

(No Model.)

J. BELLINGER.
SLEIGH.

No. 555,555.

Patented Mar. 3, 1896.

Fig. 1.

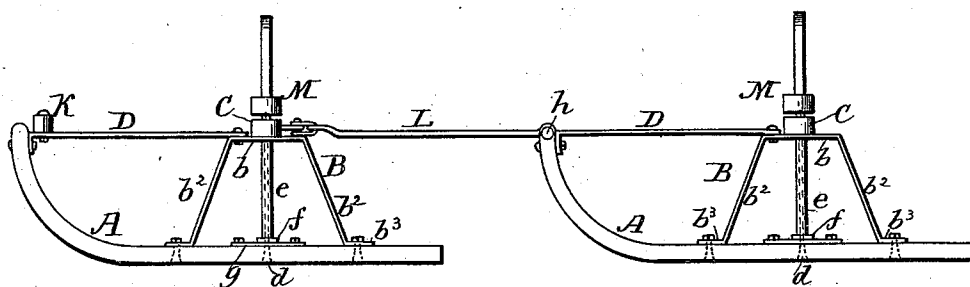


Fig. 2.

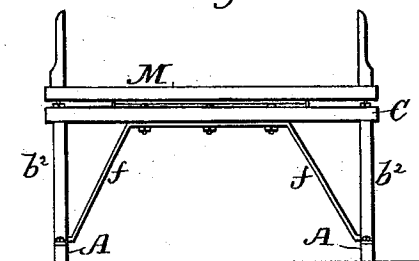


Fig. 3.

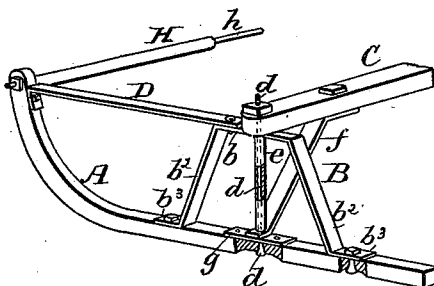


Fig. 4.

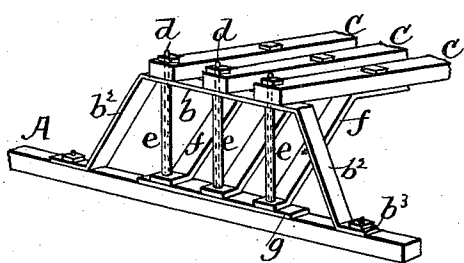
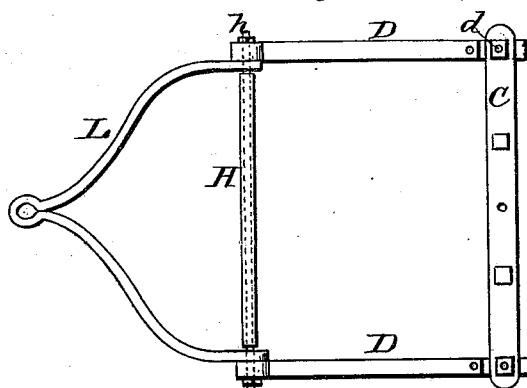


Fig. 5.



WITNESSES

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UNITED STATES PATENT OFFICE.

JOHN BELLINGER, OF ST. CLOUD, MINNESOTA.

SLEIGH.

SPECIFICATION forming part of Letters Patent No. 555,555, dated March 3, 1896.

Application filed September 27, 1895. Serial No. 563,838. (No model.)

To all whom it may concern:

Be it known that I, JOHN BELLINGER, a citizen of the United States, residing at St. Cloud, in the county of Stearns, State of Minnesota, have invented certain new and useful Improvements in Sleighs, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to improvements in bob sleds or sleighs, and more particularly to the construction of the knees that connect the runners to the sleigh-body or the cross-beam thereof.

The objects of my invention are to provide strong but inexpensive knees of wrought metal, the joints of which will slightly yield when either one of the runners strikes an obstruction, the parts being also easily disconnected when desired to ship the sleigh in "knockdown" form. I attain these objects by the construction illustrated in the accompanying drawings, in which—

Figure 1 is a side view of a sleigh constructed in accordance with my invention. Fig. 2 is a rear view of the same. Fig. 3 is a perspective view of one side of the rear sleigh, the tubular sleeve of the main knee-bolt and a portion of the runner being in section to clearly show said knee-bolt. Fig. 4 is a perspective view of a modified knee carrying three transverse beams secured thereto and to the runner by bolts through wrought-metal tubes in accordance with my invention. Fig. 5 is a top view of the front portion of the rear sleigh.

In said drawings, A indicates the runners, which are curved upward at the front. Upon each runner is mounted a knee B, which consists of a flat bar of iron, the central portion, *b*, of which is about one-third of its length and is retained in a horizontal position, and the adjacent portions *b*², that are inclined in divergent directions to properly support and brace fore and aft said central portion. The lower ends of the portions *b*² are bent horizontally to constitute feet *b*³, that are bolted to the runners. Upon the central portion, *b*, of each knee is placed a beam (or beams) C to unite one knee to the one on the opposite side. To unite said beam to the knee and to the runner a bolt *d* is made to pass vertically

through them. Its head being preferably of conical form is received within the runner.

To prevent the central portion, *b*, of the knee from sagging under the weight of the beam C and of any load that may rest upon it the bolt *d* is received in a tubular sleeve *e* of wrought iron, as generally used for gas-pipes. The upper end of said pipe abuts against the under side of the horizontal portion *b*, while its lower end rests upon the upper edge of the runner, but in an indirect manner, as shown in the drawings, as it is made to rest upon the foot of a transverse brace *f* of the beam C or of the sleigh, and under said foot is placed a plate *g* to distribute upon a larger surface of the runner the weight brought to bear upon the end of the sleeve *e*. The bolt *d* passing through the runner, through the plate *g* and through the foot of the transverse brace *f* maintains these parts strongly united, and as it passes also through the middle portion, *b*, of the knee and through the beam C it acts as the pintle of a hinge to allow each runner to slightly yield and transmit the strain to the braces *b*² *f* when it meets an obstruction.

The knees are connected with the upper front end of the runners by means of the rave or bars D of the sleigh. The front ends of the runners of the rear sleigh are united together by means of a bolt *h* made to pass through a tubular sleeve H, that keeps the front of said runners at a proper distance apart. The front ends of the runners of the front sleigh may also be united by a bolt and sleeve, but they are shown united by a beam K, to which a tongue can be attached. The rear sleigh is connected to the front sleigh by a looped rod L, having its rear ends made to receive the bolt *h*, and its middle portion linked to the beam C of the front sleigh. On top of the beam C of each sleigh is pivoted the bolster M, as usual.

Having now fully described my invention, I claim—

1. In a sleigh the combination of the runners, the transverse beam C, the knees B, each consisting of a bar having its middle portion supporting the beam C and its ends divergent therefrom, a brace *f* having one end bolted to the beam a bolt *d* passing through

the runner, through the middle portion of the knee, through the foot of the brace *f*, and through the beam C, and a wrought-metal tube inclosing said bolt substantially as described.

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2. In a sleigh the combination of the runners, the transverse beam C, the knees B, each consisting of a bar having its middle portion supporting the beam and its ends
10 divergent therefrom a plate *g* resting upon each runner between said divergent ends, a brace *f* having its foot resting upon the plate

g and the other end bolted to the beam, a bolt *d* passing through the runner, through the plate *g*, through the foot of the brace *f*, 15 through the knee and beam C, and a tube inclosing said bolt substantially as described.

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

JOHN BELLINGER.

Witnesses:

ANDREW C. ROBERTSON,
JOHN KNUTSON.