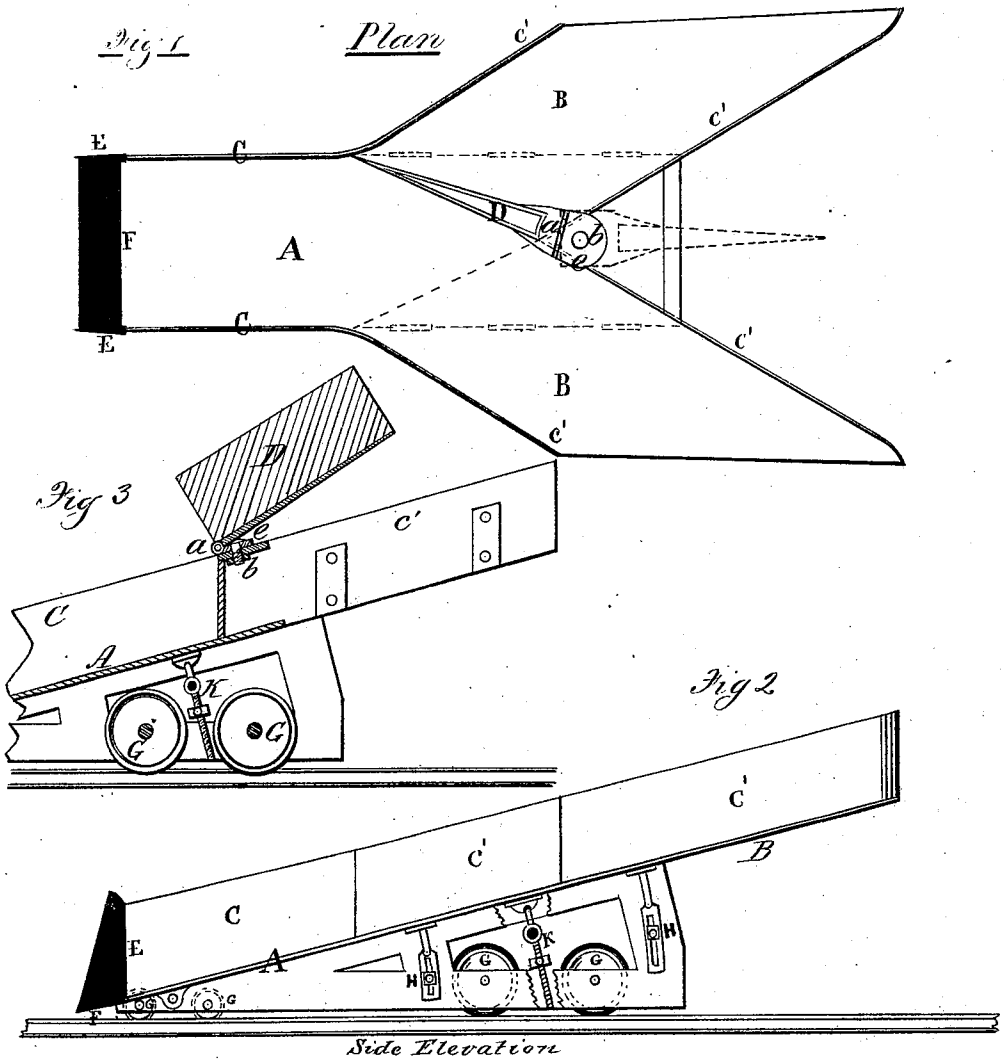
J. DOMAN.

Track-Clearer.

No. 169,241. Patented Oct. 26, 1875.



Witnesses.
William Gill
B. Patterson

Inventor.
John Doman

N. PETERS, PHOTO-LITHOGRAPHER, WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

JOHN DOMAN, OF BAY CITY, MICHIGAN.

IMPROVEMENT IN TRACK-CLEARERS.

Specification forming part of Letters Patent No. **169,241**, dated October 26, 1875; application filed April 12, 1875.

To all whom it may concern:

Be it known that I, JOHN DOMAN, of Bay City, in the county of Bay, in the State of Michigan, railway contractor, have invented certain new and useful Improvements in Snow-Plows; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to snow-plows for the clearing of snow from railroad-tracks, but is also suitable for the clearing of snow from other roads, and which may be constructed of any suitable material. It consists of a carriage the body of which forms an inclined plane provided with sides, and with projecting wings having also sides. The carriage is constructed with wheels, upon which it is moved forward by means of a locomotive-engine. It is also furnished with knives in front, which, when it is moved forward by the means aforesaid, cut and raise the snow, so that, from the cohesion of the mass in front of that being operated upon by the knives aforesaid, the separated snow will be pressed up the inclined plane, and outward along the projecting wings aforesaid, and be delivered at a distance of about twenty feet from the center of the track. It is also provided with a guide, hinged both vertically and laterally, by which the snow can be delivered all on either side or on both sides, as may be required in consequence of the varying character of the cuttings in which it may be required to operate.

The inclined plane, with its sides, can be raised by means of screws, and set to any required grade by means of ordinarily simple mechanism, so as to suit the character of the snow to be moved, which may be either wet and heavy or dry and light, according to circumstances. The cost of construction will be also much less than the snow-plows in present use. It is intended that with my improved plow one locomotive-engine will do as much work as three such engines with the present plows, and in a much better manner, as it disposes of the snow in such a way as to render it impossible to interrupt or impede the further passing of the trains. It will cut a gap of about ten feet, more or less, in width, and of a height up to six feet, clean and well-formed, so that there will be no difficulty in keeping the road open throughout the entire year by the use of my improved plow. It would be an advantage for every through freight-train to have one of my plows in front of the engine during the winter season.

In the accompanying drawings, the same letters of reference indicate the same parts in both the views and in this specification.

Figure 1 is a plan of my plow, showing the inclined plane A, with its sides C C, and the projecting wings B B, with their sides c' c' c' c', which can be constructed with hinges, so as to fold down to allow trains to pass, as shown by dotted lines in Fig. 1, or made without hinges when so required. These wings may be made to droop from the front part thereof to the extreme point backward, so as to cause a more free delivery of the snow, as occasion may require, the construction of the plow being such that the lowest point of the projecting wings will pass over the banks of snow left on each side of the gap being made by the plow. This figure shows also the vertical knives E E and the horizontal knife F.

Fig. 2 is a side view of my plow, showing the inclined plane A, with side C, one of the wings B, and sides c' c', the vertical knives E E, and horizontal knife F; also, the wheels G G G, the slotted guides H H, and lifting-screws K K, for raising and setting the inclined plane A to any required grade, as hereinbefore referred to; Fig. 3, a vertical section of so much of the plow as shows the hinged frog or tongue-piece thrown vertically upward and back, to open both wings for the discharge of the snow from both sides.

It will be seen, on reference to the drawings, Figs. 1 and 2, that when the plow is being propelled forward by the engine the vertical knives E E and horizontal knife F will cut and separate an area of snow from the main body thereof, forming a gap through which the trains can pass. The snow, when separated and loosened by the knives E E and F, will, from the cohesion of the uncut and compact mass in front, be pressed backward and forced up the inclined plane A, and be retained thereon by the sides C C, and will continue to move along the wings B B until finally discharged from the same, and be delivered at a distance aforesaid, to cause no further trouble in operating the road.

It will be observed that the frog D, in addition to its capacity for lateral movement, has also a capacity for vertical movement—that is to say, it is hinged at its upper corner only by a double-hinged joint, *a b*, formed by a lug or ear-piece, *e*, pivoted to the point formed by the convergence of the inner guards *c' c'*. Upon this double pivot-joint the frog D is capable of being swung to either side to close either wing B, while, by means of a knuckle-hinge, *a'*, which joins the frog D to its lug *e* in advance of the pivot-joint *b*, the frog or tongue-piece can be turned back or thrown over vertically upon the rear inside guards, as shown in Fig. 3, and thereby put out of the way and open both side chutes or wings B B, for the passage of the snow out at the open ends of the wings.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The inclined plane A, with sides C C, in combination with the slotted guides H H and lifting-screws K K, as and for the purposes set forth.

2. In a snow-plow, the combination of the inclined plane A, diverging rear-discharging chutes B B, guards C C *c' c'*, and shifting-tongue D, substantially as and for the purpose set forth.

3. In a snow-plow, the combination of an inclined plane, A, diverging chutes B B, hinged vertically-reversible tongue D, and inner guards *c' c'*, whereby the tongue may be put out of the way for discharging the snow from both chutes, substantially as set forth.

4. In a snow-plow, the combination of an inclined plane, A, diverging chutes B B, and tongue D, hinged for both lateral and vertical movement, to close either chute or open both, substantially as and for the purpose set forth.

5. The combination of tongue D, double hinge-joint *a b*, and swiveling-lug *e*, as and for the purpose set forth.

JOHN DOMAN.

Witnesses:
WILLIAM GILL,
R. W. PARKINSON.