels engage with worms L upon the transverse shafts M, to which rotary motion is conveyed

through the medium of the beveled gearing N N', connecting said shafts with the shaft O, having its bearings at the sides of the machine in suitable boxes or bearings P, and provided with a hand-wheel, P', by means of which the engineer or operator applies power for the adjustment of the distributing-tank or distributor.

The foregoing description sufficiently illustrates the devices whereby the distributor may be, and has actually been, adjusted; but I do not limit myself to the employment of any specific means for such purpose, nor do I limit the application of my improvements to a machine using steam alone as the melting medium.

The perforations in the distributor for the escape of steam should be provided with jet-nozzles z.

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

1. In a machine for melting snow and ice, a vertically-adjustable distributor, substantially as and for the purpose set forth.

2. The combination, with a vertically-adjustable distributor, of the adjusting-rods I and shaft O, for imparting vertical motion to said distributor, all substantially as specified.

In testimony that I claim the foregoing I have hereunto set my hand this 26th day of November, 1873.

JOHN MULLALY.

Witnesses:

JAMES A. O'BRIEN,
WM. H. RIBLET.