

(No Model.)

T. G. MANDT.
SLED RUNNER.

No. 470,248.

Patented Mar. 8, 1892.

Fig. 1.

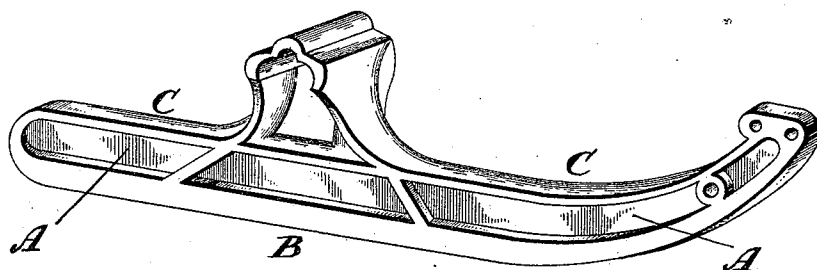


Fig. 2.

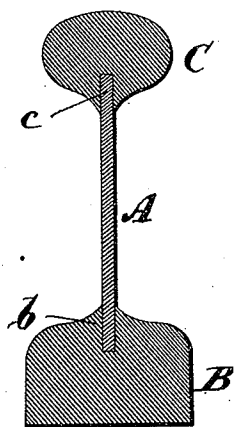
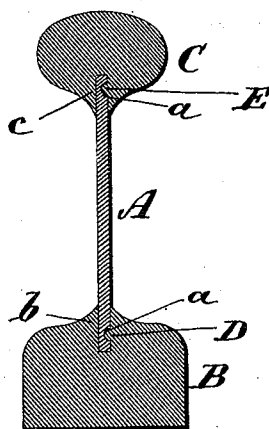


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

TARGE G. MANDT, OF STOUGHTON WISCONSIN.

SLED-RUNNER.

SPECIFICATION forming part of Letters Patent No. 470,248, dated March 8, 1892.

Application filed July 11, 1891. Serial No. 399,172. (No model.)

To all whom it may concern:

Be it known that I, TARGE G. MANDT, a citizen of the United States, and a resident of Stoughton, in the county of Dane and State of Wisconsin, have invented certain new and useful Improvements in Sled-Runners; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my improved runner. Fig. 2 is an enlarged cross-section of the same, and Fig. 3 is a cross-section illustrating a slightly-modified construction.

Like letters of reference denote corresponding parts in all the figures.

This invention relates to metal runners for sleds and sleighs of all kinds in contradistinction to runners made of wood or of wood and metal combined; and it has for its object to construct a metallic runner which shall be simple of construction, efficient and durable in use, light in weight, and comparatively inexpensive of production.

With these objects in view my invention consists in the compound metallic runner, hereinafter more fully described and claimed.

My improved runner consists, essentially, of three parts—viz., a central plate or web A of wrought-iron, a shoe B of cast-iron, and a top flange or head C, also of cast-iron. The web A is simply a plate of wrought-iron cut and shaped to conform to the shape of the runner, after which it is carefully cleaned all around the edge to remove all traces of grease and oxidation by treatment with muriatic acid in the usual way. It is then placed in a suitably-constructed mold and the cast-iron is poured so as to embed the edge or rim of the wrought-iron web on all sides, as shown at *b* and *c*. By this process a continuous flange or shoulder is cast upon and around the central wrought-iron web, the under side of which forms the shoe B, while the upper part forms the reinforcing top flange or head C in one continuous piece with the shoe or bottom flange and merging into the

same at both ends. As the molten cast-iron solidifies, it will shrink around the central web, so as to hug the same closely on all sides and bind firmly against the embedded edges *b* and *c*, thus forming a compound all-metal runner comprising the central flat web or body A of wrought-iron and cast-iron shoe B, integral and continuous with the head or top flange C. If desired, the web A may be grooved longitudinally near and parallel to its two edges, as shown at *a*, forming channels or recesses on one or both sides of the web, into which the molten cast-iron will flow during the process of casting on the shoe and top flange, the ribs D and E thus formed by the cast-iron operating to hold the shoe and top flange firmly upon the web. If the shoe or top flange should accidentally become broken, this will prevent the broken parts from becoming dislocated or separated from the web A, so that the runner, even though the shoe be snapped or broken, will work practically as well as a new and intact runner.

Having thus described my invention, I do not claim, broadly, a metallic runner having a cast-iron shoe; but what I claim as my improvement, and desire to secure by Letters Patent of the United States, is—

1. As an improved article of manufacture, a sled-runner comprising a central web or body A of wrought-iron having cast upon and around it a flange of cast-iron, embedding the rim of the central web and forming the bottom part or shoe B, and continuous integral head or top flange C, substantially as and for the purpose set forth.

2. A sled-runner comprising a central flat web or plate A of wrought-iron having grooves or channels *a a*, in combination with a continuous flange B C of cast-iron cast upon and around the central plate and shaped to form the flat-bottomed shoe B, and head or reinforcing top flange C, substantially as and for the purpose set forth.

In testimony that I claim the foregoing as my own I have hereunto affixed my signature in presence of two witnesses.

TARGE G. MANDT.

Witnesses:

AUGUST PETERSON,
BENNETT S. JONES.