2 Sheets—Sheet 1.

W. COOKE.

SNOW-PLOW.

No. 183,141. Patented Oct. 10, 1876.

Fig. 1.

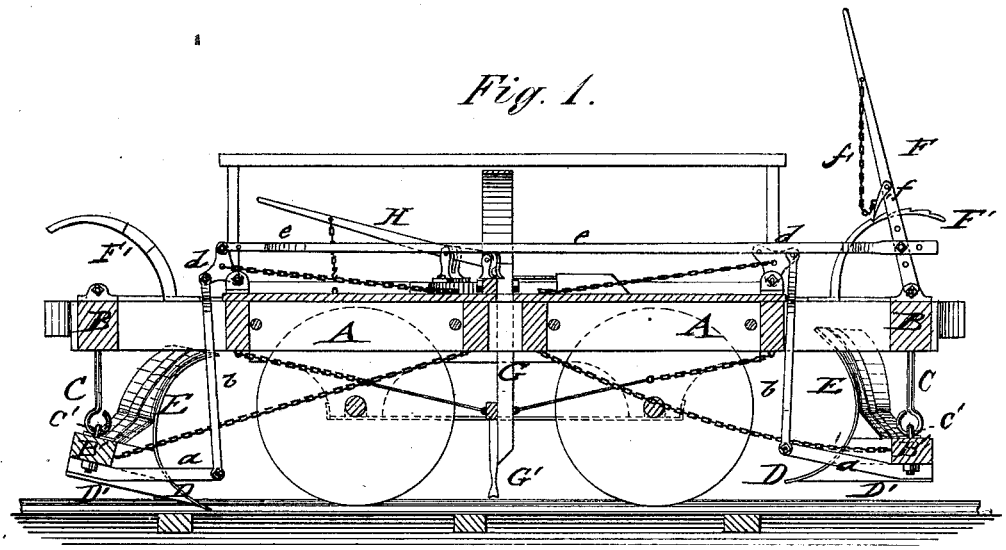
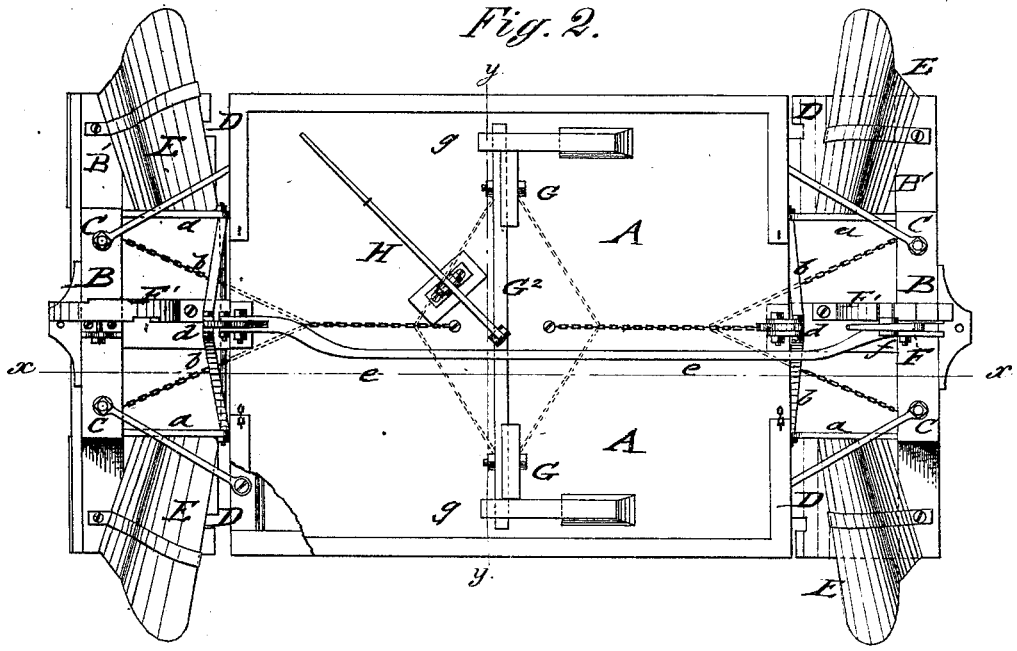


Fig. 2.



WITNESSES:

H. Rydquist.

John Goethals

INVENTOR:

W. Cooke

BY Munn & Co

ATTORNEYS.

2 Sheets—Sheet 2.

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Fig. 3.

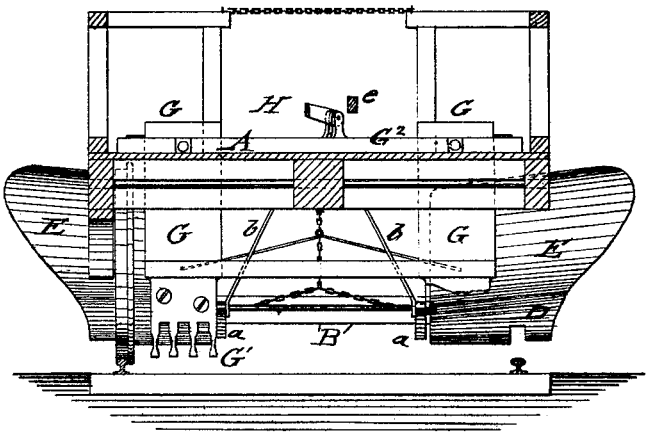
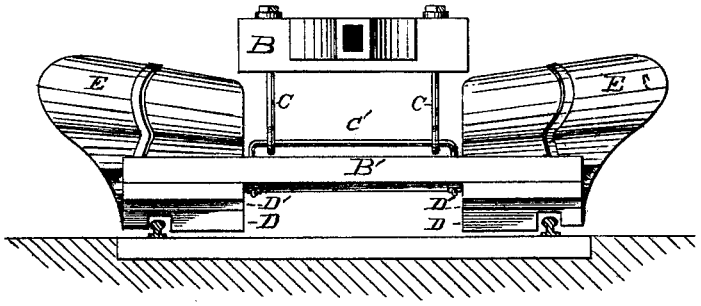


Fig. 4.



WITNESSES:

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INVENTOR:

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UNITED STATES PATENT OFFICE.

WILLIAM COOKE, OF MORRISVILLE, VERMONT, ASSIGNOR TO HIMSELF AND HENRY A. BUZZELL, OF SAME PLACE.

IMPROVEMENT IN SNOW-PLOWS.

Specification forming part of Letters Patent No. **183,141**, dated October 10, 1876; application filed July 1, 1876.

To all whom it may concern:

Be it known that I, WILLIAM COOKE, of Morrisville, in the county of Lamoille and State of Vermont, have invented a new and Improved Snow-Plow, of which the following is a specification:

In the accompanying drawing, Figure 1 represents a vertical longitudinal section on line *x x*, Fig. 2, of my improved snow-plow; Fig. 2, a top view; and Fig. 3, a vertical transverse section of the same, on line *y y*, Fig. 2. Fig. 4 represents a portion of the front view, showing the snow-plows hung to the cross-head by means of eyebolts and sliding rod.

Similar letters of reference indicate corresponding parts.

The object of my invention is to furnish, for railroad purposes, an improved snow-plow, by which the track is kept clear of ice and snow in a reliable manner, the plow being run in connection with freight or passenger trains, so as to keep the track in order without the tedious shoveling of the same by sections.

The invention consists of a car with snow-plows, hung in an adjustable manner to both ends, and being operated by a suitable lever device. The plows are fitted to the rail with tips extending below the top of the rail. The track is cleared of ice by means of spring-acted concave cutters or knives, that are applied to a suitable frame, and raised or lowered by a lever device.

In the drawing, A represents a car-truck of suitable size, which is coupled at any suitable part of a passenger or freight train, and run with the same over the track after a fall of snow. The couplings are applied to a strong center-beam, running through below the truck-frame, which is provided with a guard-railing to admit the ready passing over the plow-car, and the setting of the parts of the same to the track. At both ends of the truck are hung to rigidly braced cross-heads B, and eyebolts C, the plows D, by means of the bars C′, which slide in the looped lower ends of the eyebolts, and which pass through, and are secured to, the beam B′, to which the plows are attached, said plows being built to the gage of the road and attached to shoes D′. The plows are shod with iron, tipped with steel, and extended to suitable width at both sides of the rail, the inner plow being wider and dipped more below the top of the rail than the outer plow. The shoes D′ run on the top of the rails, and the plows at both sides of the same, so as to clear the track effectively of snow. The mold-boards E are placed at a short angle, so that the snow is conducted at any speed of the train to the outside of the rail and prevented from falling back on the rail.

The plows are set to the track by means of the eyebolts and screw-nuts, the raising of the bolts giving the plows more dip, while the lowering of the same decreases the angle of inclination to the track. They swing readily on the eyebolts, and are so adjusted that when they come in contact with any frozen dirt or ice they will lift and run over it without breaking the plows.

The lateral shoe-connecting piece is connected by rigid arms *a* and pivoted lever-rods *b*, with a triangular fulcrum, *d*, to which a lever-rod, *e*, forked at the ends, is pivoted at one end, while its opposite end is applied to an operating lever, F, that is guided along an arc-shaped arm, F′, and retained by a pawl, *f*, in notches of the guide-arm, when the plows are lifted to go over a crossing, frog, or switch. A chain, *f′*, of pawl *f*, releases the lever when the plows are to be dropped onto the rails for work. The plows are connected by chains to the lower part of the truck, which chains take up the strain without throwing it on the eyebolts. The lever and the forked rod connecting with the fulcrum may be readily shifted from one end of the car to the other, to be used with the plows in going as well as returning. The lever is operated from the platform of the adjoining passenger-car, when the snow-plow is run with a passenger-train, but in freight-trains the levers have to be placed on the truck, and a suitable cab or protection arranged for the attendant. At the center of the car-frame A are vertically-sliding posts G, with a number of cutting-knives, G^1, firmly bolted to the lower ends. The sliding pieces G are connected at the upper ends by a lateral piece or rod, G^2, to which

the fulcrumed lever H is applied, by which the knives are either raised or lowered, as required. The knives or cutters G^1 are concaved at the lower end and at the sides, so as to draw downward on the rail. They are pressed down on the rail by suitable springs *g* that bear on the lateral top piece G^2. The ice-cutters are connected by draft-chains at both sides to the under side of the car-frame. The lever of the ice-cutters may be retained by a fastening chain or link when the cutters are not required for use.

The plow-car is carried with the first train, after a fall of snow, and sweeps the track clear of snow and ice in an economical and perfect manner, dispensing with the time-consuming shoveling by sections.

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

1. The draw-bar of a car-truck, having its extremity T-shaped, and projecting beyond the front of the platform or frame so as to form a support for a suspended plow, as shown and described.

2. Snow-plows adjustable to both sides of rail, and throwing the snow clear of track, substantially as set forth.

3. Snow-plows hung to cross-head, eyebolts, and sliding rod, whereby curves may be turned and both rails cleaned, in the manner specified.

4. The combination of the car-frame, with vertically-adjustable and spring-acted cutters or knives, that clear the rails of ice, substantially as specified.

5. The combination of the lateral cutter-frame with a fulcrumed lever and retaining-chain, to raise cutters clear of the track, substantially as described.

WILLIAM COOKE.

Witnesses:

RILEY STONE,

SAMUEL KING.