T. J. FIELD & I. SIMLEY.

NON-SKID METAL SLEIGH RUNNER.

APPLICATION FILED APR. 17, 1914.

1,108,160.

Patented Aug. 25, 1914.

Fig. 3.

Fig. 4.

Fig. 5.

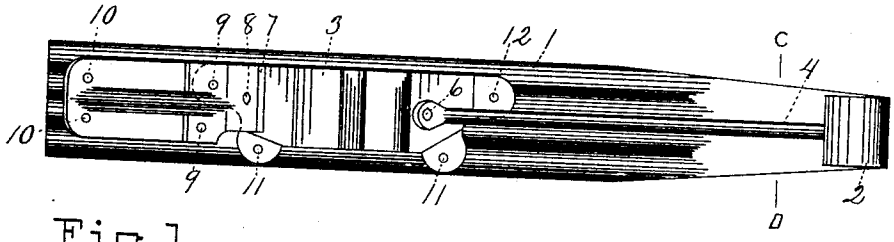

Fig. 1.

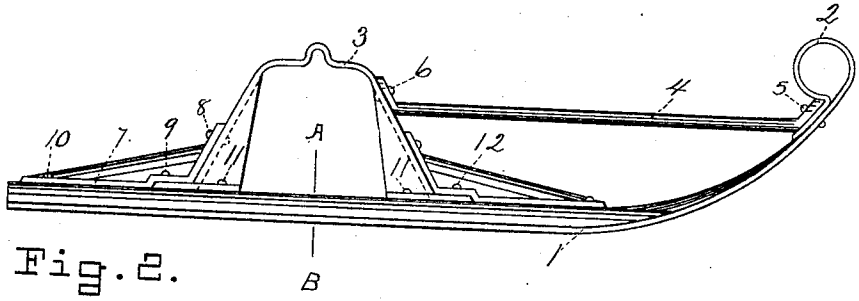

Fig. 2.

WITNESSES.

W. W. French

Frances French

INVENTORS

IVER SIMLEY

THOS. J. FIELD

BY Charles Albert French

THEIR ATTORNEY

UNITED STATES PATENT OFFICE.

THOMAS J. FIELD AND IVER SIMLEY, OF BLACK EARTH, WISCONSIN.

NON-SKID METAL SLEIGH-RUNNER.

1,108,160. Specification of Letters Patent. Patented Aug. 25, 1914.

Application filed April 17, 1914. Serial No. 832,620.

To all whom it may concern:

Be it known that we, THOMAS J. FIELD and IVER SIMLEY, citizens of the United States, residing at Black Earth, in the county of Dane and State of Wisconsin, have invented certain new and useful Improvements in Non-Skid Metal Sleigh-Runners, of which the following is a specification.

Our invention relates to combined sleigh runners and shoes constructed of metal; and the objects of our invention are, first, to provide a form of shoe that will collect and pack the snow, thus improving the road; second, to construct a shoe that will be equal in strength and much lighter in weight than the common wooden runner and cast iron shoe; third, to present a broad surface to a soft road and a series of narrow bearings to a hard road thereby reducing the draft on the team; and, fourth, to prevent the runner from skidding by means of the corrugated bottom.

We attain these objects by the mechanism illustrated in the accompanying drawing in which—

Figure 1, is a plan, Fig. 2, a side elevation, Fig. 3, an elevation of one form of the shoe, Fig. 4, is a vertical section on line A—B, and Fig. 5, is a section on line C—D.

Similar numerals refer to similar parts throughout the several views.

The runner 1, the knee 3, the draft rod 4, the reinforcing plate 7, and the necessary rivets constitute our device. The runner 1, is formed from a plate of metal turned backward upon itself on the front end forming the eye 2, adapted to receive one end of the cross bar of a sleigh tongue, thence curving downward and backward with the center curved upward presenting a concave surface to the snow to a point near the tread of the runner, the outer edges of which are turned downward and the central portion corrugated presenting a series of parallel ridges extending to the rear end, thereby supporting the load on narrow surfaces on ice or a hard road bed and a wide continuous tread on soft snow. It is obvious that a runner thus constructed cannot skid under any condition of the road and also that as it adapts itself to all conditions of the same it will be of very light draft. On the top of the said runner, a distance back of its longitudinal center is disposed a metal knee 3, secured to the same by rivets 9 and 12. The said knee being formed of sheet metal, the end plates converging toward the top and turned on the outer edges toward the center forming side braces which are secured to the runner by the rivets 11, the top having a transverse rib to which the bolster or beam can be secured in any convenient manner. On the front side of the said knee adjacent the top is disposed the rear end of draft rod 4, secured to the same by the rivet 6. Said draft rod extending forward to the runner and secured thereto by the rivet 5. To the rear side of the knee and extending backward along the top of the runner is disposed the reinforcing plate 7, attached to the knee by rivet 8, to the knee and runner by rivets 9, and to the runner adjacent its rear end by the rivets 10. The aforesaid plate 7, can be attached to the front side of the knee and secured to the runner if desired.

Having thus described our invention what we claim as new and our own and desire to protect by the issue of Letters Patent therefor, is—

A metal sleigh runner comprising an eye or socket at the front end thereof, a concave downwardly curving nose, a corrugated bottom or tread with the outer edges turned downward presenting substantially vertical outer edges to the road bed, in combination with a knee mounted on said runner, a draft rod extending from said knee to the front end of said runner, a plate connecting the rear side of said knee to the rear end of said runner, a plate connecting the front side of said knee to said runner, rivets or means for securing together the several members as described.

In testimony whereof we affix our signatures in the presence of two subscribing witnesses.

THOMAS J. FIELD.
IVER SIMLEY.

Witnesses:
V. CLARK,
U. D. WOOD.