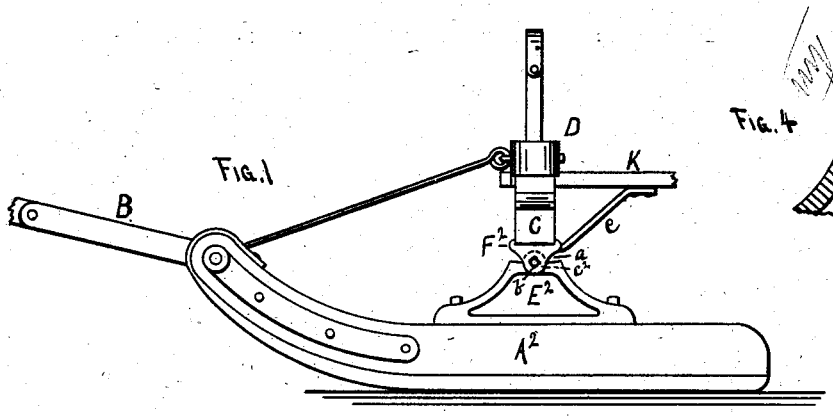
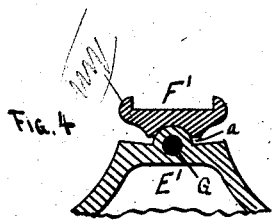
(No Model.)

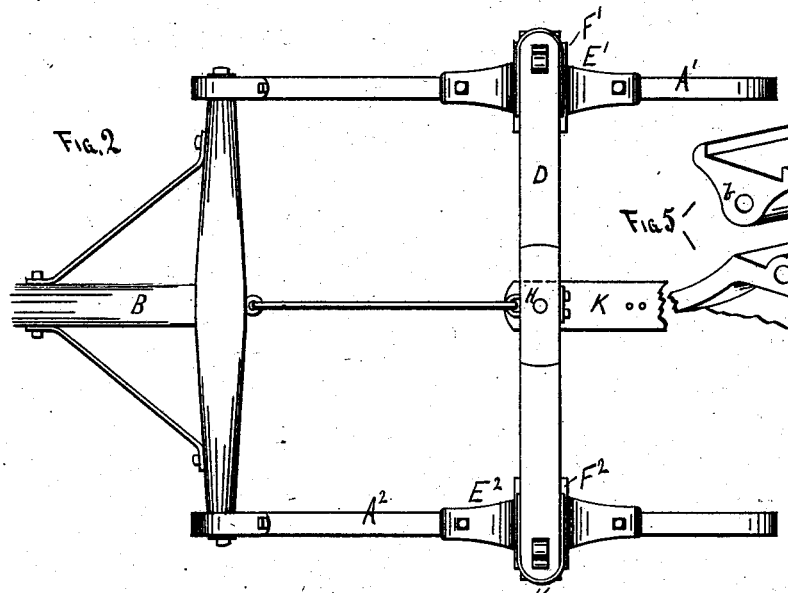
J. ERNSTER & W. GARDT.

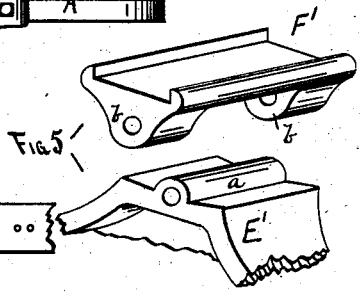
SLED KNEE.

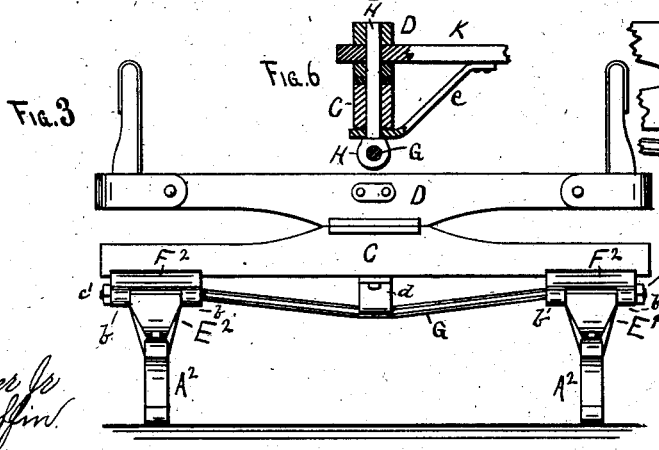
No. 260,010. Patented June 27, 1882.

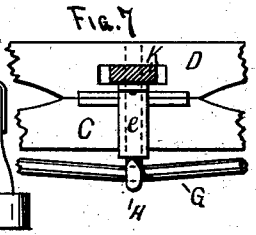












Witnesses,
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Inventor, By
Louis Feeser Bro.
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UNITED STATES PATENT OFFICE.

JOHN ERNSTER AND WILLIAM GARDT, OF LAKEVILLE, MINNESOTA.

SLED-KNEE.

SPECIFICATION forming part of Letters Patent No. 260,010, dated June 27, 1882.

Application filed October 29, 1881. (No model.)

To all whom it may concern:

Be it known that we, JOHN ERNSTER, a citizen of the United States, and WILLIAM GARDT, a subject of the Emperor of Germany, both being residents of Lakeville, in the county of Dakota and State of Minnesota, have jointly invented certain new and useful Improvements in Swivel Sled-Knees, of which the following is a specification.

This invention relates to that class of sleds in which the knees are formed with swivel-joints between them and the bolsters or "bunk" timbers to permit the runners to have a certain degree of flexibility in running over uneven surfaces; and the invention consists in the manner of constructing the knees and plates, so that one single bolt may be used as a pivot for the two opposite knees of each pair of runners, and also in utilizing said pivot-rod as a "truss-brace" to support and strengthen the "bunk-timber" or bolster, as hereinafter set forth. We attain these objects by the use of the mechanism illustrated by the accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is a plan view, and Fig. 3 is a rear elevation. Fig. 4 is an enlarged cross-section of the joint portion of the knee, detached; Fig. 5, a detached perspective view of the cap and a portion of the knee, enlarged; Figs. 6 and 7, detached detail views, showing manner of attaching a reach to the sled.

A′ A^2 are the runners, B the tongue, C the bunk-timber, and D the bolster, all constructed in the ordinary manner.

E′ E^2 are two standards, bolted to the runners A′ A^2, and provided on their upper surfaces with semicircular ribs *a* at right angles to the runners, and having holes through their centers; and F′ F^2 are caps having concave under surfaces adapted to fit over the convex ribs *a*, and provided with lugs *b*, projecting down over the ends of the ribs and holes corresponding to the holes through said ribs. All the holes in both sets of knees and lugs are in line, so that one bolt or rod G may be passed through them, and thus one bolt serves as a pivot for both knees. By this arrangement the two opposite knees of each set of runners are not only firmly held together, but one bolt G does duty as pivot for both, so that by simply removing the nuts c' c^2 the bolt may be withdrawn and the runners disconnected. This is a very important feature of my invention, as it greatly simplifies the construction of the sled and permits them to be readily disconnected for shipment or repairs.

The rod G also serves as a stay-rod to keep the runners from spreading, and assists the bunk-timber or bolster in holding the runners in place. The rod G may also be utilized as a truss-brace to support the bunk or bolster by inserting a small block, *d*, between it and the bunk or bolster, as shown in Fig. 3, which greatly adds to the strength of the bunk without increasing the weight or expense, except by the use of the block *d*. The whole downward pressure comes upon the rib *a*, the bolt G receiving no strain from that source. Hence little or no wear comes upon the bolt G. Consequently it is not liable to become broken, while, the wear upon the rib being distributed over so large a surface, the friction will affect the parts but very little.

The king-bolt H may be constructed without a head, and arranged to have the rod G pass through it, as shown in Figs. 6 and 7, the king-bolt thus taking the place of the block *d*, and the brace *e* of the reach *k* may also be held by the king-bolt passing through its lower end.

What I claim as new is—

The combination of plates F′ F^2, bunk C, rod G, and supporting-block *d*, interposed between the bunk and rod and bearing against the latter, whereby the rod is caused to act as a truss-brace, as and for the purpose specified.

In testimony whereof we have hereunto set our hands in the presence of two subscribing witnesses.

JOHN ERNSTER.
WILLIAM GARDT.

Witnesses:
D. H. HULLET,
D. C. JOHNSON.