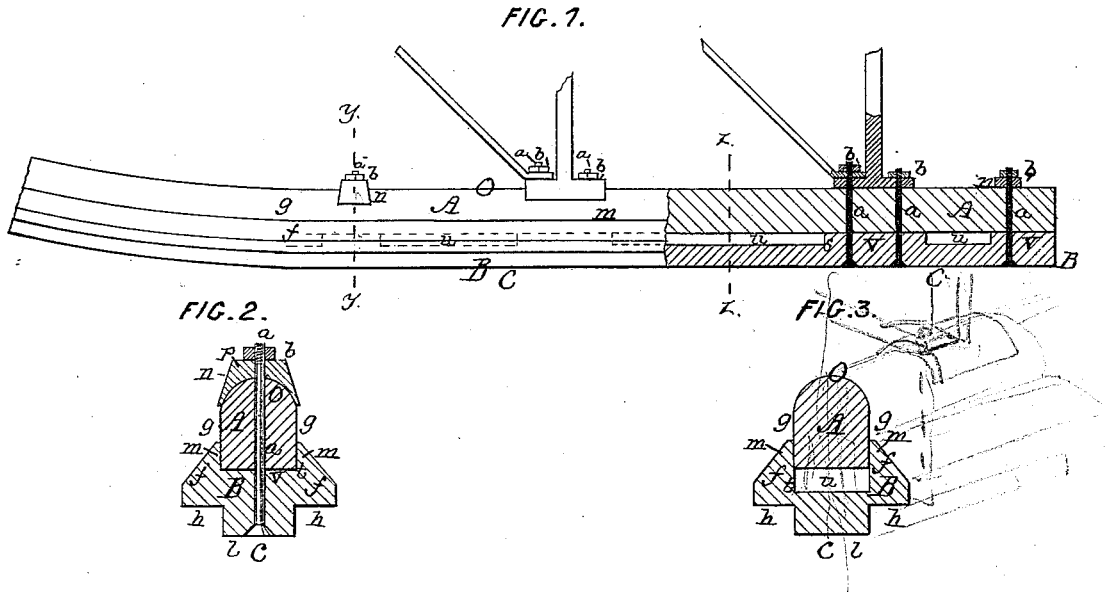


H. SMITH.
Runners for Sleighs.

No. 165,624.

Patented July 13, 1875.



WITNESSES.
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IMPROVEMENT IN RUNNERS FOR SLEIGHS.

Specification forming part of Letters Patent No. **165,624**, dated July 13, 1875; application filed April 22, 1875.

To all whom it may concern:

Be it known that I, HUGH SMITH, of Gray, county of Cumberland and State of Maine, have invented Improvements in Shoes for, and in the Attachment of Shoes to, Sleigh-Runners, of which the following is a specification:

This invention relates to certain improvements in sleigh-runners; and consists in combining, with the shoe and runner, blocks or washers, adapted to the convex face of said runner, and having flat upper faces, and all confined together by a bolt, as will hereinafter appear.

In the accompanying plate of drawings the present invention is illustrated, Figure 1 being a view along the length of a sleigh-runner and its shoe, and partially in elevation and in longitudinal section; Figs. 2 and 3, vertical cross-sections, respectively, in lines *x x* and *y y*.

In the drawings, A represents a sleigh-runner; B, its shoe; and *a*, screw-bolts; and *b* screw-nuts, by which the shoe is fastened to the runners. The bolts *a* pass through the thickness of both the runner and shoe, and otherwise are constructed and applied as ordinarily in the manufacture of sleighs. The runner-shoe B in its running-face C is broader than the face of the runner to which it is secured. The shoe B, in its width, projects equally beyond the sides of the runner, and such projecting portions *f* are beveled or rounded off, as shown, toward the side faces *g* of the runner. By a widened running-face, C, to the runner-shoes B, obviously the runners in use are not so liable to embed or sink into the snow, and by the described rounding or beveling off of the shoes B, obviously they are the more perfectly adapted for use. The running-face C may be of the full width of the shoe, or, which is preferable, narrowed as to its running-surface proper, this form preventing the embedment or sinking of the runners by the portions *b* of the shoe beyond the running-surface proper *l*. The runner-shoe, in its face or side, in contact with the runner, is grooved along its length, as shown in Figs. 1, 2, and 3, to receive the runner by its width, and thus to overlap it upon each side by the wall or boundary *m* of each side of the groove. Ob-

viously this overlap of the shoe at the sides of the runner prevents lateral or cross strain upon the fastening-bolts *a*, and the same effect, obviously, will be secured by reversing the overlap of the two parts—runner and shoe—as shown in Fig. 5, in which case either bolts may be used as ordinarily, or a clip, as shown in such figure. *n*, a block or washer.

In the drawings, two blocks *n* are shown. These blocks *n* (see Fig. 2) set over and fit the convex or rounded upper face *o* of the runner, and above the runner the blocks *n* have a flat face, *p*, for the seat of the screw-nut *b* to a screw-bolt, *a*, used to fasten the shoe to the runner, the bolt *a* passing through the block. The blocks *n* manifestly enable the runner to be finished from end to end of a rounded or convex form, and thus obviate the necessity of finishing the runner off with square seats at points of its length to receive the screw-nuts *b* of screw-bolts *a*. The bottom *s* of groove *t* of the runner-shoe is formed with recesses *u* along its length, between the bearings *v* of the runner upon the shoe, at which bearings *v* the bolts *a* pass through the runner and the shoe. These recesses *u* obviously save expense and trouble in the finish of the shoe, as, without them, all roughness, as to the bottom face *s*, would have to be removed, or otherwise the runner, in bolting the shoe to it, would be unduly strained. The runner-shoe is to be made of cast-iron or of cast-steel, and, if the former, the running-face is to be chilled.

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

1. In combination with the shoe C and runner A, the blocks *n*, adapted to the convex face of said runner, and having a flat face, *p*, all confined together by the bolt, substantially as described.

2. The supplemental shoe C, having projections *f* and groove *u*, substantially as and for the object specified.

The above specification of my invention signed by me this 17th day of June, A. D. 1873.

HUGH SMITH.

Witnesses:

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