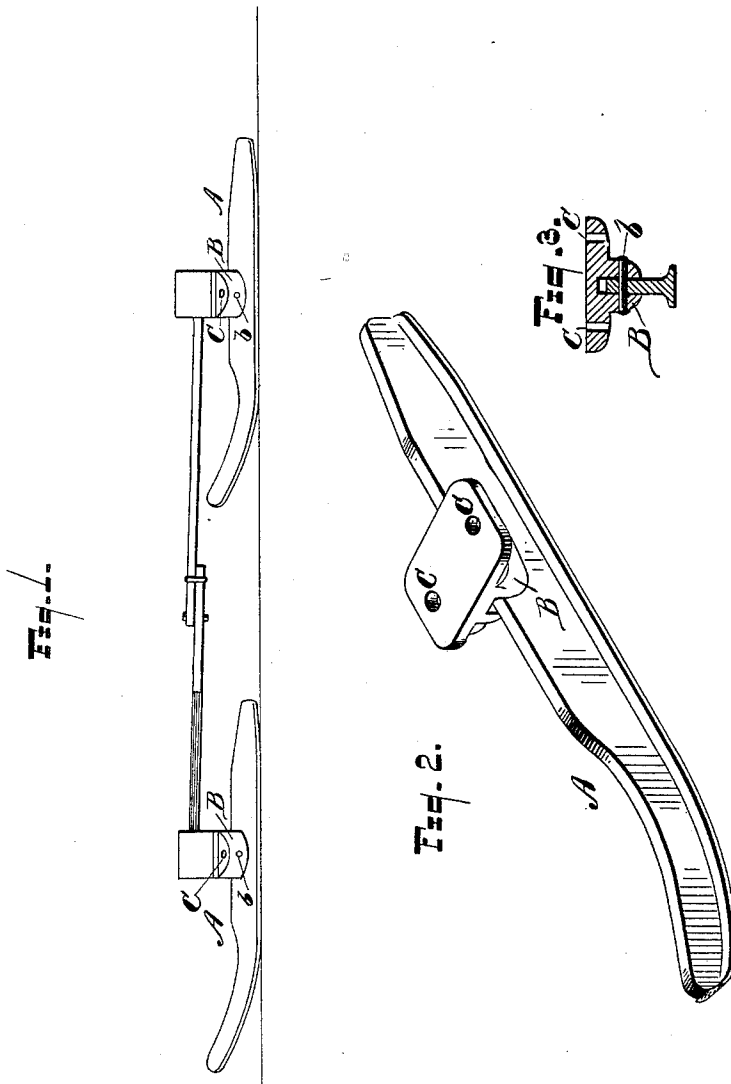


(No Model.)

H. & J. K. PANGBORN.
SLEIGH RUNNER.

No. 462,731.

Patented Nov. 10, 1891.



WITNESSES

Samuel E. Thomas
Louis Schmale

INVENTORS.

Henry Pangborn and
James K. Pangborn
By A. H. F. [unclear]
Attorney.

UNITED STATES PATENT OFFICE.

HENRY PANGBORN AND JAMES K. PANGBORN, OF MENOMINEE, MICHIGAN.

SLEIGH-RUNNER.

SPECIFICATION forming part of Letters Patent No. 462,731, dated November 10, 1891.

Application filed January 3, 1891. Serial No. 376,599. (No model.)

To all whom it may concern:

Be it known that we, HENRY PANGBORN and JAMES K. PANGBORN, citizens of the United States, residing at Menominee, in the county of Menominee and State of Michigan, have invented certain new and useful Improvements in Sleigh-Runners; and we do 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

Our invention relates to sleigh-runners.

Figure 1 is a side view of the sleigh provided with our metal runners and rave. Fig. 2 is a perspective view of our metal T-shaped runner. Fig. 3 is a sectional view showing the T-shaped runner and knee and rave connection.

A is a metal runner made the shape of an inverted T, the horizontal of the T being the shoe of the runner and integral therewith and being curved up slightly at the forward end, the perpendicular of the T forming the knee for the bearing or bracket B of the beam.

B is a metal bearing or bracket pivoted to the knee of A by a bolt *b* running through the depending flanges of B on each side of the knee and having its top surface adapted to receive the beam, to which it may be secured by bolts through C C. This sleigh is designed for use more especially for heavy loads, as saw-logs, and on roads specially prepared, as logging-roads.

We know it is common to make a runner T shape, but are not aware that a runner of

T shape has been made where the knee was made of the perpendicular of the T as an integral part thereof without the use of the vertical standards in supporting the knee.

Therefore what we claim as new, and desire to secure as Letters Patent, is—

1. In a sleigh-runner, the combination of the solid metallic runner A, made of T-shaped metal, having a raised bearing for the knee integral therewith, the metallic knee B, having dependent flanges on each side of the raised bearing through which the knee B is pivoted to the runner A and provided with holes C C to receive the bolts holding the cross-beam in position, and the pivot *b* and a cross-beam connecting the runners, substantially as described, and as and for the purpose set forth.

2. In a sleigh-runner, the combination of a metallic runner made T shape, having the shoe and raised bearing for the knee formed integral therewith, a metallic knee having dependent flanges on each side of the bearings, through which the knee may be pivoted to the bearing, and having a flat top upon which the cross-beam rests and to which it is secured by bolts through holes C C, and the pivot-bolt *b* and the cross-beam connecting the runners, as and for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

HENRY PANGBORN.
JAMES K. PANGBORN.

Witnesses:

CHARLES LINE,
A. B. ARORSEN.