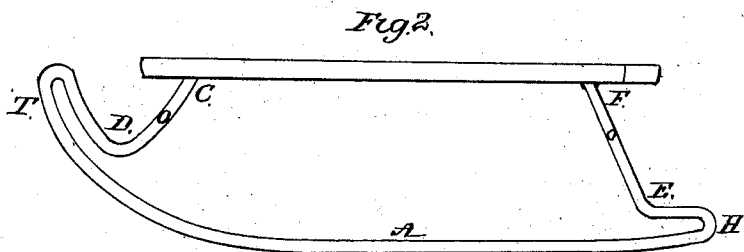
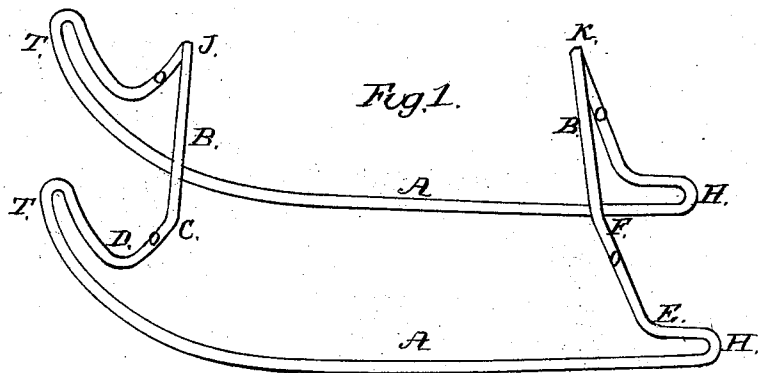
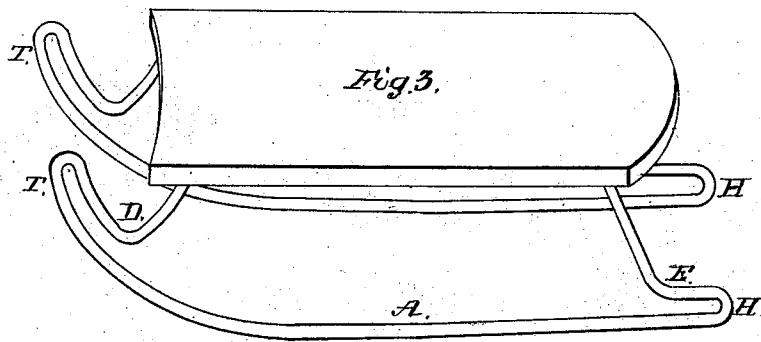


J. M. SPOONER.

Sleigh.

Patented June 14, 1859.

No. 24,412



WITNESSES;

Edw. Killam
J. M. Spooner

INVENTOR;

John M. Spooner

UNITED STATES PATENT OFFICE.

JOHN M. SPOONER, OF SPRINGFIELD, MASSACHUSETTS.

SLED-RUNNER.

Specification of Letters Patent No. 24,412, dated June 14, 1859.

To all whom it may concern:

Be it known that I, JOHN M. SPOONER, of the city of Springfield, in the county of Hampden and State of Massachusetts, have
5 invented a new and Improved Mode of Constructing the Running Parts of Sleds and Sleighs, whereby I effect a great economy in the labor of construction and secure a greater degree of durability, with the im-
10 portant qualities of elasticity, beauty, simplicity, and cheapness; and I do hereby declare that the following is a full, clear, and exact description of the construction of the same, reference being had to the annexed
15 drawings, making a part of this specification, in which—

Figure 1 is a perspective view; Fig. 2 is a side elevation; Fig. 3 is a perspective view showing a sled complete.

20 The same letters refer to like parts in each of the different figures.

A marks that part called the runner.

B is the bearer; T, the toe, or forward part of the runner; H, the heel or rear part
25 of the runner.

To construct the sled as here represented I procure a rod of suitable size and of sufficient length. It may be either iron or
30 steel, and having determined on a point to commence at, say near B, Fig. 1, in the forward bearer, I first make the bend shown at C at a distance from one end of my rod somewhat less than the width my sled is to
35 be when done; next, make the bend at D; then the toe of the runner is bent as at T. I now bend my rod to the proper curve for the forward part of the runner, as shown in the figures and laying off so much
40 of my rod as is necessary to make the part A, and the whole runner of a proper length, I make the heel of the runner by giving the rod the bend shown at H. I now make the bend at E, and then that at F. Having
45 proceeded thus far I now determine on a width for the sled, and lay off a distance

equal to that width, on my rod from the last bend F, and make the bend at K to correspond with that at F. I have now only to continue making corresponding
50 bends at distances corresponding with those already made until by the last bend at J I bring the two ends of my rod to coincide in the forward bearer near B the point started from. Any surplus length there
55 may be of the rod may now be cut off, and the two ends welded or otherwise united. If we now add a piece of board we shall have the sled as shown in Fig. 3.

For a sleigh the process is the same, the size of the rod being varied to a suitable
60 dimension for the work intended; and a sleigh top may be made fast upon the bearers B B in the same manner as in a common sleigh.

The process may be varied from that
65 above described by beginning at any other point, so as to make the junction of the two ends of the rod wherever it may be desired. It is also evident that the bending
70 of the rod may be almost indefinitely varied to suit the fancy of the maker, and I do not confine myself to a definite form or bend in the same. It is also evident that
75 other metals than iron and steel might be used; so also the rods may be of various shapes, round, flattened, oval, &c., and I do not limit myself in any of these particulars.

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

Making both of the runners and the bearers of a sled or sleigh or other similar vehicle of one continuous piece or rod of steel or other metal, substantially as herein set
85 forth.

JOHN M. SPOONER.

Signed in presence of—

C. A. WINCHESTER,

ELKANAH BARTON.