

P. & J. H. BAKER.

Machines for Removing Snow from Railway-Tracks.

No. 154,114.

Patented Aug. 18, 1874.

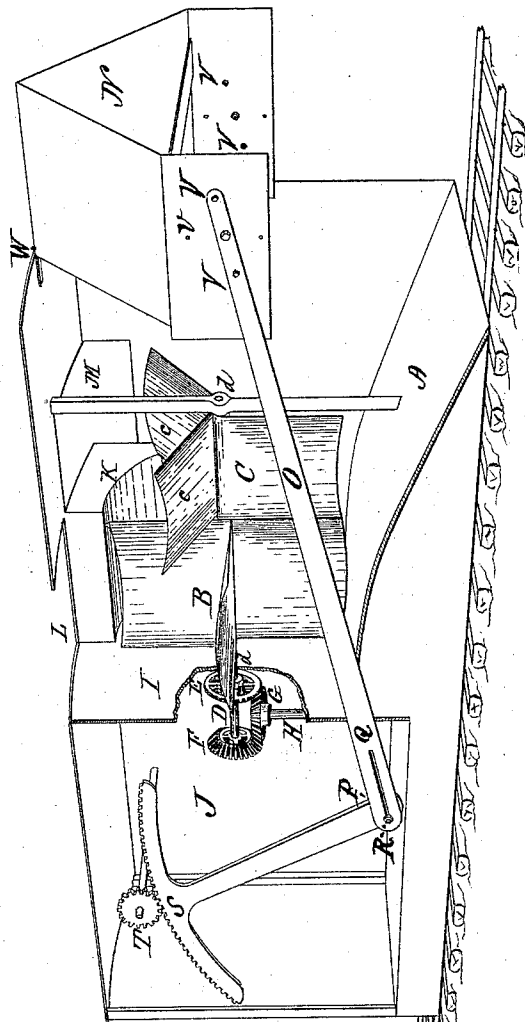


Fig. 1.

WITNESS.

S. Scholfield
A. R. Abbott.

Inventor.

Primer Baker
Jannis H. Baker
By their Attorney
Andrew Folsom

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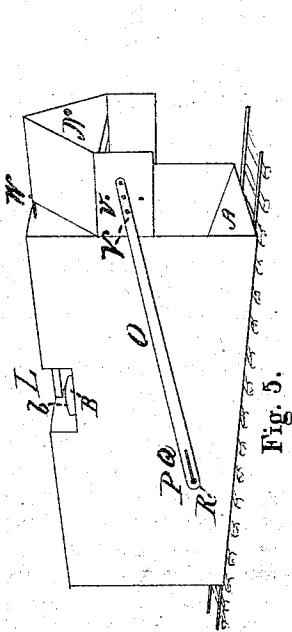


Fig. 5.

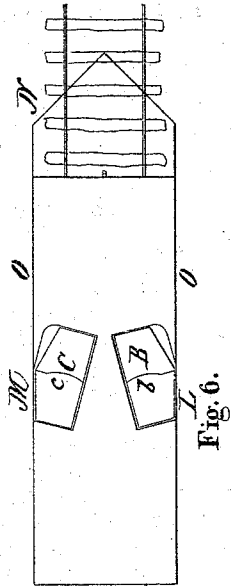


Fig. 6.

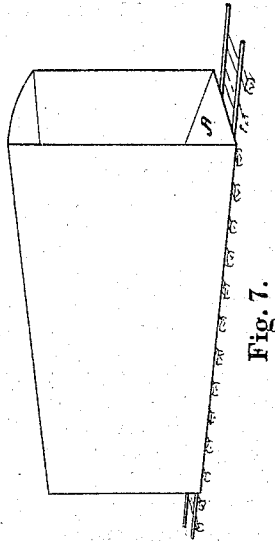


Fig. 7.

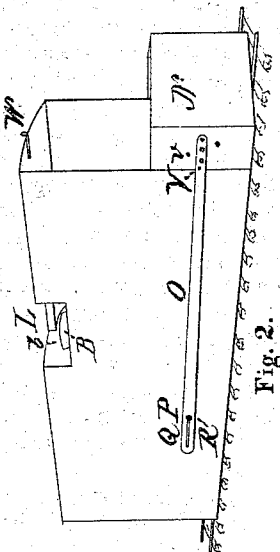


Fig. 2.

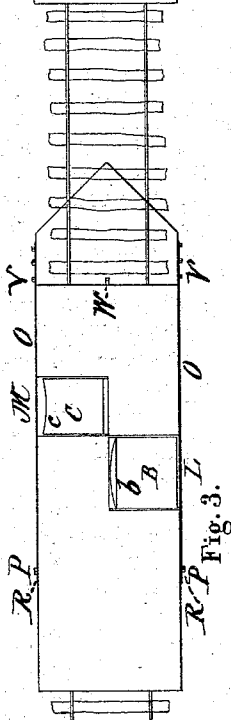


Fig. 3.

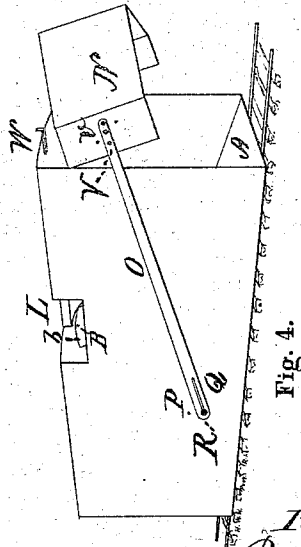


Fig. 4.

S. Scholfield.
A. R. Abbott.

WITNESS.

Inventor:
Prince Baker
James H. Baker
By their Attorney
Andrew Tolson

UNITED STATES PATENT OFFICE.

PRINCE BAKER AND JAMES H. BAKER, OF MIRAMICHI, CANADA.

IMPROVEMENT IN MACHINES FOR REMOVING SNOW FROM RAILWAY-TRACKS.

Specification forming part of Letters Patent No. 154,114, dated August 18, 1874; application filed August 27, 1873.

To all whom it may concern:

Be it known that we, PRINCE BAKER and JAMES H. BAKER, of Miramichi, in the county of Northumberland, in the Province of New Brunswick and Dominion of Canada, have invented an Improved Steam Snow-Shovel, of which the following is a specification:

This machine, together with a separate steam-engine for the purpose of operating the revolving shovels, is to be placed upon wheels, the whole to be driven ahead by the locomotive. The revolving shovels may be thus driven at a uniform rate of speed independently of the movement of the locomotive, so that the snow may be thrown to the same distance from the track when the locomotive is moving slowly as when it is moving at its greatest speed. Our invention also consists in a backing-out scoop hinged to the machine, and arranged with suitable mechanism, so as to be raised or lowered at pleasure.

Figure 1 is a perspective view of the machine with the side removed, in order to show the interior. Fig. 2 is a perspective view, showing the backing-out scoop in its proper position near the track. Fig. 3 is a plan view of the same. Fig. 4 is a perspective view, showing the backing-out scoop as elevated preparatory to striking down upon the snow-drift. Fig. 5 shows the manner of holding the backing-out scoop upon the forward part of the machine when not in use. Fig. 6 is a plan view, showing the revolving shovels as inclined to the axis of the machine.

In the drawing, A is the inclined apron, which serves to raise the snow from the track and bring it in contact with the revolving shovels B and C. The revolving shovel C and gear F are keyed to the shaft D, which runs in the bearings *d d*, and the revolving shovel B and bevel-gear E are attached to a hollow shaft turning loosely upon the shaft D. The gears E and F engage with the horizontal gear G upon the upright shaft H. Thus the shovels B and C will be caused to revolve in opposite directions. The blades *b b b* and *c c c* are made concave, as shown, in order to obtain a better hold of the loose snow forced upon the apron A. I is a partition between the shovel-room and the engine-room J. Any suitable engine may be employed to operate the shov-

els, being suitably connected to the upright shaft H. K is a curved guide for the snow, which is to be thrown out at the opening L by means of the shovel B, and a similar guide is used in connection with the shovel C to throw the snow out of the opening M. The backing-out scoop N is attached to the movable arms O O, and is to be used in a very deep cut, where the snow is liable to drift to so great height that it cannot be removed by the revolving shovels, or in case of a light snow, which might be turned to either side without the use of the shovels. The outside of the scoop, owing to its pointed form, may be used as an ordinary snow-plow. The arms O O are attached to the ends of a shaft, P, by means of the slots Q Q and screws R R. The shaft P is caused to rock, in order to raise and lower the scoop N, by means of the segment S and the pinion T, to which an alternating rotary motion may be imparted through the shaft U.

The scoop N may be operated as follows: First extend the arms O O to their full length, and make all fast by means of the screws R R, and adjust the scoop, as shown in Figs. 2, 3, and 4, by means of the bolts V V, which are to enter the holes *v v*; then, by means of the machinery in the engine-room J, hoist the scoop as high as possible, as shown in Fig. 4; then move forward into the snow, and drop the scoop down to the track, as shown in Figs. 2 and 3; then move back to a suitable distance, and hoist up the scoop, and move forward again into the snow, whereby the load previously taken by the scoop will be caused to rise upon the apron A, and be thrown away by the quickly-revolving shovels B and C; then again lower the scoop into the fresh snow, and draw back, as before, and so continue the operation until the passage is opened.

The foregoing operation may be varied, however, as follows: First move forward into the snow, and drop the scoop; then move back to a suitable distance to deposit the load; then raise the scoop, and move still farther back; then drop the scoop and move forward, and the inclination of the sides of the scoop, operating as a plow, will cause the snow to be deposited upon each side of the track. When the exterior portion of the scoop N is to be used as a plow, as in case of a very light snow,

let it down in front of the shovel-box, as in Fig. 2, and screw the bolts fast, and all will be in order for going ahead.

When the revolving shovels B and C are to be used by themselves, the scoop N is to be hoisted point upward, and hung upon the hook W, as shown in Figs. 1 and 5. The shovels B and C, instead of operating at right angles to the axis of the machine, may be arranged to throw the snow backward at an angle, as shown in Fig. 6.

We claim as our invention—

1. The revolving shovel C, placed upon a central shaft, and the oppositely-revolving

shovel B, attached to a hollow shaft, in combination with the apron A and curved guides K, substantially as and for the purpose described.

2. The scoop N, combined with the arms O O, to operate substantially as described.

3. The combination of the scoop N with the apron A and revolving shovels B and C, substantially as described.

PRINCE BAKER.
JAMES H. BAKER.

Witnesses:

ANTHONY ADAMS,
GEORGE GORDON.