W. BUSH.

Machines for Removing Snow from Street Railways.

No. 147,307. Patented Feb. 10, 1874.

Fig. 1.

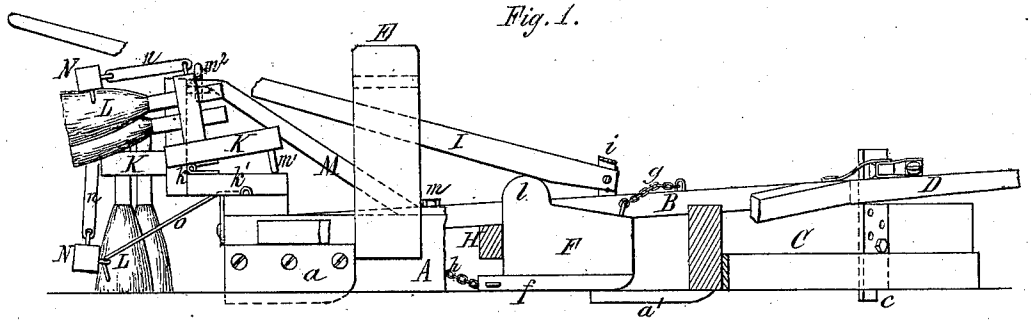


Fig. 2.

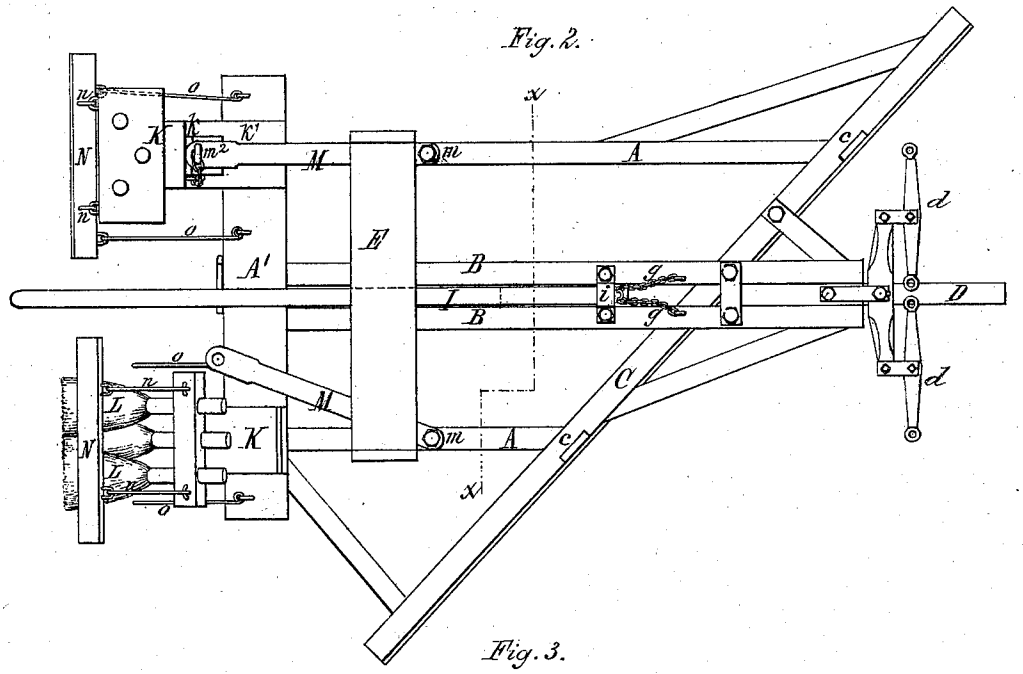
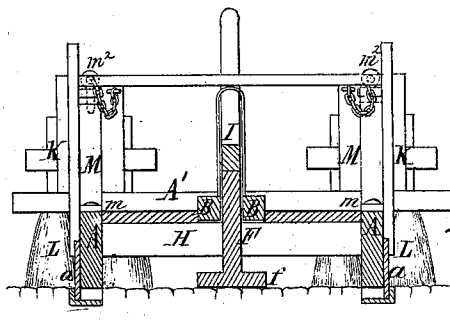


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

WILLIAM BUSH, OF BUFFALO, NEW YORK.

IMPROVEMENT IN MACHINES FOR REMOVING SNOW FROM STREET-RAILWAYS.

Specification forming part of Letters Patent No. **147,307**, dated February 10, 1874; application filed December 27, 1873.

To all whom it may concern:

Be it known that I, WILLIAM BUSH, of the city of Buffalo, in the county of Erie and State of New York, have invented certain Improvements in Track-Clearers for Street-Railways, of which the following is a specification:

My invention relates to an improved machine for clearing street-railways of snow and other obstructing matter, and the nature thereof will be best understood from the following description.

In the accompanying drawing, Figure 1 is a partly sectional side elevation of my improved snow-plow and track-cleaner. Fig. 2 is a top-plan view thereof. Fig. 3 is a cross-section in line *x x*, Fig. 2.

Like letters of reference designate like parts in each of the figures.

A A are the side pieces of the frame of the machine, provided at the rear with two metallic runners, *a a*, and at the front with one similar runner, *a'*, arranged on the longer side of the machine, all engaging between the rails. A' is the rear cross-piece of the frame; and B B, two longitudinal parallel beams arranged centrally between the side pieces A A. C represents a single snow plow or scraper secured to the front ends of the side timbers A A, so as to extend obliquely across the track. It is provided with two vertically-adjustable guides, *c c*, engaging between the rails, and serving, in connection with the runners *a a a'*, to retain the machine on the track against the lateral pressure resulting from the use of the single scraper. D is the pole, secured between the front ends of the central beams B B; and *d d*, the whiffletrees, to which the draft animals are attached. E is the driver's seat, arranged on the rear portion of the main frame. F represents a sliding support, provided at the bottom with a broad runner, *f*, and arranged between the central beams B B at a short distance in the rear of the scraper C, so that it is retained against transverse movement by said beams, while it is permitted to move vertically between the same. The support F is attached at its front end to each of the beams B B by a chain, *g*, and at its rear end to the side pieces A A of the frame by chains *h*. H is a cross-piece, arranged in rear of the support F between the side pieces A A of the frame, so as to form a bearing for the pieces F during the forward movement of the machine. I is a hand-lever, pivoted in a bridge piece or bearing, *i*, secured to the beams B B above the front end of the support F. The latter is provided at its upper rear end with a projection or lug, *l*, upon which the lever I bears, the free end of the latter extending over the rear end of the machine. In depressing the lever I the piece F forms a fulcrum therefor at the point at which the lever bears upon the lug *l*, whereby the front part of the machine is raised so as to disengage the forward runner *a'* and guides *c* from the track, when the machine can be readily turned. K K represent the broom-holders, arranged at the rear end of the machine, one over each rail. They are hinged near their lower ends, at *k*, to horizontal pieces *k'* projecting rearward from the rear cross-piece A', as clearly shown in Figs. 1 and 2. As represented in the drawing, three brooms, L, are secured in the horizontal rear portion of each broom-holder K. The latter are held in their normal position, so that the brooms sweep the track, by braces M pivoted to the side timbers A at *m*, and engaging, by means of a loop, m^1, and removable bolt m^2, with the upper end of the broom-holders. Upon withdrawing the bolt m^2 and swinging the brace M inwardly, as shown in the lower half of Fig. 2, the broom-holder can be swung up on its hinge, as shown in the corresponding portion of Fig. 1, so as to readily permit the removal of brooms for the purpose of cleaning the same and the insertion of new ones, if required. N is a cross-beam suspended from each broom-holder K by means of links *n*, so as to bear against the rear side of each set of brooms near the bottom thereof. The beams N N are held in contact with the brooms by rods or chains *o* attached to the rear cross-piece A' and connecting with the bars N near their ends. The beams N N serve to counteract the tendency of the brooms to bend backward and upward and retain the same in close contact with the rails, insuring the most efficient operation of the brooms.

What I claim as my invention is—

1. The combination of the guide-runners *a a a'*, front guides *c*, and single-inclined scraper C, substantially as and for the purpose set forth.

2. The combination, with the scraper and guide-runners, of the sliding support F and hand-lever I, for raising the front end of the machine, substantially as set forth.

3. The broom-holders K, hinged to the rear end of the machine, at *k*, and provided with braces M, substantially as and for the purposes set forth.

4. The combination, with the broom-holder K and brooms L, of the suspended hinged cross-beams N and stays *o*, substantially as set forth.

WILLIAM BUSH.

Witnesses:
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