

A. GUNDERSON.  
BOB SLED.  
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1,011,615.

Patented Dec. 12, 1911.

Fig. 1.

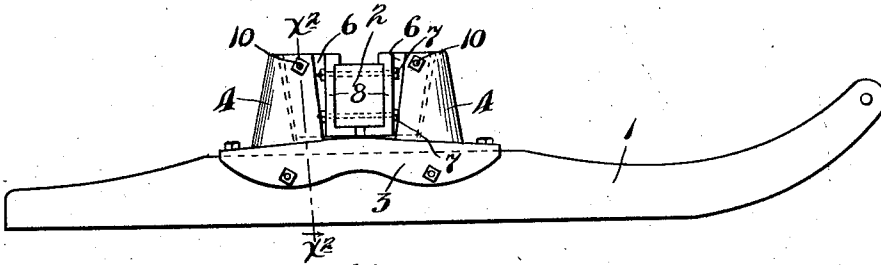


Fig. 2.

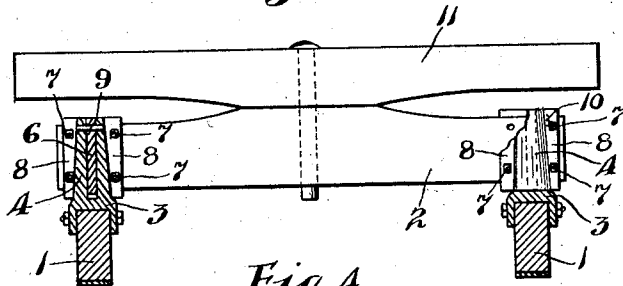


Fig. 4.

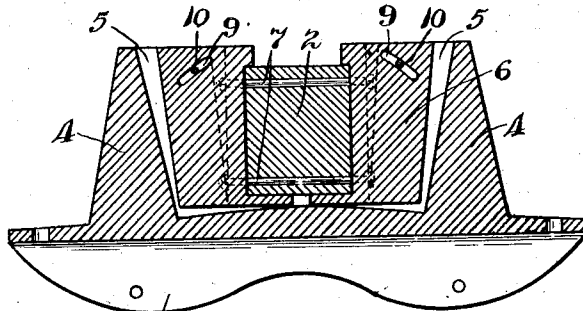
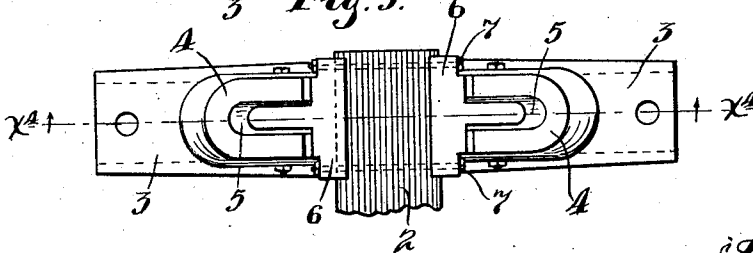


Fig. 3.



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# UNITED STATES PATENT OFFICE.

AUGUST GUNDERSON, OF MOOSE LAKE, MINNESOTA.

BOB-SLED.

1,011,615.

Specification of Letters Patent.

Patented Dec. 12, 1911.

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*To all whom it may concern:*

Be it known that I, AUGUST GUNDERSON, a citizen of the United States, residing at Moose Lake, in the county of Carlton and State of Minnesota, have invented certain new and useful Improvements in Bob-Sleds; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to bobsleds and is in the nature of an improvement on the construction disclosed and claimed in my prior Letters Patent of the United States No. 908,661, issued of date, January 5th, 1909, entitled Bob-sled.

In my present invention, I provide a divided casting, the two members of which are laterally spaced apart and embrace the end of the crosstree and are rigidly but adjustably secured thereto by means of horizontally extended nutted bolts passed through the two members of the casting and through the embraced end of the crosstree. In my prior above identified patent, the half-yoke castings rest one upon the other thus preventing any adjustment, and the ends of the crosstree had to be made of exact size in order to fit between the half-yoke castings, and furthermore, would shrink and become loose. In practice, I have found it necessary to provide means for adjustably securing the castings to the cross tree in order to take up the wear and shrinkage of the crosstree.

The invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

In the accompanying drawings which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a side elevation of a bobsled constructed in accordance with my invention with some parts removed; Fig. 2 is a cross section on the line  $x^2 x^2$  of Fig. 1 with some parts broken away and other parts shown in elevation; Fig. 3 is a plan view of the castings which connect the crosstree with one of the sled runners, with a crosstree in working position, but the sled runner removed; and Fig. 4 is a longi-

tudinal section principally on the line  $x^4 x^4$  of Fig. 3.

The numeral 1 represents the runners, and the numeral 2 the crosstree of the kind in general use on bobsleds.

The numerals 3, 4, and 5 represent parts of the main casting, of which parts 3 and 4 are adapted to seat the sled runner 1 and permit the same to be rigidly secured thereto by bolts passed through the vertical flanges 4 and the body portion 3 of said casting, and the parts 5 constitute open faced hollow standards rising from the body portion 3, suitably spaced apart from each other.

The numeral 6 represents a pair of castings preferably, as shown, constructed in the form of half-yokes of duplicate formation horizontally spaced apart, as shown in the drawings, are adapted to embrace and seat the ends of the crosstree 2 and are rigidly and adjustably secured thereto by means of long horizontally extended nutted bolts passed through vertical flanges 8 projecting from the sides of the half-yokes 6 and through the embraced end of the crosstree 2. The half-yokes 6 are each provided with a tenon 8 which is adapted to work between the walls of the open faced guide standards 5.

The under or bearing surface of each half-yoke casting 6 is made flat and the portion of the main or base casting 3 on which the same is seated, between the standards 5, is made slightly crowning or convex so as to permit an oscillating or rocking motion of the sled runners in respect to the crosstree and its supporting yokes. The faces of the standards 5 flare apart from each other in the vertical plane, or incline upward and outward, while the outer vertical sides of the yoke castings 6 are of reversely similar form or incline downward and inward, thereby preserving the guiding action of these parts under the rocking motion of the runners in respect to the crosstree and its supporting yokes. Near the upper end of each member 6 of the yoke castings is provided a slot 9 through which extend a bolt or pin 10 seated in the standards 5, with said parts so related as to permit the cross tree yokes to have the desired rocking motion. Hence, the slot and pin connections between

the crosstree yokes and the standards constitute retaining devices which prevent the crosstree and its yokes from being bounced out of its proper working position in respect  
5 to the standards 5.

The bolster 11 is swiveled to the crosstree 2 by a king pin in the usual way.

The advantages of the above described castings for connecting the runners and the  
10 crosstree of a bobsled is that as the crosstree wears away or shrinks, the castings 6 may, from time to time, be adjusted thereon by means of the horizontally extended adjusting bolts. And these bolts are so located as  
15 to be very easily reached by means of a wrench for the purpose of adjusting the same without removing or disconnecting any of the several parts of the bobsled. By the use of said castings, the wooden cross-  
20 tree 2 is at all times firmly held while all of the jars and strains are taken on metallic surfaces afforded by said castings. Moreover, with the use of these castings it is extremely easy to substitute a new crosstree in  
25 case of breakage.

What I claim is:

1. The combination with a pair of sled  
runners, and a crosstree, of horizontally  
30 spaced half yoke castings embracing the ends of said crosstree and having guide tenons, said half yokes being of duplicate formation, nutted bolts adjustably securing said half yoke castings to said crosstree, and  
35 main castings adapted to seat and hold said runners and provided with open faced hol-

low standards between which said half yokes are seated with their tenons working between the walls of said standards, the bearing surfaces of said main castings between said standards being crowned to permit oscillating movement of the crosstree with respect to the runners, substantially as described.

2. The combination with a pair of sled  
45 runners, and a crosstree, of horizontally spaced half yoke castings embracing the ends of said crosstree and having guide tenons and flat lower ends, said half yokes being of duplicate formation, nutted bolts adjustably securing said half yoke castings to  
50 said crosstree, main castings adapted to seat and hold said runners and provided with open faced hollow standards between which said half yokes are seated with their tenons working between the walls of said stand-  
55 ards, and slot and bolt connections independently and loosely interlocking each of said yoke castings to said standards with freedom for rocking movement, the bearing surfaces of said main castings between said  
60 standards being crowned to permit oscillating movement of the crosstree with respect to the runners, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

AUGUST GUNDERSON.

Witnesses:

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S. SWANSON.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."