A. S. ROBINSON.
Snow-Shovel.

No. 203,375. Patented May 7, 1878.

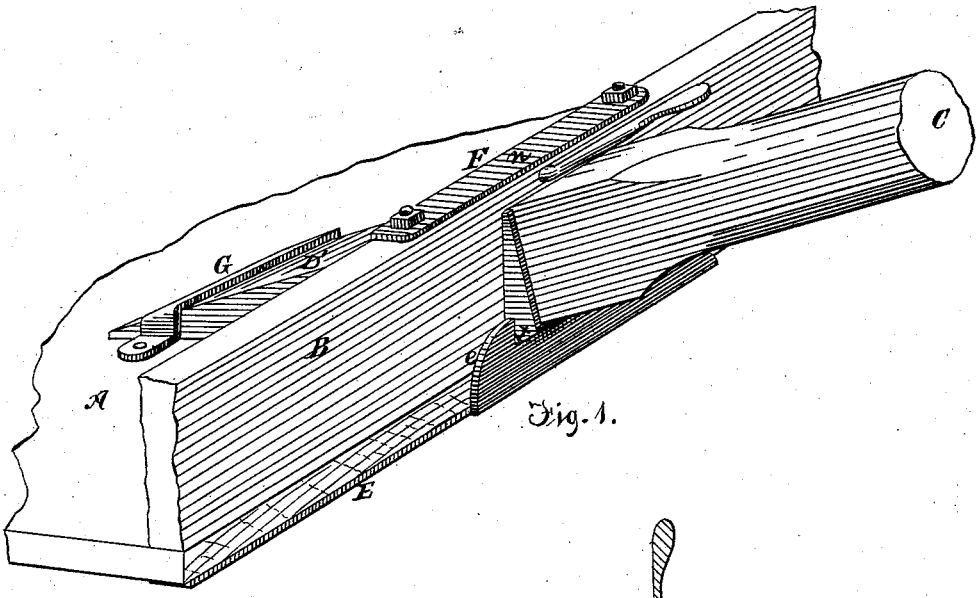

Fig. 1.

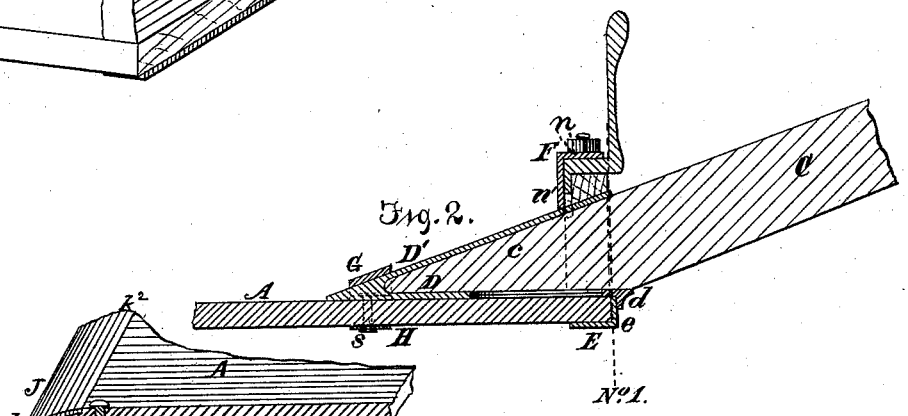

Fig. 2.

Fig. 4.

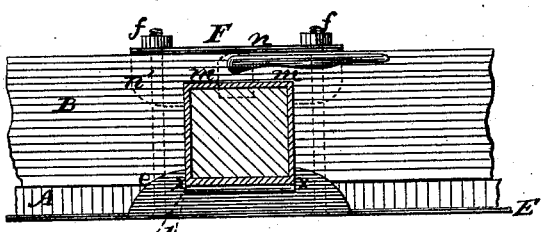

Fig. 3.

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Albert S. Robinson
by his Atty Alex. Selkirk
Inventor.

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

UNITED STATES PATENT OFFICE.

ALBERT S. ROBINSON, OF ALBANY, NEW YORK, ASSIGNOR OF ONE-HALF HIS RIGHT TO NELSON LYON, OF SAME PLACE.

IMPROVEMENT IN SNOW-SHOVELS.

Specification forming part of Letters Patent No. **203,375**, dated May 7, 1878; application filed February 28, 1878.

To all whom it may concern:

Be it known that I, ALBERT S. ROBINSON, of the city and county of Albany, and State of New York, have invented certain new and useful Improvements in Snow-Shovels, which improvements are fully set forth in the following specification and the accompanying drawings, in which—

Figure 1 represents a perspective view of a section of a snow-shovel and its handle, and illustrates the improvements in this invention. Fig. 2 is a sectional elevation of the same. Fig. 3 is a cross-sectional view, taken at line No. 1 in Fig. 2; and Fig. 4 is a perspective view of the front end of the shovel, illustrating its metallic edge.

My invention relates to certain improvements in snow-shovels having detachable handles; and consists of the combinations of devices, hereinafter more particularly described, which operate to produce a stronger and more firm connection of the detachable handle with the shovel-blade, and also render the shovel better adapted for operation with heavy or packed snow, or snow having a crusted or frozen surface.

In the drawings, A is the blade of the shovel, and B is the back-stop of the same. C is a detachable handle, having its end connecting with the blade made with a wedge-shape form, *c*, as shown in Fig. 2. The said wedge-shaped portion is covered with metal on both sides, upper and lower, and firmly secured to the wood by screws, rivets, or their equivalents. This metal covering of the upper and lower sides may be made of one continuous piece, D D′, as shown, or consists of two separate pieces, if so selected. Made with the rear end of the portion D is the stop or lip *d*, which prevents the handle from being crowded inward or forward on the blade. Secured to the lower side of the blade A, and to the rear margin of the same, is the metallic binding-strap E, provided with a vertical flange, *e*, having a notch, *x*, of a length equal to the width of the wedge-shaped portion of the handle, as shown in Fig. 3, which notch prevents the handle working at the back-stop in a lateral direction. Secured to the back-stop B is the angle-shaped binding-piece F, having its horizontal portion *n* of a width about equal to the thickness of the said back-stop, and a vertical portion, *n′*, extending downward on the front side of said back-stop, to meet the upper side of the base of the handle, as shown in Figs. 2 and 3. Made in the lower margin edge of the portion *n′* of the binding-piece F is the notch *m m*, (shown in Fig. 3,) which notch has an extension between its shoulders equal to the width of the base of the handle.

The binding-strap E and the binding-piece F are both secured in their respective places by bolts *f*, or rivets passing through them and the back-stop and blade, which firmly hold said pieces together. Being thus secured by bolts or rivets instead of by nails or screws, no amount of swelling or shrinking of the wood of the back-stop can in anywise affect an enlargement or contraction of the square opening for the base of the handle, between the notched metal portions *e* and *n*, surrounding and forming said opening.

Secured to the upper side of the blade A, so as to bear on the end of the base of the handle near its point, is the clip-strap G, which clip-strap is strengthened in its connection with the blade by the strap-washer H and rivets *s* binding both the said clip and washer in their places to the same.

The cutting-edge of the shovel-blade is made to consist of a socketed metallic strip, J, made with a rounded thickened edge, *k*, and with its lower side portion k^1 extending back from the bottom of the socket about an inch, more or less, and its upper side portion k^2 about one-half of an inch, more or less, so as to be sufficient to receive the tapering portion or end of the blade A, as shown in Fig. 4.

It may be readily seen that by the binding-pieces E and F, with their notched portions *e* and *n′*, the opening for receiving the base of the handle will, when said binding-pieces are secured in the manner described, be always of the same dimensions; and that when the upper and lower sides of the base of the handle are clamped between the plates D and D′, the original dimensions of the base of the handle will be at all times preserved the same,

and in correspondence with the opening for the same.

It is also evident that by the employment of the stop-lip *d*, made with the plate D, the base of the handle will be prevented from being crowded forward farther than originally intended, and that when operating with the shovel to cut through frozen snow or crusted snow any degree of force may be applied to the blade through the medium of the handle without injury to the shovel.

It also may be seen that the rounded edge of the metallic end piece will readily operate with the snow, and will not be in the least liable to injure the tinning of the roof of a building, as would a metallic cutting-edge made with a chisel or sharp form of cutting-edge; also, that the socket form of connection of the end of the wood blade with the metallic edge strip will be in all cases strong and durable, and at the same time be cheaply applied.

I do not claim shovels having a detachable handle; neither do I claim a detachable handle having its base provided with a chisel-point of metal, for such are well known.

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

1. In a snow-shovel provided with a detachable handle, the binding-strap E, provided with the notched vertical flange *e*, and the stop *d* secured to the base of the detachable handle, substantially as and for the purpose set forth.

2. In a snow-shovel having a detachable handle, the binding-strap E, having a notched vertical flange, *e*, in combination with the binding-piece F, having a notched vertical portion, *n'*, and the bolts *f f*, when all are arranged for operation in the manner described.

3. In a snow-shovel, the combination, with the blade A, having an opening for receiving a detachable handle formed by the notched vertical portion *e* of binding-strap E and notched vertical portion *n'* of binding-piece F, secured to the back-stop by bolts, of the handle having the metallic covering D D', and the stop *d*, substantially as and for the purpose set forth.

ALBERT S. ROBINSON.

Witnesses:

CHARLES H. VICTORY,

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