

G. ROYAL,
Track-Clearer.

No. 203,377.

Patented May 7, 1878.

Fig. 1.

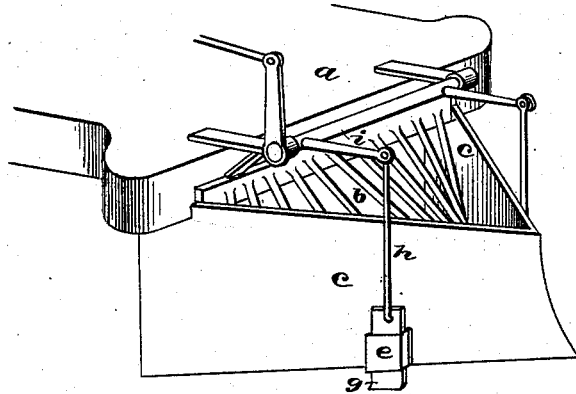


Fig. 2.

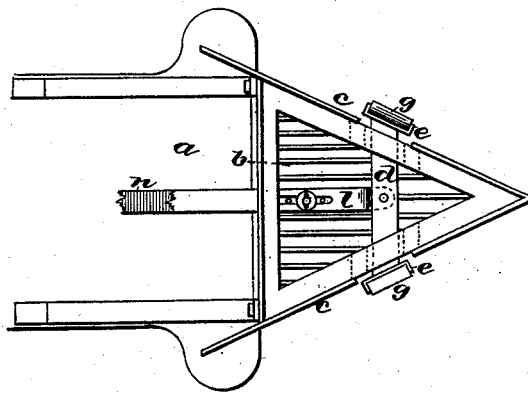
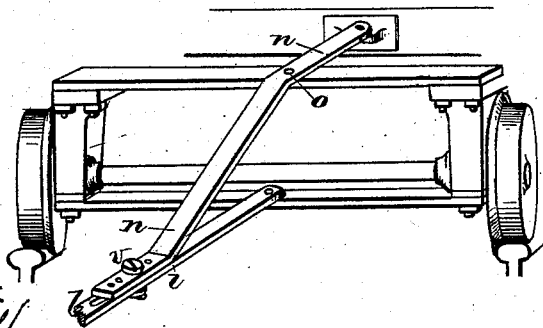


Fig. 3.



WITNESSES:

Jos. F. DuHamel
J. W. Garner

INVENTOR:

Geo. Royal,
per
J. A. Lehmann,
att'y

UNITED STATES PATENT OFFICE.

GEORGE ROYAL, OF TRUCKEE, CALIFORNIA.

IMPROVEMENT IN TRACK-CLEARERS.

Specification forming part of Letters Patent No. 203,377, dated May 7, 1878; application filed

February 26, 1878.

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 it consists in the arrangement and combination of devices whereby the knives that cut the ice and snow from the inside of the rails are made longitudinally adjustable, so as to accommodate them to the swaying back and forth of the locomotives or cars, especially when they are going around curves, as will be more fully described hereinafter.

Heretofore knives or cutters have been applied to cars and locomotives for the purpose of cutting the ice and snow from the insides of the rails; but owing to the fact that there has been no special provision for their automatic adjustment as the cars or locomotives sway back and forth across the track, and for the sudden curves which are frequently encountered, the knives are broken and injured to such an extent as to soon become inoperative and useless. This invention is intended especially to overcome this defect.

The accompanying drawings represent my invention.

a represents the front platform of a locomotive, to which the cow-catcher *b* is secured in the usual manner. Although my invention is here shown as applied directly to the cow-catcher of a locomotive, it is equally well adapted to be used upon either end of a car of any kind, and may be used without a frame being built especially for it, more than the loops to act as guides and a frame or bearing to support the rod *d*; but in practice it will be found that a special frame upon the ends of cars will be desirable.

Upon each side of the cow-catcher is secured, in any suitable manner, the mold-board *c*, for throwing the snow outward beyond the track. Sliding transversely through loops or

other suitable fastenings on the cow-catcher is the horizontal bar *d*, to the outer ends of which are secured the guides *e*, down through which the knives or cutters *g* are vertically adjusted. To each one of the knives, at its upper end, is fastened the connecting-rod *h*, which connects them with the rock-shaft *i*. To this rock-shaft is attached a suitable lever, which extends back to the cab of the locomotive or any part of the car, and by means of which the knives or cutters can be raised or lowered to any desired extent.

Pivoted to the top of the horizontal sliding bar *d*, at or near its center, is a rod, *l*, which projects backward, and is pivoted to the lower part of the truck, so as to allow it to be used as a means of adjusting the rod *d* from side to side, as may be necessary. Through this rod is made a slot, or a number of holes, for the purpose of connecting it to the bent rod *n*, which has its upper end passed over the top of the truck-frame, and is pivoted to the truck at or near its rear end. Where this rod passes over the truck-frame a hole, *o*, is made through it, so that a pin or bolt may be passed through it into the frame, and thus hold the rod rigidly in position, when desired. When so held, neither rod will have any movement except what is given it by the swaying from side to side of the truck. As both rods are pivoted to the truck at their rear ends when not rigidly held by a pin, they vibrate back and forth across the track, so as to allow the cutter to freely yield upon the slightest pressure. The lower and forward end of this rod will also have a number of holes made through it, so that the bolt *v* may be adjusted back and forth, as desired, upon the rod *l*, and thus increase or decrease the leverage.

These rods or levers, by being so arranged and connected to the trucks, will control and guide the slide-beam, and will adjust the knives or cutters to the proper position in relation to the rails at all times, whether on a straight line or on the heaviest curves. Even if the knives or cutters are raised at any time, these rods, being controlled by the truck, guide the slide-beam to the proper position in regard to the rails, so that they can be lowered at any time. Where the bent rod *n* has its center held by the pin *o*, so that it cannot move nor

allow the rod *l* to do so, the cutters will be guided by the truck around all curves in such a manner as to prevent all friction against the sides of the rails, and to prevent them from being broken or injured.

Where my invention is applied to a common car or truck, these levers can be fastened to the truck or axle under the car, either behind or in front.

Having thus described my invention, I claim—

1. In a snow-plow, the combination of the beam *d*, having the knives or cutters *g* embraced by its ends, a supporting-frame for the beam to move in, and a lever for adjusting the beam back and forth across the track, substantially as shown.

2. The combination of the slide-rod, knives or cutters, guides for the knives to move in, connecting-rods, rocking shaft, and connecting-lever, substantially as described.

3. The combination of the horizontally-adjustable slide-beam *d* and rods *l* and *n*, whereby the knives may be automatically adjusted by the truck or locomotive, substantially as set forth.

In testimony that I claim the foregoing I have hereunto set my hand this 11th day of February, 1878.

GEORGE ROYAL.

Witnesses:

F. BURCKHALTER,
C. A. MCGLASHAN.