(No Model.)

C. H. EMERSON.

METALLIC SHOE FOR TOBOGGANS.

No. 353,547. Patented Nov. 30, 1886.

Fig. 1.

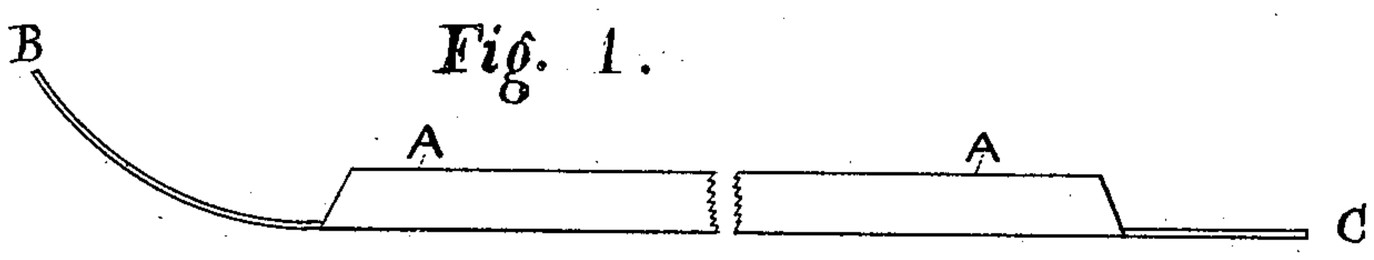


Fig. 2.

Fig. 3.

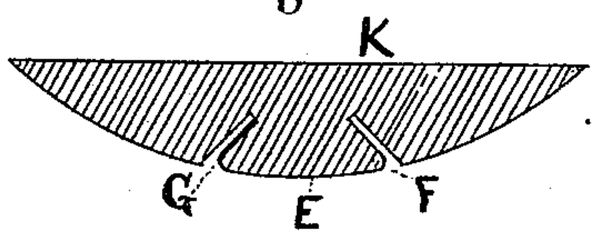
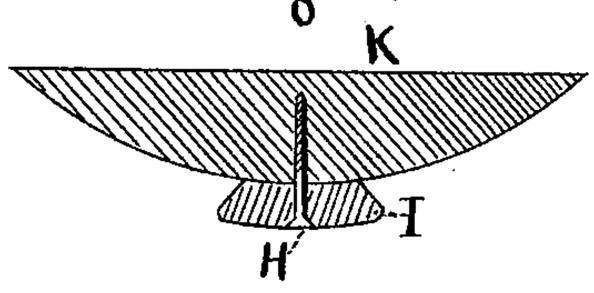


Fig. 4.



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UNITED STATES PATENT OFFICE.

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METALLIC SHOE FOR TOBOGGANS.

SPECIFICATION forming part of Letters Patent No. 353,547, dated November 30, 1886.

Application filed May 28, 1886. Serial No. 203,507. (No model.)

To all whom it may concern:

Be it known that I, CHARLES H. EMERSON, a citizen of the United States, residing at Yonkers, in the county of Westchester and State of New York, have invented certain new and useful Improvements in Metal Shoes or Runners for Toboggans and Coasting-Sleds, of which the following is a specification, reference being had to the accompanying drawings, forming part thereof.

The objects of my invention are, first, to provide a light flexible metal shoe of thinner material than is practicable where screws, bolts, or rivets are used as heretofore; second, to protect the edges of the shoe against abrasive and retarding contact with ice or snow; and, third, a ready means of fastening the shoe without the use of such fastening devices as screws, bolts, or rivets anywhere through its bearing-surface. I attain these objects by the devices illustrated in the accompanying drawings, in which—

Figure 1 is a longitudinal side view of the shoe; Fig. 2, a cross-section of the shoe; Fig. 3, a cross-section of a slat of a toboggan or runner, showing grooves into which portions of the shoe are drawn; Fig. 4, a cross-section of a toboggan-slat or sled-runner, showing another way of fastening the shoe by means of a piece of wood fastened to the bottom of the toboggan or sled to hold the shoe in place.

My flexible shoe is provided with flanges throughout its length, as shown at A and D, they being turned upwardly in any suitable manner so as to enable them to snugly embrace portions of the wood which overlie the shoe when applied to the slat or a runner of a coasting-sled or a toboggan, and thus enable said shoe to be properly confined in position without the aid of screws, bolts, or rivets at or adjacent to any part of its bearing-face.

In Fig. 3 I show in section a slat or runner which is provided with longitudinal grooves G G, which are inclined toward each other laterally throughout the whole length of the straight portion of the runner, and the flanges A and D snugly occupy said grooves, and thus cause the portion E of said runner to be firmly embraced by the shoe. The front end, B, of said shoe is not flanged, thus providing for its being more readily bent or curved upwardly to conform to the outline of the usual front or head of a slat or runner, to which the shoe is fastened at its upper end in any suitable manner. The rear end of the shoe is here shown as having a tail-piece, C, without flanges, although the latter may be extended fully to the rear end, if desired. In applying the shoe to a slat or runner thus grooved the flanges of the shoe at one end thereof are carefully inserted into said grooves at their ends, and then the shoe is either drawn forward or the runner forced longitudinally until they occupy their proper relative positions.

The shoe may be fastened by the use of the piece I, Fig. 4, which is itself fastened against the bottom of the toboggan in any suitable way, in this case by the screw H, using as many of these pieces as the length of the toboggan may require; or one continuous piece may be used shaped so as to be embraced by the flanges of the shoe. The piece of metal may be wide enough to cover the whole under surface of the slat or runner and have its edges turned inwardly and down upon the upper surface of the slat to hold it in place; or the piece I may be covered by the steel or metal at one operation, as when drawn through a die, and then secured by means of screws from the upper side.

I prefer the grooves F and G, first, because this method securely protects both sides of the turned-up edges of a light thin shoe, with the least additional weight, against abrasive and retarding contact with the ice or snow, and prevents any foreign substance from working between the shoe and the wood, which would be liable to wedge them apart and cause humps and irregularities of surface, which would quickly happen with thin shoes if put on in the old way and secured by screws, rivets, or bolts passing through the face of the shoe; and, second, because the turned-up edges being firmly held on both sides by the sides of the grooves extra or additional stiffness is imparted to a thin shoe without materially impairing the desired flexibility of slat or runner.

I prefer steel shoes, though any suitable metal sufficiently flexible and hard may be used.

I use three of these shoes to each toboggan—one at each side and one in the middle of the

bearing-surface or bottom of the toboggan—though two only may be used with very good results.

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

1. The combination, with the wooden slat or runner in a coasting-sled or toboggan, of a flexible metal shoe flanged at its edges and snugly embracing overlying portions of the wood throughout the length of the shoe, substantially as described, whereby the main or bearing portion of said shoe is confined in position on the slat or runner without the aid of screws, bolts, or rivets at any point throughout the bearing of the shoe.

2. The combination of a wooden slat or runner provided with longitudinal grooves on its under surface and a flexible metal shoe having upwardly-turned flanges which occupy said grooves, substantially as described.

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Witnesses:

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