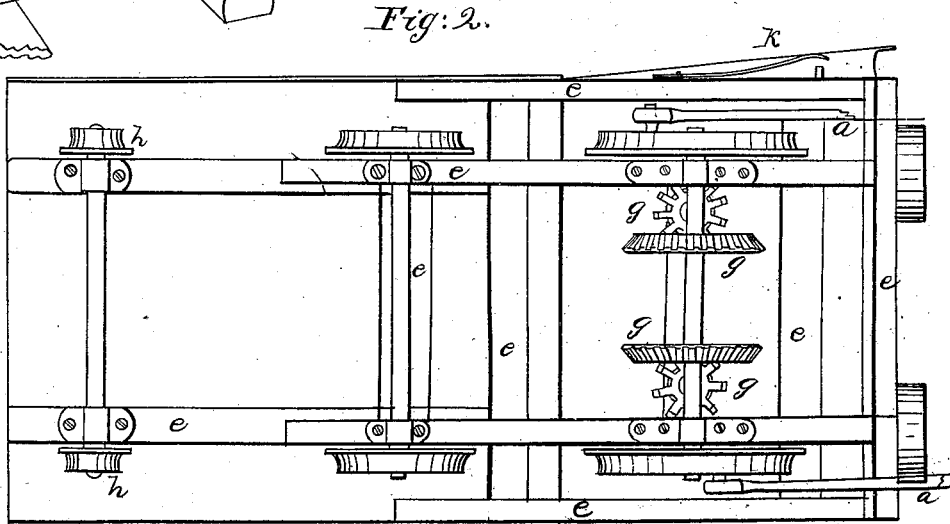
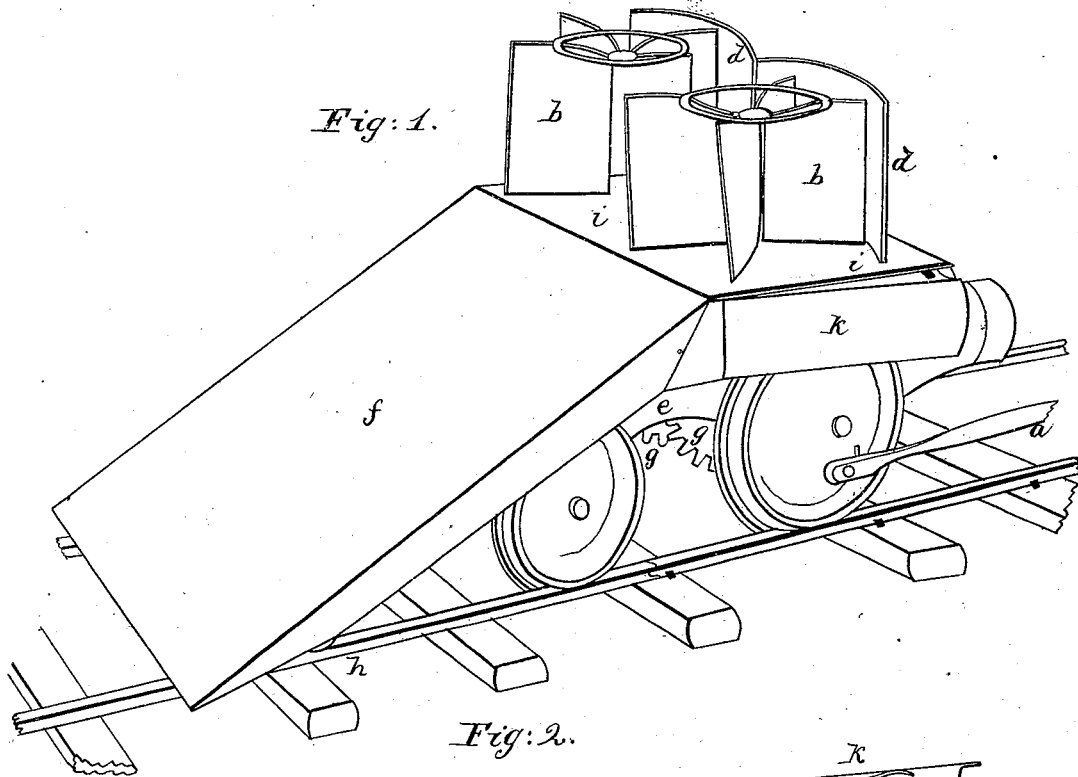


T. DOUGHERTY.
SNOW PLOW FOR RAILWAYS.

No. 110,446.

Patented Dec. 27, 1870.



Witnesses
William Graf
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UNITED STATES PATENT OFFICE.

TIBERIUS DOUGHERTY, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN SNOW-PLOWS FOR RAILWAYS.

Specification forming part of Letters Patent No. 110,446, dated December 27, 1870.

To all whom it may concern:

Be it known that I, TIBERIUS DOUGHERTY, of the city and county of Philadelphia and State of Pennsylvania, have invented new and useful Improvements in Snow-Plows; and I do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to which my invention appertains to fully understand and use the same, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a perspective view of the device illustrating my invention. Fig. 2 is a bottom view.

Similar letters of reference indicate corresponding parts in the two figures.

My invention consists in a railway snow-plow which is independent of the locomotive, and in which its shovels receive rotary motion through intermediate gearing by means of driving-rods which are attached to the wheels of the plow, and to receive power from the locomotive. By this means the wheels of the plow cannot slip, and thus prevent the rotation of the shovels. Side pieces or wings are hinged to the plow, and have springs arranged therewith, so that snow will be pressed outside of the track, while the wings will "give" to posts or other obstacles on the road.

In the drawing, *f* represents the forward end of the plow, which is inclined, and by which the snow is raised and delivered to the revolving shovels *b*. Each shovel consists of suitably-formed blades, radiating from a sleeve, *c*, which is made to slip on a shaft, *c'*, which passes through the platform *i* of the plow. These sleeves are notched or perforated, and by means of keys or bolts *j* are firmly secured to their shafts *c'*, but are readily removable, when desired, for purposes of adjustment or repairs. To the shafts *c'* there are fixed gear-wheels *g g*, which mesh with similar wheels *g' g'*, secured to the axles of the running-wheels of the plow. The gear-wheels *g* and *g'* in the present case are formed in sections, so as to be easily applied and removed without disturbing the running-wheels. At the rear of the shovels I arrange guards *d*, which prevent the snow from being forced upon the engine. Pilot-wheels *h* are arranged at or near the forward end of the plow to guide it

upon the track and take the weight of the snow. To the sides of the plow are hinged wings *k k*, having springs so arranged that snow will be pressed outside of the track, while the wings are not interfered with by posts or otherwise along the road. *a a* are driving-rods which are secured to the running-wheels of the plow, and extend so as to be connected to the locomotive, and thus transmit power to said running-wheels.

It will be seen that when the snow-plow is placed in position in front of the locomotive it can be propelled forward and the shovels rotated. The snow is carried up the incline and delivered to the shovels, whence it is swept or forced to the side of the track, and the latter is thereby cleared.

It is well known that snow on the track causes wheels to slip. When this is the case the snow-shovels will not be rotated; consequently there will be gathering and clogging of snow around and about said shovels. I obviate this great defect by the employment of the driving-rods *a*.

When the engine starts, the running-wheels of the shovels will surely be rotated. The slipping tracks may cause the former to "fly," but this will not stop the shovels. Said running-wheels cannot slip owing to their connection with the engine.

It is evident that my device possesses superior advantages for the purposes intended, and when no longer needed its driving-rods are to be detached from the locomotive, and the plow can then be moved out of the way and laid by for future use.

What I claim is—

1. The spring wings *k'* at the side of the plow, substantially as and for the purpose described.

2. The railway snow-plow, consisting of the rotating shovels *b'*, shafts *c'*, gearing *g' g*, and driving-rods *a*, arranged in relation to each other and to the running-wheels of the plow, substantially as and for the purposes described.

The above specification of my invention signed and witnessed, at Philadelphia, this 13th day of August, A. D. 1870.

TIBERIUS DOUGHERTY.

Witnesses:

MICHAEL QUIRK,
THOS. WELHAM.