

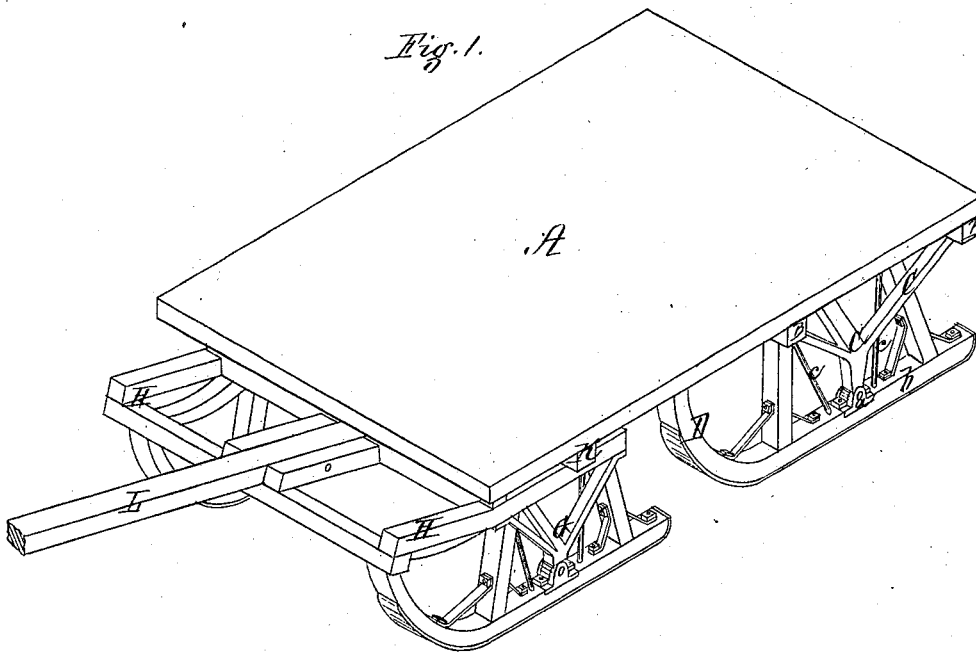
S. S. SPEAR

Sleigh.

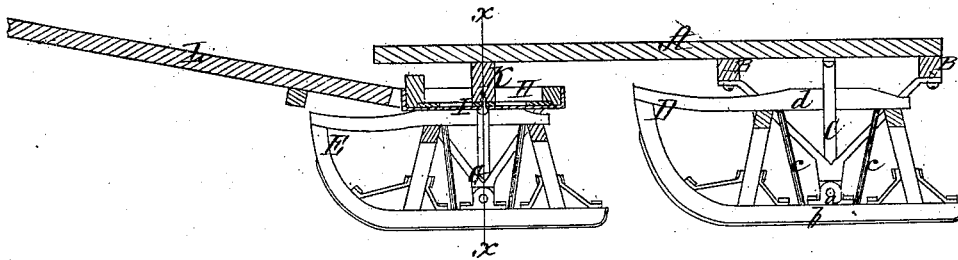
No. 109,682.

Patented Nov. 29, 1870.

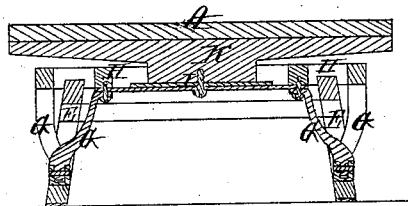
*Fig. 1.*



*Fig. 2.*



*Fig. 3.*



Witnesses,  
*B. E. Schumacher*  
*H. J. Cambridge*

Inventor,  
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# United States Patent Office.

SAMUEL S. SPEAR, OF SOUTH WEYMOUTH, MASSACHUSETTS.

Letters Patent No. 109,682, dated November 29, 1870.

## IMPROVEMENT IN SLEIGHS.

The Schedule referred to in these Letters Patent and making part of the same.

### *To all whom it may concern :*

Be it known that I, SAMUEL S. SPEAR, of South Weymouth, in the county of Norfolk and State of Massachusetts, have invented certain Improvements in Sleighs, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing making part of this specification, in which—

Figure 1 is a perspective view of a platform of a sleigh with its runners secured thereto according to my invention.

Figure 2 is a longitudinal section through the center of the same.

Figure 3 is a transverse section on the line *x x* of fig. 2.

My present invention relates to that class of sleighs having two pairs of runners.

The runners of such sleighs have heretofore been connected with the body by pivoting the upper rails thereto, the point of connection being about three-fifths of the length of the runner back of its forward end, to avoid the tendency of the point of the runner to pitch down into the snow.

When, however, the surface of the road is uneven, or an obstruction is encountered, this arrangement is not sufficient to enable the runners to easily pass thereover; furthermore, when the sleigh is backed, the heel of the runner will pitch down and enter the snow.

The first part of my invention has for its object to overcome these difficulties, and consists in connecting the runners with the body or its independent frame by means of pivots at or near the lower rails of the runners, whereby the draft is applied close to the point of resistance, and the runners are caused to slide easily over the surface without pitching forward or back and entering the snow.

Again, in this class of sleighs, the draft-pole or shafts have heretofore been attached directly to the forward pair of runners, which was objectionable, for the reason that the pitching motion of the runners would be imparted to the pole or shafts, and consequently the neck of the horse be subjected to irregular strain; and, furthermore, the "cross-bar" would frequently be brought so low as to be struck by the horse's heels.

To overcome these objections is the purpose of the second portion of my invention, which consists in attaching the pole or shafts to an independent frame, to which the forward runners are pivoted, in order to prevent the motion of the latter being communicated to the pole or shafts, and consequently ad-

mits of hitching the horse nearer the load than heretofore.

To enable others skilled in the art to understand and use my invention, I will proceed to describe the manner in which I have carried it out.

In the said drawing—

A represents the body or platform of a sleigh, to the underside of which, and to cross-pieces B B are secured the upper ends of tripedal braces C, to the lower ends of which are pivoted plates *a a*, secured to the lower rails *b b* of the rear pair of runners D, by which construction the draft is applied close to the point of resistance, instead of at a point considerably above it, as heretofore, and the tendency of the runners to pitch down and enter the snow is avoided, and the load can be more easily drawn than heretofore.

This construction also admits of the use of high and short runners, which are preferable where the snow is deep, and in turning the sleigh around, as were the draft applied to the top of a pair of runners of considerable height in proportion to their length, they would rock or tip to such an extent as to render it difficult to draw the load.

*c c* are braces extending from the upper rails *d d* to the lower rails *b b*, the lower ends of these braces being turned up so as to pass under and up through the plates *a a*, where they are secured by screw-nuts, the object of these braces being to prevent the lower rails *b b* from bending when their forward or rear ends are raised, so as to leave their centers unsupported by the snow.

The forward pair of runners E is of similar construction to those D, and is pivoted to tripedal braces G, (similar to those, C,) which, instead of being secured directly to the under side of the body or platform and its cross-pieces, are secured to a frame, H, which swivels on a circular plate, I, secured to the under side of a cross-piece, K, upon which the forward end of the platform rests.

L is the draft-pole, which (or a pair of shafts) is secured to the frame H.

The object of this frame is to allow the front pair of runners E to rock without raising or lowering the pole or shafts, thus relieving the neck of the horse, and preventing the liability of the cross-bar being brought so low as to be struck by the horse's heels.

### *Claims.*

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

1. In the runners of a sleigh, pivoted to its body,

or to an independent frame connected therewith by means of tripodal braces C, substantially in the manner and for the purpose set forth.

2. The independent frame H, to which the pole or shafts are secured, in combination with a pair of runners pivoted to the frame H, the whole arranged and operating substantially as and for the purpose described.

3. In combination with a pair of runners pivoted

as described, the braces c c, as and for the purpose set forth.

Witness my hand this 22d day of October, 1870.

S. S. SPEAR.

Witnesses:

N. W. STEARNS,

W. J. CAMBRIDGE.