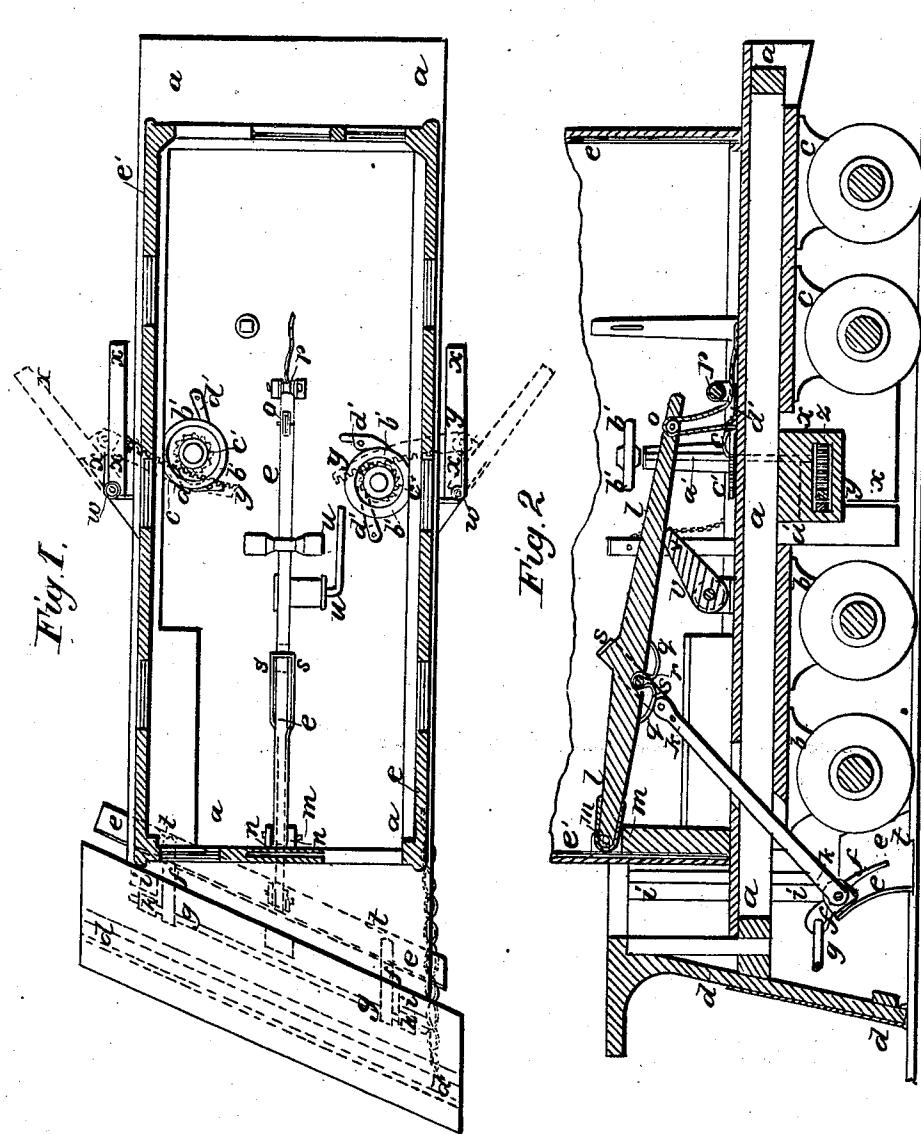


C. L. HEYWOOD.

Car-Track Clearer.

No. 51,829.

Patented Jan. 2, 1866.



Witnesses:

Charles Barlow  
George W. Mann

Inventor:  
C. L. Heywood

# UNITED STATES PATENT OFFICE

C. L. HEYWOOD, OF BOSTON, MASSACHUSETTS.

## IMPROVED RAILWAY SNOW-PLOW.

Specification forming part of Letters Patent No. 51,829, dated January 2, 1866.

*To all whom it may concern:*

Be it known that I, C. L. HEYWOOD, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Snow-Plow Carriages; and I do hereby declare that the following description, taken in connection with the accompanying plate of drawings, hereinafter referred to, forms a full and exact specification of the same, wherein I have set forth the nature and principles of my said improvements, by which my invention may be distinguished from all others of a similar class, together with such parts as I claim and desire to have secured to me by Letters Patent.

The present invention relates to certain new and useful improvements in railway snow-plow carriages for the removal of the snow and ice from the rails and the road-bed. Its distinguishing features are—

First, a self-adjusting scraper which can not only be brought to bear upon and relieved from the rails, but is also susceptible of a lateral movement, so as to adapt itself to the curves of the track or to any irregularities that may occur therein. This scraper is attached to and operated by a lever, so that any desired amount of pressure may be brought to bear upon it. It can also be raised from the track by means of a hand-lever, so as to allow it to readily pass over frogs or any obstruction that may exist. This scraper is placed in front of the forward truck of wheels, so that the snow and ice will be removed before it can become packed upon the rails by the passage of the said wheels over them, which would be the case were the scraper placed between the two sets of wheels or in any other position, and is inclined toward the wheels for the purpose hereinafter stated.

Second, attached to the sides of the carriage are two movable wings, which can be set and held at any desired angle, so as to throw the accumulation of snow, &c., away from the road-bed.

Third, a suitably-bent spring connected with an arm attached to the scraper, so arranged that, the lever-arm bearing upon it, it is allowed sufficient play to admit of the scraper being raised over any obstacle upon the rails without retarding or affecting in any way the operation or progress of the carriage.

I will now proceed to describe in detail the construction and operation of my improved railway snow-plow carriage.

My improvements are represented in the accompanying plate of drawings, of which Figure 1 is a horizontal section through the body of the carriage, showing a top view of the platform, &c., and Fig. 2 a central vertical longitudinal section of my improved railway snow-plow carriage.

*a a a* in the drawings represent the framework or platform of a railway-carriage supported on ordinary wheel-trucks *b b* and *c c*. To the front of the platform *a a* is attached a snow-plow, *d d*. A curved scraper, *e e*, is attached by means of arms *f f* to an axle or shaft, *g g*, which is allowed to play both laterally and vertically in standards *h h*, attached to bearings *i i* formed on the back of the plow *d d*, so that the scraper *e e* is made to adapt itself to the curves of the track or to any irregularities to which it may be exposed, as well as being brought to bear upon or relieved from the rails, by the vertical movement exerted upon it by means of an arm, *k k*, attached to a lever-arm, *l l*, which turns upon a fulcrum or pivot, *m*, that passes through a standard, *n n*. This lever-arm *l l* may be operated by means of a rope passing around pulleys *o o* and *p p*, or in any other suitable manner. The scraper *e e* is so adjusted as to incline toward the wheels, so that in meeting with any obstruction upon the rails the scraper *e e*, instead of being pushed against and injured by the obstruction, as would be the case if it inclined in an opposite direction, is lifted over it without damage to the scraper. The lever-arm *l l*, instead of exerting a direct pressure upon the arm *k k*, attached to the scraper *e e*, is first brought to bear upon a suitable bent spring, *q q*, working on a pivot, *r r*, in a slot, *s s*, through which passes the lever-arm *l l*, so that a sufficient play is given to the arm *k k* to allow the scraper *e e* to which it is attached to be raised enough to escape and pass over any obstacle that may exist without interfering or delaying the operation or progress of the carriage. In the bottom edge of the scraper *e e* are formed two grooves or slots, *t t*, that fit over the rails, the edges of which grooves or slots *t t* are made of hardened steel to prevent any wear upon them.

In order to relieve the scraper from the track whenever a frog or any obstruction is to be passed over, a hand-lever,  $u u$ , is provided, which operates a cam,  $v v$ , that bears against and lifts the said lever  $u u$ , and consequently the scraper  $e e$ .

At each side of the platform  $a a$  are hinged, at  $w w$ , wings  $x x$ . These wings  $x x$  can be set at any desired angle with the carriage by means of the toothed bars  $y y$  and pinions  $z z$ , placed on vertical shafts  $a' a'$ , having brake-wheels  $b' b'$  and ratchets  $c' c'$ , with pawls  $d' d'$ , that hold the wings  $x x$  in any desired position. The wings  $x x$  serve to throw the accumulation of snow, &c., away from and outside the rails.

The carriage hereinabove described, and represented in the drawings, is intended for a double track; but it will be evident, for a single track, a triangular-shaped snow-plow may be used with a similarly-shaped scraper; but the operation in both cases is identical.

It will also be obvious that the carriage and machinery may be protected by a suitable house or covering,  $e' e'$ .

Having thus described my improvements, I shall state my claims as follows:

1. The use of a scraper fitting over the rails and susceptible of both a vertical and lateral play by means of devices arranged and operating substantially as hereinabove described.

2. Operating the wings  $x x$  by means of the arrangement of devices described, so that they can be set and held at any desired angle with the carriage, as set forth.

3. The combination of the hand-lever  $u u$ , cam  $v v$ , and lever-arm  $l l$ , for elevating and disengaging the scraper from the rails, as described.

4. Hanging the scraper so as to incline toward the wheels, and attached to an arm,  $k k$ , which has an elastic bearing, as described, and for the purpose specified.

C. L. HEYWOOD.

Witnesses:

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