G. ROYAL.
Snow-Plow.

No. 198,468. Patented Dec. 25, 1877.

Fig. 1.

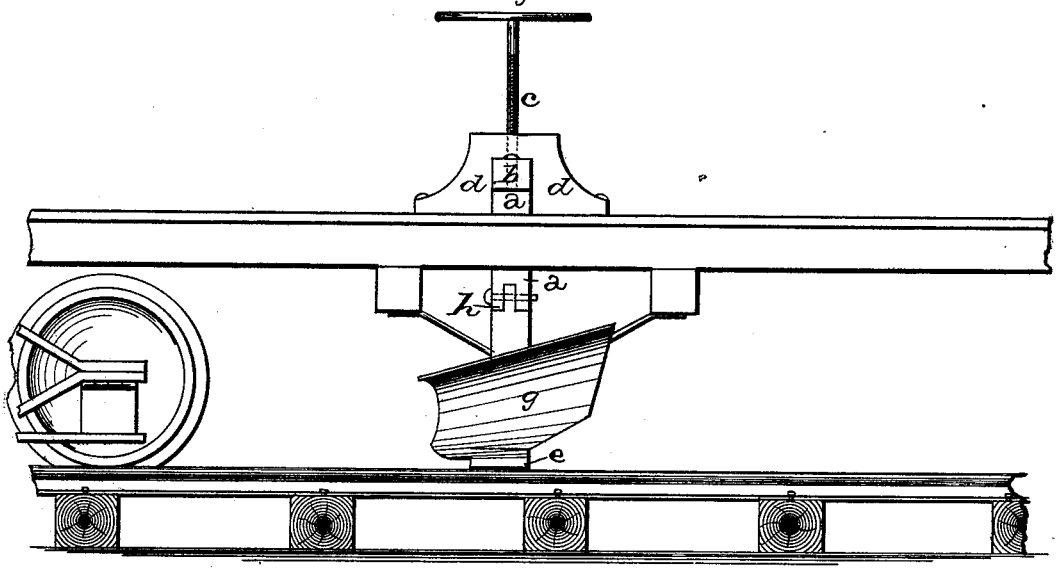


Fig. 2.

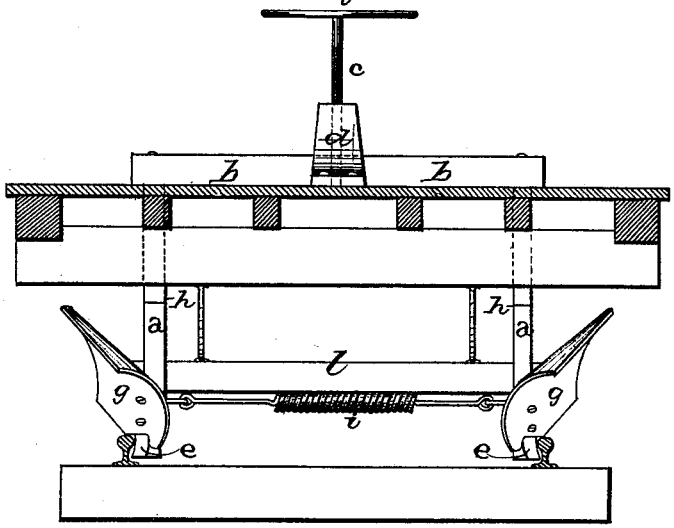
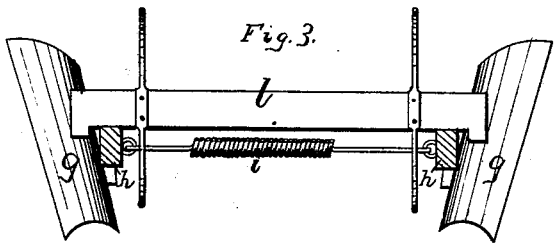


Fig. 3.



WITNESSES.
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per
F. A. Lehmann,
atty

UNITED STATES PATENT OFFICE.

GEORGE ROYAL, OF TRUCKEE, CALIFORNIA.

IMPROVEMENT IN SNOW-PLOWS.

Specification forming part of Letters Patent No. **198,468**, dated December 25, 1877; application filed October 20, 1877.

To all whom it may concern:

Be it known that I, GEORGE ROYAL, of Truckee, in the county of Nevada and State of California, have invented certain new and useful Improvements in Snow-Plows; 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.

My invention relates to an improvement in snow-plows, and is intended to be applied to flat cars and trucks of all descriptions for the purpose of cleaning away the snow and ice that have accumulated upon the inside of the rails; and it consists in two standards, that are jointed at their upper ends, and connected together by means of a suitable spring, the lower ends of which standards are provided with sharp cutting-points for loosening the ice, and mold-boards for catching the loosened ice and snow and throwing it outside of the track, all of which will be more fully described hereinafter.

The accompanying drawings represent my invention.

Although my invention is here shown as applied to the center of the bottom of a flat car, it is to be distinctly understood that my invention can be placed anywhere under the car—in the middle, or behind the forward trucks, or in front of trucks—by slight corresponding changes.

Passing down through the top of the car are the two vertical standards *a*, which are joined together at their upper ends by means of the horizontal bar *b*. This bar extends across the top of the floor of the car, and has swiveled to it, at its center, the adjusting-screw *c*, which passes through the guide *d*. By turning this screw the two standards may be raised or lowered vertically, so that their lower ends may be depressed below the level of the top of the rails, or raised upward above them.

To the lower end of each standard is secured a sharp edged or pointed cutting-block, *e*, which cuts away the ice and snow that have accumulated inside of the rails, and which would interfere with the flanges of the car-wheels. Just above these cutting-blocks are secured the mold-boards *g*, which run along above the tops of the rails, and catch the ice and snow, and throw it outward far beyond the sides of the track. In order to accommodate these standards to curves in the track, or to prevent them from being broken in case they should strike some hard projection, both of the standards are jointed at the points *h*, as shown, and the two are connected together by means of a suitable spring, *i*. By this construction either one of the standards is allowed a sufficient play to enable it to accommodate itself to the lateral or side motion of the cars, which allows the cutting-blocks to be made the whole width of the track, and also does away with the friction when going around curves.

In the rear of the two standards is the cross-beam *l*, which is rigidly braced to the under side of the car, for the purpose of receiving all strain and pressure that is brought against the standards, and thus preventing them from being broken or injured. Upon the front edge of this cross-beam, at the ends, are made suitable projections, for the purpose of catching against the outside of each standard, and thus preventing them from being drawn or pushed too far toward either side of the track.

By having mold-boards, as here shown, the ice and snow are not simply thrown along the side of the track just outside of the rails, but when the cars are in rapid motion the ice and snow are thrown outward a distance of thirty or forty feet.

Having thus described my invention, I claim—

1. The vertical standards *a*, hinged near their upper ends, and connected together by means of a suitable spring, substantially as described.

2. In combination with the standards *a*, connected together by a suitable spring, the cross-bar *l*, provided with projections upon its ends to limit the lateral play of the standards, substantially as set forth.

3. The combination of the standards *a*, pivoted at their upper ends, and joined together by a suitable spring, cross-bar *b*, and a device for raising and lowering the standards, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand this 29th day of September, 1877.

GEORGE ROYAL.

Witnesses:

J. M. CONNER,

A. J. WEADICK.