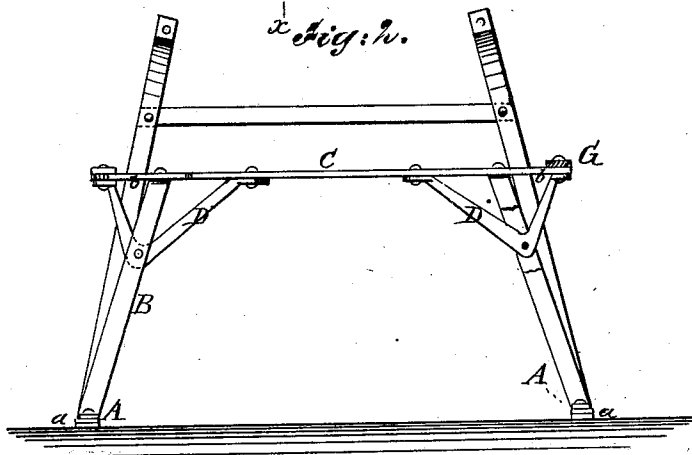
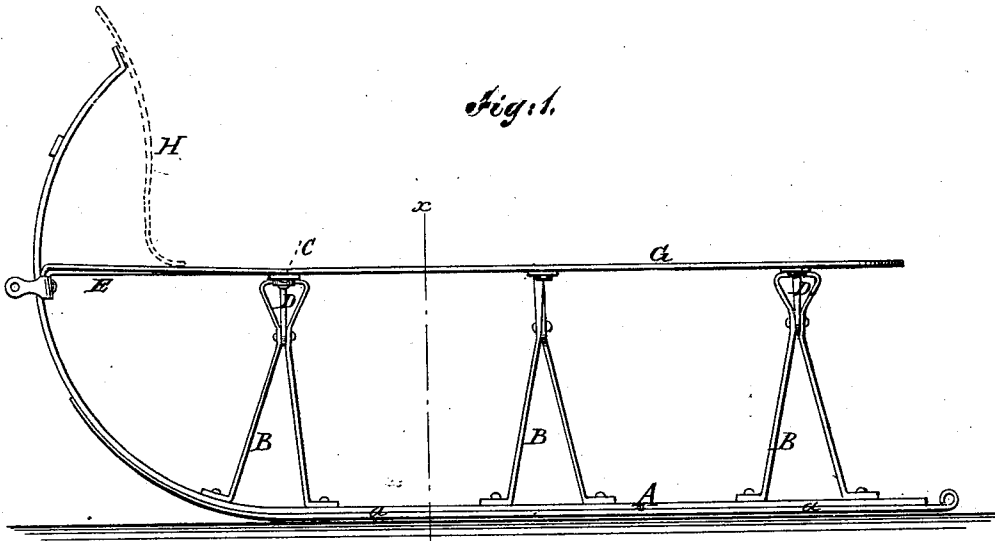


T. BROWN.

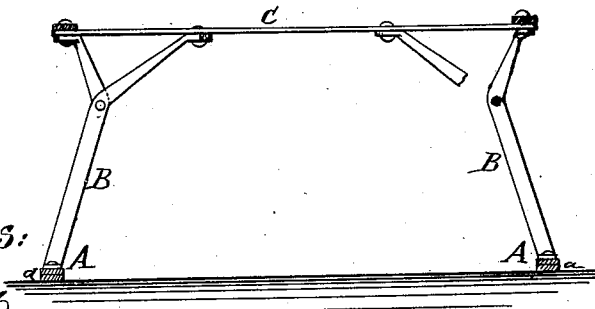
Sleigh.

No. 167,739.

Patented Sept. 14, 1875.



*Fig. 3.*



Witnesses:

*H. C. Mattenber*  
*Chas. Kida*

Inventor:

*Thomas Brown*  
*Per [Signature]*  
*Atty.*

# UNITED STATES PATENT OFFICE.

THOMAS BROWN, OF FOREST LAKE, PENNSYLVANIA.

## IMPROVEMENT IN SLEIGHS.

Specification forming part of Letters Patent No. **167,739**, dated September 14, 1875; application filed May 3, 1875.

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

Be it known that I, THOMAS BROWN, of Forest Lake, in the county of Susquehanna and State of Pennsylvania, have invented a new and useful Improvement in Sleighs; and that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

This invention is in the nature of an improvement in the construction of sleighs, &c.; and the invention consists in a sleigh with the running-gear thereof constructed of spring-steel, in the manner hereinafter described.

In the accompanying sheet of drawings, Figure 1 is a side view of my invention. Fig. 2 is an end view, and Fig. 3 a cross-section of same in line *x x*, Fig. 1.

Similar letters of reference indicate like parts in the several figures.

A represents the runners of a sleigh. These runners are constructed of spring-steel, which is bent to the required curve in front, and to the under side of the runner is riveted or otherwise suitably affixed a steel shoe or iron, *a*. To the upper surface of the runner A are secured, by rivets or in any desirable manner, braces B. These braces are likewise constructed of spring-steel, and are formed in pairs. The lower end of each brace is turned or bent at right angles, forming lugs or flanges, which bear on the upper surface of the runner, and to which they are secured. The braces thence extend upward, drawing nearly together near their upper end, and again spreading at their upper end, where they are joined together, thus forming a bearing for the cross-braces, each brace being formed of one piece of steel bent at the top, and spreading outward into two legs, as shown in Figs. 1 and 2. Extending across from one brace to the other are cross bars or brace C. These cross-bars are likewise made of spring-steel, and are riveted to the head of each brace, the ends of the cross-braces projecting beyond each brace at *b*. Secured to this projecting end *b* of the brace C is a brace, D, which passes between the legs of the braces B, to which it is riveted, and thence to the braces C, forming a **V**-shaped brace, the apex of the

**V** being, as before stated, secured between the legs of the braces B, and the ends of the arms of the same being riveted to the braces C, as above mentioned. The braces B incline inward from bottom to top, as shown in Fig. 1. The runners A, curving upward, are braced at a point in the curves by diagonal braces E, which extend from the front cross-brace C to the curve of the runners, where they are suitably riveted. These braces are likewise made of spring-steel. Secured to each projecting arm *b* of the braces C is a guard, G. These guards are likewise made of spring-steel, one end of each guard being affixed to the runners, and the rear end of the guards being curved, as shown in Fig. 1.

The running-gear being thus constructed, the body of the sleigh is bolted directly to the cross beams or braces C and to the rear curved ends of the guards G, the end of the curved portion of the runners being secured to the dash-board H of the sleigh.

Instead of making the braces B of one strip of steel, they may be made of two separate pieces, their lower ends being affixed to the runners, as before stated, and their upper ends spreading into braces corresponding with the **V**-shaped braces, before mentioned.

A sleigh constructed with the running part thereof of spring-steel, and braced substantially as above described, will be found not only light, but strong, and of such elasticity as to make the ordinary inequalities of the road scarcely perceptible to the occupant of the sleigh when in use.

I am aware that the running-gear of sleighs has been made of steel, and I do not desire to claim this broadly. I am also aware that steel braces, extending in an arch from runner to runner, are not new, and I disclaim this.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The herein-described running-gear for sleighs, composed of the spring-steel runners A, braces B C D, and guards G, constructed, combined, and arranged as shown.

THOS. BROWN.

Witnesses:

J. W. CHAPMAN,  
DAVID SUMMERS.