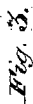
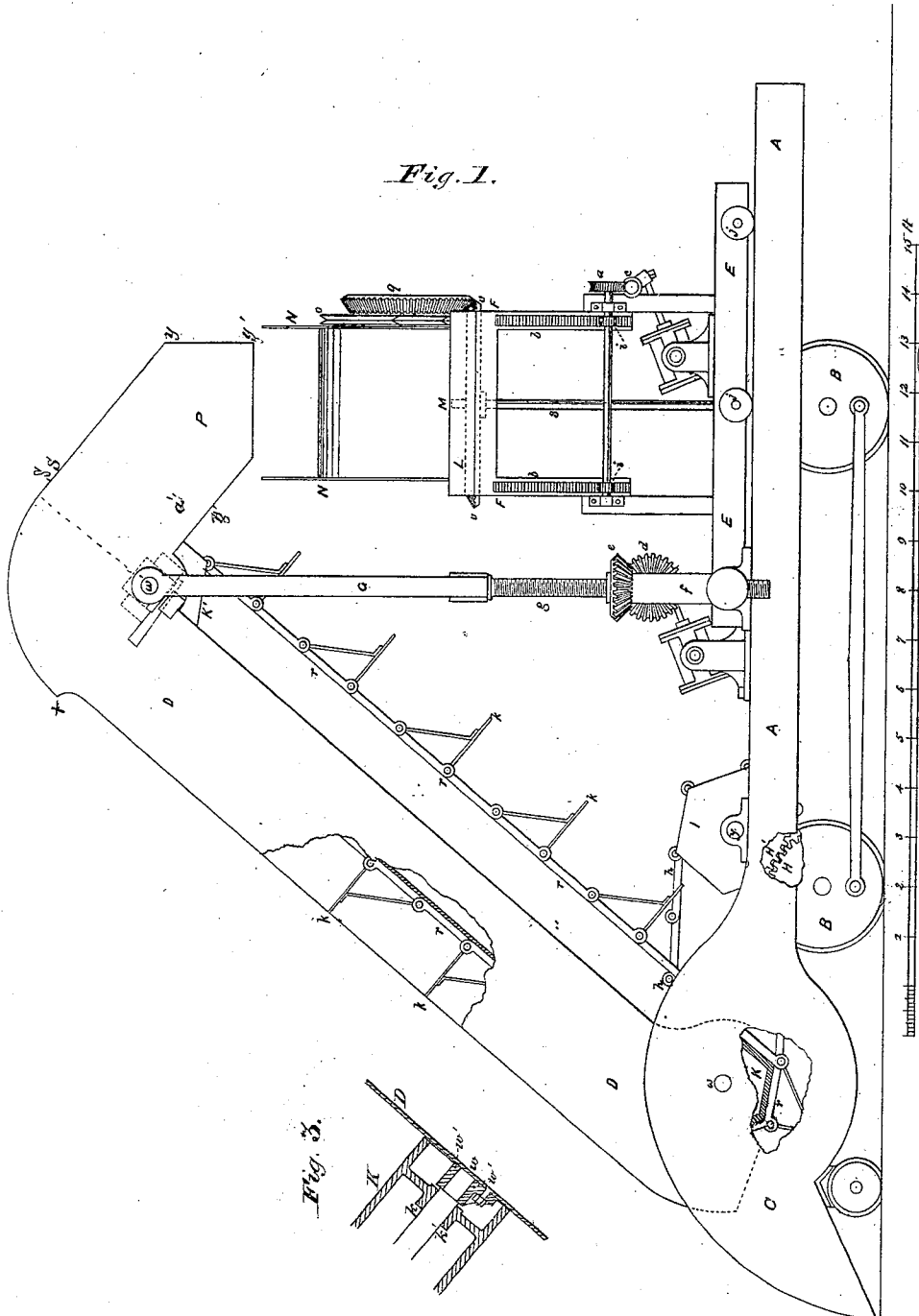


GEORGE SEWELL.

Improvement in Machine for Removing Snow from Railways.

No. 127,930.

Patented June 11, 1872.



WITNESSES:

Alfred Blaisdell
John A Wallace

INVENTOR:

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George Sewell

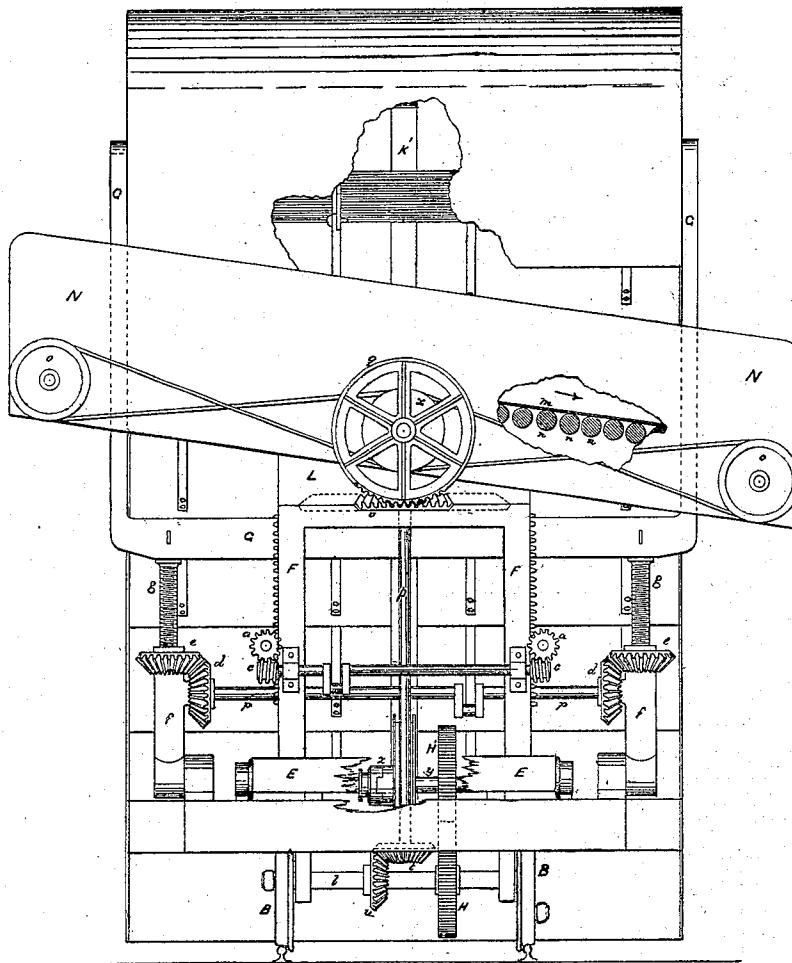
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Fig. 2.



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Alfred Blaisdell
John A. Wallace

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George Sewell

UNITED STATES PATENT OFFICE.

GEORGE SEWELL, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN MACHINES FOR REMOVING SNOW FROM RAILWAYS.

Specification forming part of Letters Patent No. 127,930, dated June 11, 1872.

To all whom it may concern:

Be it known that I, GEORGE SEWELL, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Machinery for Removing Snow from Railroad Tracks; and I hereby declare the following to be a full and exact description of the same, reference being had to the accompanying drawing which forms a part of this specification.

This improvement consists in substituting for the ordinary snow-plow a peculiarly-constructed elevator and chute, to be pushed in front of the locomotive; or it may be made to carry its own motive power, and of which—

Figure 1 is a side elevation. Fig. 2 is a rear elevation. Fig. 3 is a sectional front view of one end of a drum and its journals.

A A is the body of the machine, mounted on wheels B B, which are coupled together for the purpose of utilizing the entire weight of the machine for power to drive the elevator. Attached to this body is the scoop or inclined plane C, which serves to raise the snow from the track and to conduct it to the elevating-buckets *k k*. The elevator consists of an endless chain, belt, or band of buckets, *k k k*, of any desired form, supported by and moving between the sides D D, and around or over drums K K'. The drums K K' revolve upon their central shafts *w w'* at the top and bottom of these sides, and serve to move or travel the chain, which consists of the links *r r* with the buckets *k k k* attached. Any wear or slackness of the chains is provided for by making the supports of the upper shaft adjustable, so that the distance between the axes of the two drums K K' may be varied, as required. To admit of varying the height of the upper end of the elevator the lower ends of the sides D D are movable around the axis *w* of the lower drum K, while their upper ends are supported by the yoke G G and screws *g g*, which screws pass into the sleeves *f f*, and are guided and protected by them. At the upper end of these sleeves are the nuts *e e* of the screws *g g*, which nuts are formed with teeth on the outside, and are connected to each other by suitable gearing, as the bevel-wheels *d d* and shaft *p p*, which may be turned either by hand or by a small engine, as shown, to be supplied with steam from the locomotive, and by means of

which gearing simultaneous motion may be given to the nuts *e e* for the purpose of altering the height of the upper end of the elevator; or rack and pinions may be substituted in place of the screws. On the axle of the forward wheels is a gear, H, which engages with H' on the shaft *y*. This shaft also carries the chain-wheel I, which, through the agency of the chain *h h*, gives motion to the drum K, and thereby to the chain of buckets *k k*. The snow, having been raised by the elevator-buckets, is delivered at the top through the throat P upon a chute, N N. This throat joins the elevator-frame at or about a right angle, and is composed of side pieces *a'* and a bottom piece, *b'*. A hood or covering, S, extends over its top and over the part of the elevator immediately above the upper drum K'. This hood or covering extends from *x* to *y*, or may be continued to *y'*, if thought necessary, thereby preventing the snow from being thrown from the elevator immediately to the rear and beyond the chute by centrifugal force, as would happen were there no device to prevent it. This chute is constructed with sides N N, between which is an endless band or belt, *m*, passing over rollers at each end, and being supported beneath its whole upper surface by small rollers *n n n*. Upon the axes of the two end drums are fastened grooved pulleys *o o*, which are driven by a band of tarred rope or other suitable material from the pulley *x*, which derives its motion from the axle *l* of the main wheels B B through the gears *u* and *t*, telescopic shaft *s*, and gears *v* and *q*. The progressive motion of the car turning these causes the belt to travel longitudinally between the sides N N, and consequently to deliver the snow which falls upon it from the elevator at the sides of the track. To allow of passing under snow-sheds or bridges, or through cuts only wide enough to admit the passage of an ordinary car, the framing L immediately under the chute is made separate from the lower part F F, and is fitted to turn horizontally upon it around the pin M, so that the chute may be placed in line with the track, or at right angles to it, and may be made to deliver the snow on either side, as may be desirable. To adapt it to the varying height of the elevator, as well as to passing under sheds or bridges, the whole upper part L F F is fitted to slide

vertically upon the lower carriage E E, and has racks *b b*, pinions *y y*, worm-gears *a a*, and worms *c c*, or equivalent device for raising or lowering it. The wheels *j j* are to allow the carriage E E and chute to be moved nearer to or further from the elevator to allow of its being turned parallel with the track. *z* is a movable clutch, by which the elevating-buckets can be disconnected from the motive power when desired and allowed to remain at rest. The journals of the drums K K' are entirely inside of the same, as shown in Fig. 3, wherein *w'* is a step or bearing securely fastened upon the inside of the side plate D, and in which the journal *w* has its bearing. To the journal *w* the drum K is fastened by flanges *k'* extending from the inner sides of the plates of the drum K, and fastened to the journal. The drum K, occupying the entire width between the plates D, prevents snow or dirt from reaching and clogging the bearings, and enables the machine to cut a maximum width, as no parts extend outside of the side plates D. They are so located to avoid decreasing the effective digging or clearing width of the elevating-buckets *k k*.

It will be observed, by inspection of the accompanying drawing, that the entire machine is arranged with a view to clearing a channel through the snow sufficiently wide to allow a free and unobstructed passage for the largest passenger coaches or cars; and the height of the elevator can be made as dictated by the depth of the snow-bank.

The elevator, being made movable around the axis of the lower drum K, will allow it to be made of a height to meet the maximum depth of snow-drifts, and, at the same time, allow of being lowered to pass under bridges or snow-sheds.

I make no claim to the use of an elevator consisting of a chain of buckets for removing snow, as I am aware that is not new; but

What I claim as my invention, and desire to secure by Letters Patent, is—

1. Driving the elevator from the coupled wheels B B of a car by the chain *h h*.

2. Making the elevator adjustable for height around the axis of the lower drum K by screws *g g* or equivalent device.

3. The adjustable chute N N, constructed substantially in the manner described, capable of being raised or lowered and turned either to the right or left, and driven to the coupled wheels of the car, or by a separate engine, as may be found most convenient.

4. The plate S, serving as a hood to the elevator and as one side of the throat, substantially as and for the purpose set forth.

5. Locating the bearings of drums K and K' entirely inside the drums, as shown in section in Fig. 3, Sheet I.

GEORGE SEWELL.

Witnesses:

JNO. D. PATTEN,
D. P. COWL.