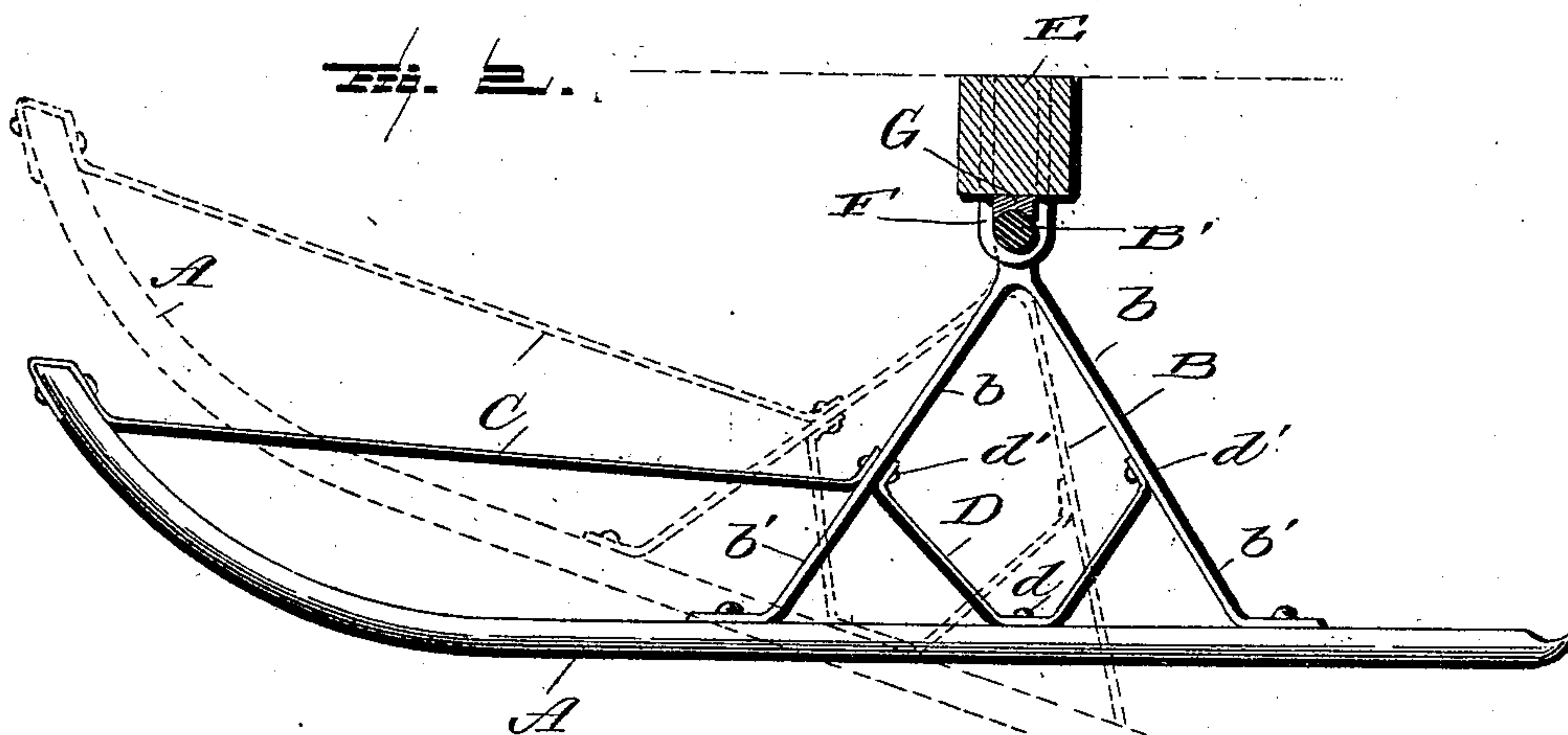
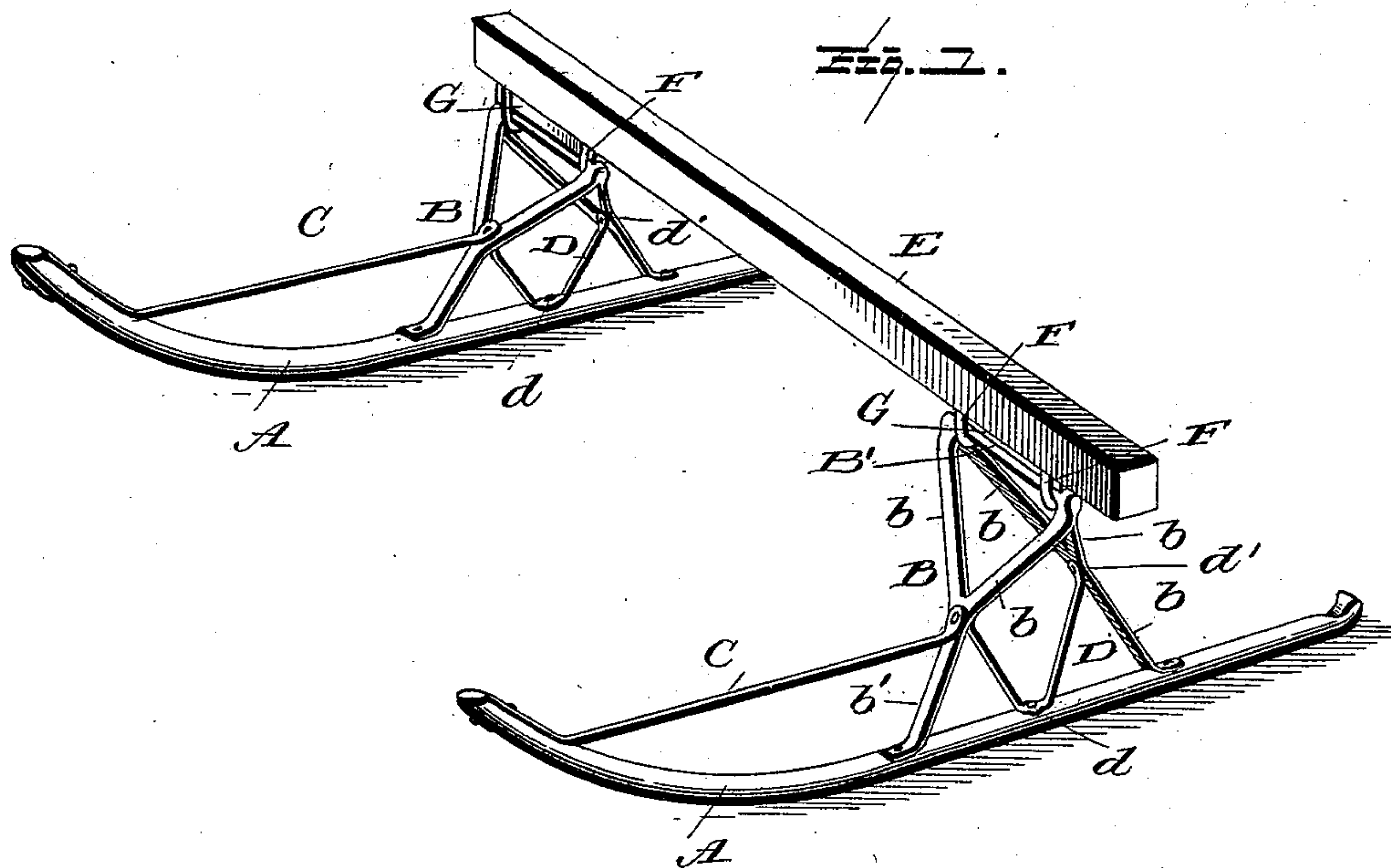


(No Model.)

S. C. PAULSON.
BOB SLEIGH.

No. 526,938.

Patented Oct. 2, 1894.



Witnesses:

L. C. Mills.
E. A. Bond

Inventor:

Soren C. Paulson
by E. B. Stocking
Attorney

UNITED STATES PATENT OFFICE.

SOREN C. PAULSON, OF WAHPETON, NORTH DAKOTA, ASSIGNOR OF ONE-HALF TO H. L. EASTMAN, OF SAME PLACE.

BOB-SLEIGH.

SPECIFICATION forming part of Letters Patent No. 526,938, dated October 2, 1894.

Application filed February 23, 1894. Serial No. 501,224. (No model.)

To all whom it may concern:

Be it known that I, SOREN C. PAULSON, a citizen of the United States, residing at Wahpeton, in the county of Richland, State of North Dakota, have invented certain new and useful Improvements in Bob-Sleighs, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in bob sleighs, having for its objects among others to provide a simple and light sleigh in which each of the runners shall have a movement entirely independent of the others, and yet the parts shall be strong and durable. Strength is not sacrificed for the sake of simplicity. The knee is of novel form, being truss-like, and is connected with the bolster in such a manner as to allow of the necessary movements of the runner. It forms an extended bearing for the bolster to which it is connected for oscillation by clips or analogous means.

Other objects and advantages of the invention will hereinafter appear and the novel features thereof will be specifically defined by the appended claims.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, and in which—

Figure 1 is a perspective view of one set of runners. Fig. 2 is a vertical longitudinal section through the same, showing by dotted lines the movement of the runner relatively to the bolster.

Like letters of reference indicate like parts in both of the views.

As the two sets of runners are alike in all respects I have chosen to show but one a description of which will suffice for both. The front and rear runners are designed to be connected in the usual or any approved manner, as by a reach. The mode of connecting the two forms no part of the present invention.

Referring now to the details of the drawings by letter, A designates the runner which may be of any desired form, being shown as substantially circular in cross section although it may assume any other shape.

B is the knee formed of metal and comprising

a horizontal portion B' preferably substantially circular in cross section as seen in Fig. 2 and which is extended at right angles to the length of the runner, while from opposite ends thereof branch the arms *b* which merge into the inclined arms *b'* which are secured to the runner in front and rear of the portion B' as shown in both of the views.

C is a brace connected at one end to the knee at the junction of the front arms *b* and *b'* and at its other end to the front end of the runner, being preferably bent over the end of the runner as seen best in Fig. 2 to form a protection therefor.

D is a substantially U-shaped brace secured at its bend as at *d* to the runner, and its ends bent to form flanges *d'* which are secured to the inner faces of the arms *b'* near their junction with the arms *b'*, the end of the front arm of this brace being held by the same bolt that secures the rear end of the brace C as shown in Fig. 2.

Each knee is secured to the bolster E so as to have free oscillatory movement. The preferable way of attaching the same is by means of clips F which embrace the portion B' of the knee and are held in the bolster as shown. I employ a clip near each end of the portion B' and between said portion and the under side of the bolster I interpose a wear plate G which is concave upon its under face to receive the portion B' of the knee as seen in Fig. 2. By this construction it will be seen that each runner is free to oscillate independently of the other, thus allowing the one to enter declivities while the other is mounting obstructions without straining the other parts of the sleigh. The truss-like construction of the knee provides a strong and durable bearing without detracting from its lightness or simplicity. The knee proper may be formed of one piece or of two pieces united at the horizontal portion. The arms *b b* may incline more or less from a perpendicular as may be deemed best.

Other modifications in detail may be resorted to without departing from the spirit of the invention or sacrificing any of its advantages.

What I claim as new is—

1. A knee for a sleigh, comprising a trans-

verse horizontal round portion with integral convergent arms extending in opposite directions therefrom and merging into a single arm on each side, and a substantially U-shaped brace secured to the said arms and adapted for connection with the runner, substantially as specified.

2. The combination with a bolster, of runners mounted for independent oscillatory movement and each mounting comprising inclined arms uniting at their upper ends in a horizontal, transverse portion, a substantially U-shaped brace between said arms, and a brace connecting the front end of the runner with the foremost of said arms, substantially as specified.

3. The combination with a bolster and a runner, of a knee having a horizontal portion

parallel with the bolster and pivotally held to the under side thereof and inclined integral convergent arms secured to the runner and extending in opposite directions from said horizontal portion, a brace between said arms and secured to the runner, a brace connecting one of the arms with the front end of the runner, a wear plate between the under face of the bolster and the horizontal portion of the knee, and clips securing the said horizontal portion and wear plate to the bolster, substantially as specified.

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

SOREN C. PAULSON.

Witnesses:

W. E. PURCELL,
CHAS. E. WOLFE.