

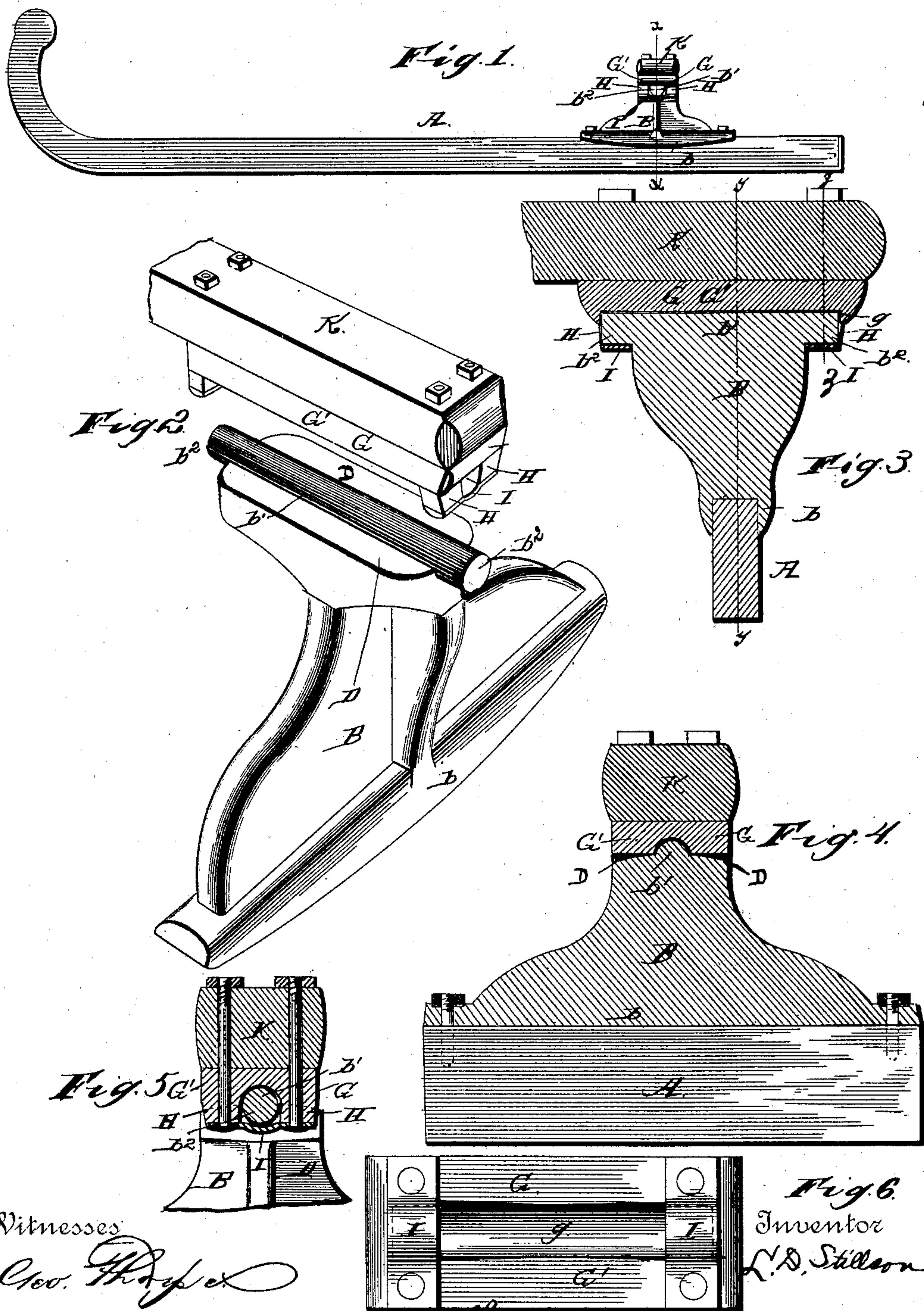
(No Model.)

L. D. STILLSON.

SLEIGH KNEE.

No. 371,153.

Patented Oct. 4, 1887.



Witnesses

Geo. H. Fox

C. E. Doyle.

Fig. 6.

Inventor

L. D. Stillson

by *his* attorneys

C. A. Howells

UNITED STATES PATENT OFFICE.

LORENZO D. STILLSON, OF BARABOO, WISCONSIN.

SLEIGH-KNEE.

SPECIFICATION forming part of Letters Patent No. 371,153, dated October 4, 1887.

Application filed July 5, 1887. Serial No. 243,437. (No model.)

To all whom it may concern:

Be it known that I, LORENZO D. STILLSON, a citizen of the United States, residing at Baraboo, in the county of Sauk and State of Wisconsin, have invented a new and useful Improvement in Sleigh-Knees, of which the following is a specification.

My invention relates to that class of sleigh-knees provided with a rounded head, on which the cross-beam has a rocking motion adapted to enable the runner to accommodate itself to the inequalities of the surface over which it is passing.

The invention consists, mainly, in so constructing the parts as to allow a slight lateral or rotatory motion of the runners with relation to the body of the sleigh, the object being to enable one runner to be started before the other, so that the strain upon the draft-animal will not be so great at the start as if both runners were necessarily started at the same time from a "set."

In the drawings hereto annexed, Figure 1 is a side elevation of a sleigh provided with my improved knee. Fig. 2 is a perspective view of the knee and the removable upper casting or plate removed. Fig. 3 is a section on the line $x x$, Fig. 1. Fig. 4 is a similar view on the line $y y$, Fig. 3. Fig. 5 is a similar view on the line $z z$, Fig. 3. Fig. 6 is a reverse plan of the movable plate or casting.

Referring by letter to the drawings, A designates the sleigh-runner, to which is secured the base b of the knee B, and b' is the rounded head of the same at right angles to the length of the runner.

D D are flanges on each side of the said rounded head, beveled downwardly away from the same, and G is an oscillating casting, comprising a plate, G' , having a rounded recess, g , in the under side, slightly larger laterally at each end than at the center, and H H are depending lugs from the under side of the said plate at each end of the same, and adapted to pass down on opposite sides of the projecting ends b^2 of the head b' . The said lugs do not embrace the said ends closely, but allow a slight lateral play, (corresponding to the lateral play in the ends of the recesses g ,) and I is a plate or strap secured to the under sides of the said lugs and passing under the ends b^2

to hold the head up properly in the recess g . The center of the said recess or bearing for the head is smaller than the ends, and the said central point is just sufficiently large to receive the rounded head. Thus, as the ends of the bearing are larger, it will be seen that a slight rotary motion of the knee will be allowed around the said central point as a center, the said rotary motion being imparted to the runner, thus enabling the runner on one side of the sleigh to be started before the runner at the other side.

K is the cross-beam of the sleigh, securely bolted to the upper side of the plate G' .

The operation of the invention is evident from the foregoing. It will be seen that the casting G, to which the beam is secured, is allowed a rocking motion on the rounded head, this motion being limited by the beveled or inclined upper surfaces of the flanges D, and also the said beam is allowed a rotary or horizontally oscillating movement in the bearing provided therefor, limited by the inwardly-tapering sides of the said bearing. This movement is of great advantage in starting the sleigh after having become set in position, (for instance, while being loaded,) as one runner may be started before the other, (this being obviously easier of accomplishment than if both are started at the same time,) thus reducing the strain upon the horse or other animal.

I am aware that previous to this time sleigh-knees having a rounded head operating in a recess in an oscillating or rocking upper casting have been used; but I am not aware that the said recess has been adapted to allow a play of the head therein. Also, I am not aware that the said recess or bearing has been made larger (horizontally) at the ends and tapered toward the central point to the proper size to exactly fit the said rounded head.

Having now described the construction, operation, and advantages of my invention, what I claim is—

1. In a sleigh-knee, the combination of the base b , having the rounded head b' , and the beveled or inclined flanges D on opposite sides of the head, and the plate G, provided in the under side with a recess or bearing, g , therein to receive the head b' , and means, substantially

as described, to hold the plate on the head, whereby it is allowed a rocking motion, substantially as and for the purpose specified.

2. In a sleigh-knee, the combination of the
5 knee B, having the base *b*, and the rounded head *b'*, formed integral with the knee and projecting at the ends beyond the same, the plate G, having the bearing *g* in the under
10 side, larger at the ends than the head *b'* and tapered toward the center to fit the same, and the depending lugs H H to pass down on opposite sides of the projecting ends of the head,

and the plates or shafts I, secured to the lower ends of the said depending lugs and passing under the projecting ends of the head to hold
15 the plate G in position on the head, all substantially as and for the purposes specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

LORENZO D. STILLSON.

Witnesses:

J. P. WITWEN,
WM. MOORE.