(No Model.)

W. S. BUIST.

RAILWAY SNOW PLOW.

No. 306,716. Patented Oct. 21, 1884.

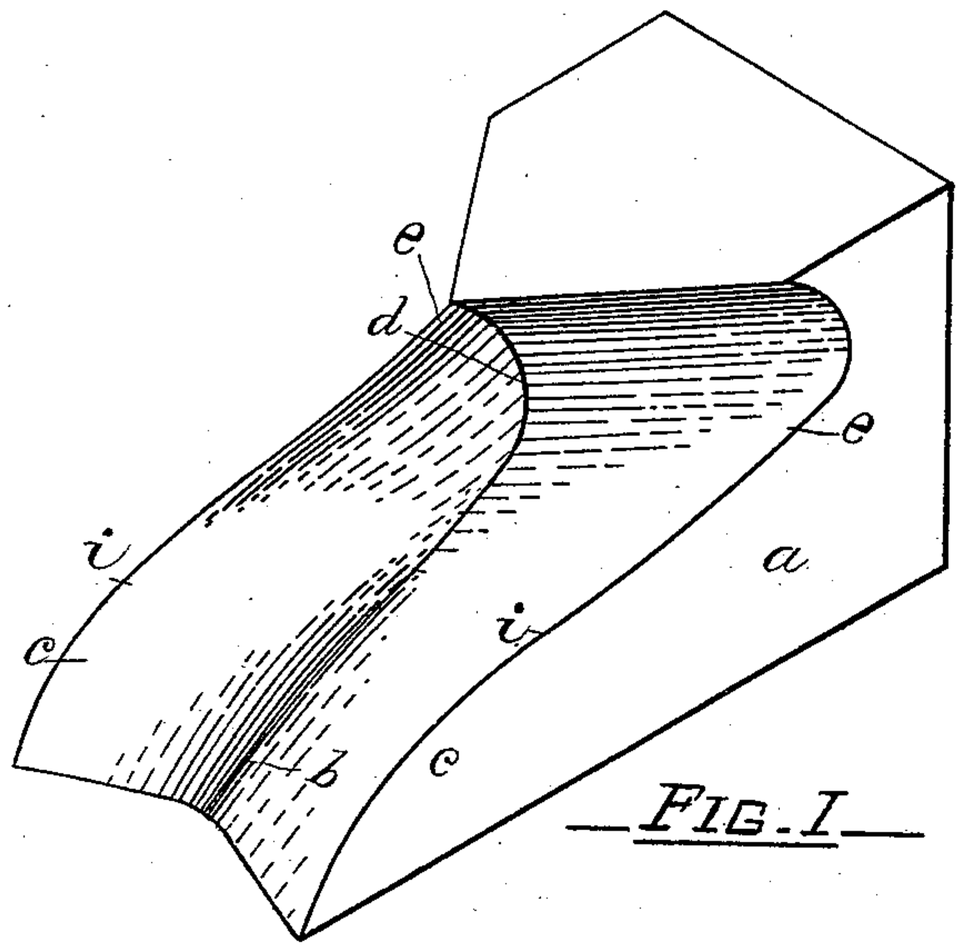

FIG. 1

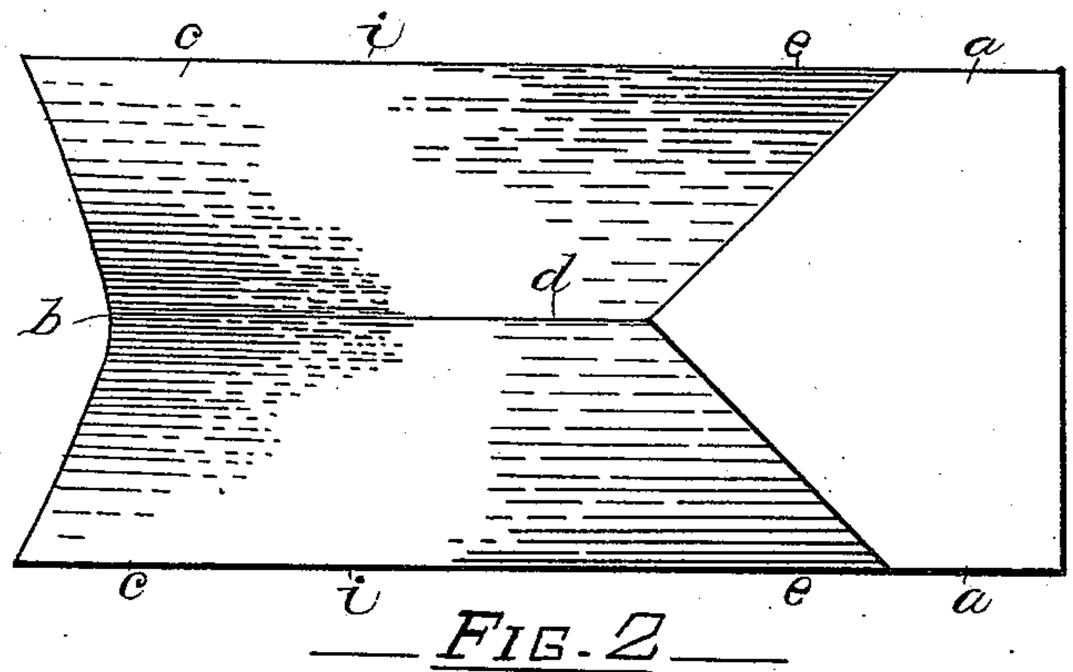

FIG. 2

Witnesses:
F. A. Harwood
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UNITED STATES PATENT OFFICE.

WILLIAM SCOTBURN BUIST, OF BOLTON VILLAGE, ONTARIO, CANADA.

RAILWAY SNOW-PLOW.

SPECIFICATION forming part of Letters Patent No. 306,716, dated October 21, 1884.

Application filed April 26, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SCOTBURN BUIST, of Bolton Village, in the county of Peel, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Railway Snow-Plows; and I do hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to railway snow-plows; and it consists, essentially, in the peculiar construction of the front or cutting portion of the plow, which, in plows hitherto used, has invariably been made substantially wedge-shaped, or having the central point of the cutting-edge much in advance of the front outer angles of the plow, the object, seemingly, being to divide the snow lying on the track centrally and throw it to each side; and it is found that with plows so constructed, when not running at a high rate of speed, the snow, not being lifted and thrown far enough away from the track, frequently falls back on the track and clogs the wheels of the engine or train. The effect of driving such plows through snow is to crowd and pack it in hard banks on each side of the track. This being repeated several times, and especially in deep drifts or cuttings, soon renders it impossible to clear the track with the plows alone. Hand-shoveling has to be resorted to, and delay of trains and serious loss are thereby occasioned. In running such plows through side drifts the pressure comes mainly on one side, and the plows are thereby sometimes thrown from the track. The object of my invention is to produce a plow that, instead of merely crowding the snow to either side, will first lift it directly from the track to a certain height and then throw it from the plow on each side. It is evident that being thrown from a height it will be farther removed from the track than could be done by pushing it sidewise from the rails.

In the annexed drawings, which form a part of this specification, Figure 1 is a perspective view of my improved plow, and Fig. 2 is a plan view.

It will be seen by reference to these drawings that my improved plow acts upon the snow somewhat in the manner of a scoop-shovel inclined upward from its front or cutting edge. The two sides *a a* of the plow are plain surfaces parallel to each other longitudinally. The lower portion of the face of the plow is made hollow, forming the trough *b*, and the junction of its edges with the sides *a* form the sharp cutting-edges *c c*, which neatly cut the snow and throw that which is to be lifted together in the trough *b*, whence it is forced upward by the advance of the plow against the snow until it reaches the upper part of the plow-front, where the character of the plow-front is reversed—that is to say, instead of being depressed, as at *b*, in the lower portion, the central part of the front is changed into the raised ridge or protruding and central dividing-edge, *d*, and the outer or side edges, *e*, depressed and receding. The molded front is produced upward and rearward until near the top of the plow, where it is curved over forward and toward each side, thus forming a kind of spout, through which the snow that was first gathered in the trough *b* is forced high over the adjacent banks. The front or cutting part being at least quite as wide as any subsequent part of the plow, precludes any difficulty in withdrawing the plow from a snow-bank, should such be found necessary.

On reference to Fig. 1 it will be noted that the outer cutting-edge, *i*, rises from the front of the plow with an upward curvature. This upward curvature continues to a point about midway of the length of the plow, where the curvature of the edge in the opposite direction commences. In other words, the forward portion of the edge is convex, while the rear portion is concave. In practice it is found that by means of this curvature I am enabled to give the upper surface a form which is peculiarly advantageous in causing the snow to roll or tumble first inward toward the center as it passes upon the front, and subsequently outward to the sides as it leaves the rear. The results secured by this peculiar curvature are far better than those which would be secured by a plow having a straight cutting-edge at the side from one end to the other.

I am aware that snow-plows have been made in a great variety of forms, and I do not claim, broadly, a plow having a concave forward end and a wedge-like rear end.

Having thus described my invention, what I claim, is—

1. The herein-described snow-plow, possessing the following characteristics: first, the parallel vertical sides *a;* second, the forward cutting-edge retreating from the sides toward the center; third, the front portion having the longitudinal or trough-like depression *b* at the center; fourth, the rear portion having the upwardly and forwardly curved cutting-edge *d* at the center, and corresponding curved faces, *e*, inclined backward from the cutting-edge to opposite sides, whereby the snow is first gathered and lifted upon the center of the plow and subsequently divided and delivered at its two sides.

2. The herein-described snow-plow, having the vertical side walls, the cutting-edge which retreats from the sides to the center, the concave forward surface, *b*, the upwardly and forwardly curved edge *d*, and the corresponding surfaces, *e*, extending thence backward to opposite sides of the plow, the cutting-edges *i* at the sides of the plow rising from the forward corners in upwardly-curved lines, and continuing thence to the rear in downwardly-curved lines, as shown.

Signed at Toronto, this 2d day of April, 1884.

WILLIAM SCOTBURN BUIST.

In presence of—

JOSEPH FEE,

JAS. HAVERSON.