

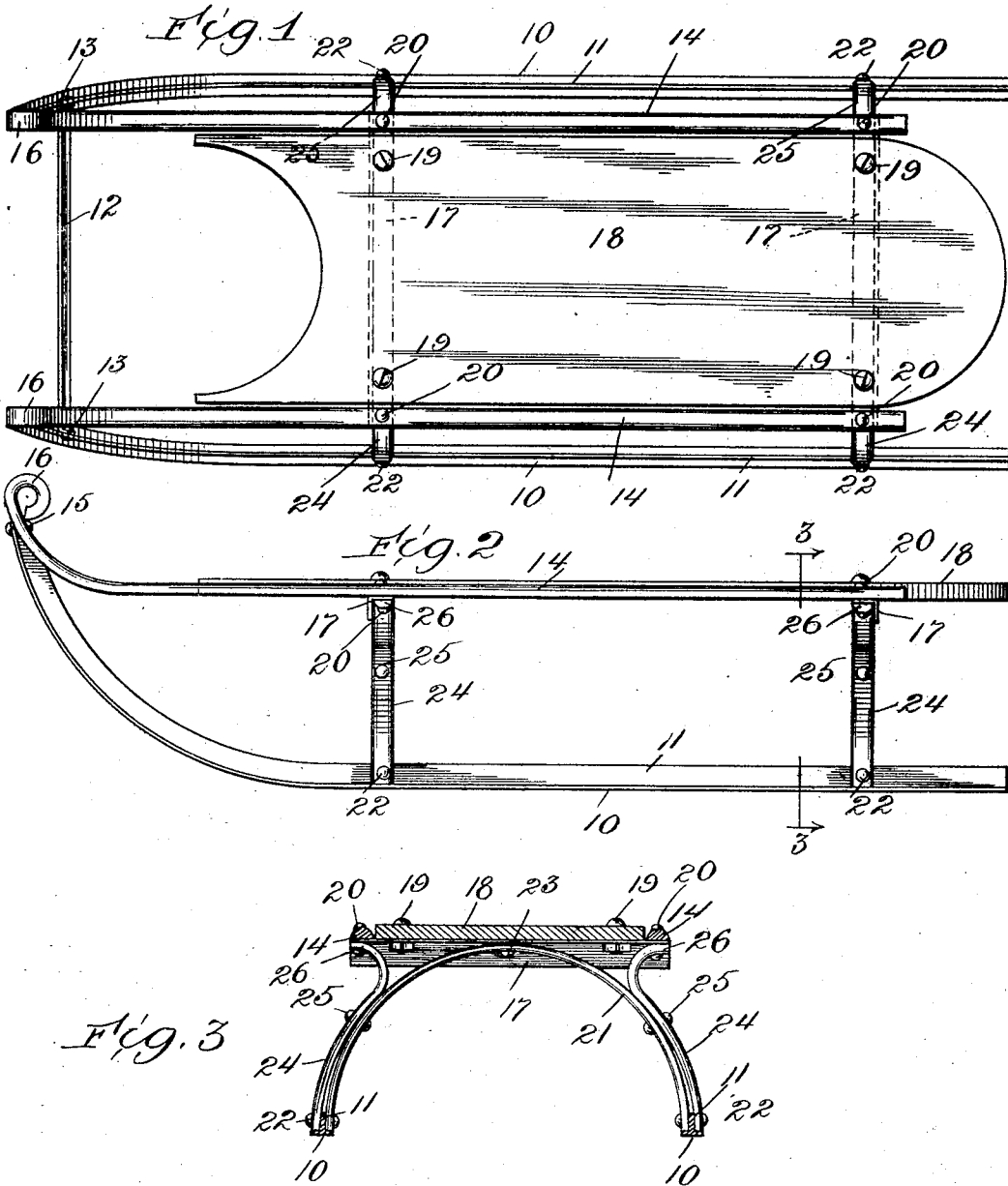
No. 763,521.

PATENTED JUNE 28, 1904.

H. W. TOUSEY.  
SLED.

APPLICATION FILED FEB. 1, 1904.

NO MODEL



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## SLED.

SPECIFICATION forming part of Letters Patent No. 763,521, dated June 28, 1904.

Application filed February 1, 1904. Serial No. 191,406. (No model.)

*To all whom it may concern:*

Be it known that I, HOWARD W. TOUSEY, a citizen of the United States, residing at Niles, in the county of Berrien and State of Michigan, have invented certain new and useful Improvements in Sleds, of which the following is a specification.

This invention relates to improvements in that type of sled in which the entire frame, comprising the runners, "reefs" or fenders, benches, and knees or braces, is made of metal, as iron or steel.

The object of the invention is to provide a sled of this character which shall be exceedingly strong and rigid in order to withstand the severe usage to which sleds are subjected and yet which shall be comparatively light.

In carrying out the invention the runners are made of metallic bars or strips T-shaped in cross-section, and the cross-strips or benches which support the top of the sled are made of strips or plates of angle-iron substantially L-shaped in cross-section. The reefs or fenders are preferably of light metallic strips, and the braces or knees arch the space between the runners and support the benches and are secured at opposite ends to the inner faces of the upstanding ribs of the T-shaped runners and are also secured to the benches. Associated with the main braces are supplemental braces, which are secured to the outer faces of the runner-ribs opposite the adjacent ends of the main braces, and such supplemental braces are also secured to the ends of the benches or supports for the top of the sled.

The invention consists of the combination and arrangement of parts hereinafter particularly described, particularly designated in the claim, and illustrated in the accompanying drawings, in which—

Figure 1 is a plan view of a sled constructed in accordance with my invention. Fig. 2 is a side elevation of the same, and Fig. 3 is a section on the line 3 3 of Fig. 2 looking in the direction of the arrow.

The runners 10, which may be of any suitable length, depending on the size of the sled, are made of inverted-T-shaped iron or steel strips or bars, providing an upstanding rib

11, to which the braces are secured, as hereinafter described. The front ends of the runners 10 are curved upwardly in the usual manner and are connected at the front or bow of the sled by a cross-piece or foot-rod 12 through the medium of end lugs or flanges 13, which are riveted or otherwise fixed to the adjacent faces of the ribs 11 of the runners, as shown in Fig. 1. This construction provides a simple and strong attachment for the foot-bar 12 with the runners and insures a rigid connection for the front end of the runners, so as to prevent spreading or collapsing of the same at this point.

The reefs or fenders 14 may be made of strips or straps of iron or steel and at their front ends curve or are bent upwardly to the ends of the runners 11, which extend above the top of the sled and are preferably shaped to provide seats for the reefs, as shown in Fig. 2. Rivets 15 or other devices may be employed for fastening the front ends of the reefs to the runners, and the reefs beyond the points of attachment with the runners may be bent backwardly into loops or eyes 16 to provide means for attaching the rope or other connection for drawing the sled. The reefs are of any convenient length and are preferably formed with their upper faces rounded or partially oval to add to the attractiveness of the sled and also to avoid sharp edges or corners.

The reefs 14 are connected by the cross-bars or benches 17, which support the top of the sled. These benches are desirably approximately L-shaped in cross-section and are secured by rivets 20 or otherwise through the horizontal flanges thereof to the under faces of the reefs, the other flanges of the benches depending, as shown in Fig. 2. Any suitable or convenient number of the benches 17 may be employed, depending on the length of the sled or other conditions. In the present embodiment of the invention two of such benches are shown.

One of the important features of the invention relates to the braces for the runners, reefs, and benches. Such braces comprise main braces, one of which is associated with

each bench, and supplemental braces associated with the ends or sides of the main brace. The construction and arrangement employed are particularly illustrated in Fig. 3. As there shown, each main brace 21 is arch-shaped to more effectually resist the strains placed thereon and is preferably bowed upwardly. These braces are made of strips or straps of preferably iron or steel, and the ends of such braces are secured by rivets 22 or fixed in other preferred manner to the inner faces of the vertical ribs of the runners. The top of each brace extends adjacent to the bench 17 with which it is associated and is secured to the lateral flange of the latter by a rivet or bolt 23. At each end or side of the main brace is a supplemental brace 24. These supplemental braces may be made of the same material as the main braces, but have their outer faces rounded or oval shaped in the same manner and for the same reasons as the reefs. Each supplemental brace 24 is secured to the outer face of the rib to which the adjacent end of its associated brace 21 is attached and at a point opposite thereto. Preferably a common fastening means, as the rivet 22, is employed for securing the ends of the brace 21 and supplemental brace 24 to the runner. The supplemental braces are bent to conform to the curve or inclination of the main braces 21 and are fastened, as by rivets 25, to the latter braces, and the upper ends of the supplemental braces 24 are bent or curved outwardly and terminate in horizontal ends 26, providing seats or rests for the ends of the benches 17, which are fastened to the ends 26 by the rivets that secure the benches 17 to the reefs.

By the construction described an exceedingly strong and rigid frame is provided effectually bracing the different members of the frame. The arrangement of the main

and supplemental braces secure the runners against lateral movement in either direction. This avoids spreading of the runners as well as compression thereof. Moreover, the manner of securing the braces to the benches provides a rigid support for the top of the sled, and the angle-iron benches stiffen the reefs and prevent the latter from being crushed inwardly.

While I have described the invention in connection with a sled, it will be obvious that it is equally applicable to sleighs, to which it may be adapted without modification except as regards change in proportion.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

In a sled, the combination with the T-shaped runners, the reefs and the L-shaped angle-iron benches, of the arching metallic main braces having the ends attached to the inner faces of the ribs of the runners and intermediate the ends to the horizontal flanges of the benches, supplemental braces associated with the ends of the benches and main braces and having their lower ends fastened to the outer faces of the ribs of the runners by rivets common to the main braces and extending upwardly and conforming to the curvature of the main braces and having their upper ends bent outwardly to provide horizontal seats for the ends of the benches, the reefs being carried by the ends of the benches, and common fastening means for securing the reefs and adjacent ends of the supplemental braces to the benches.

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

HOWARD W. TOUSEY.

Witnesses:

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