

P. H. CUMMINS.
Sleigh-Knee.

No. 216,156.

Patented June 3, 1879.

Fig. 1.

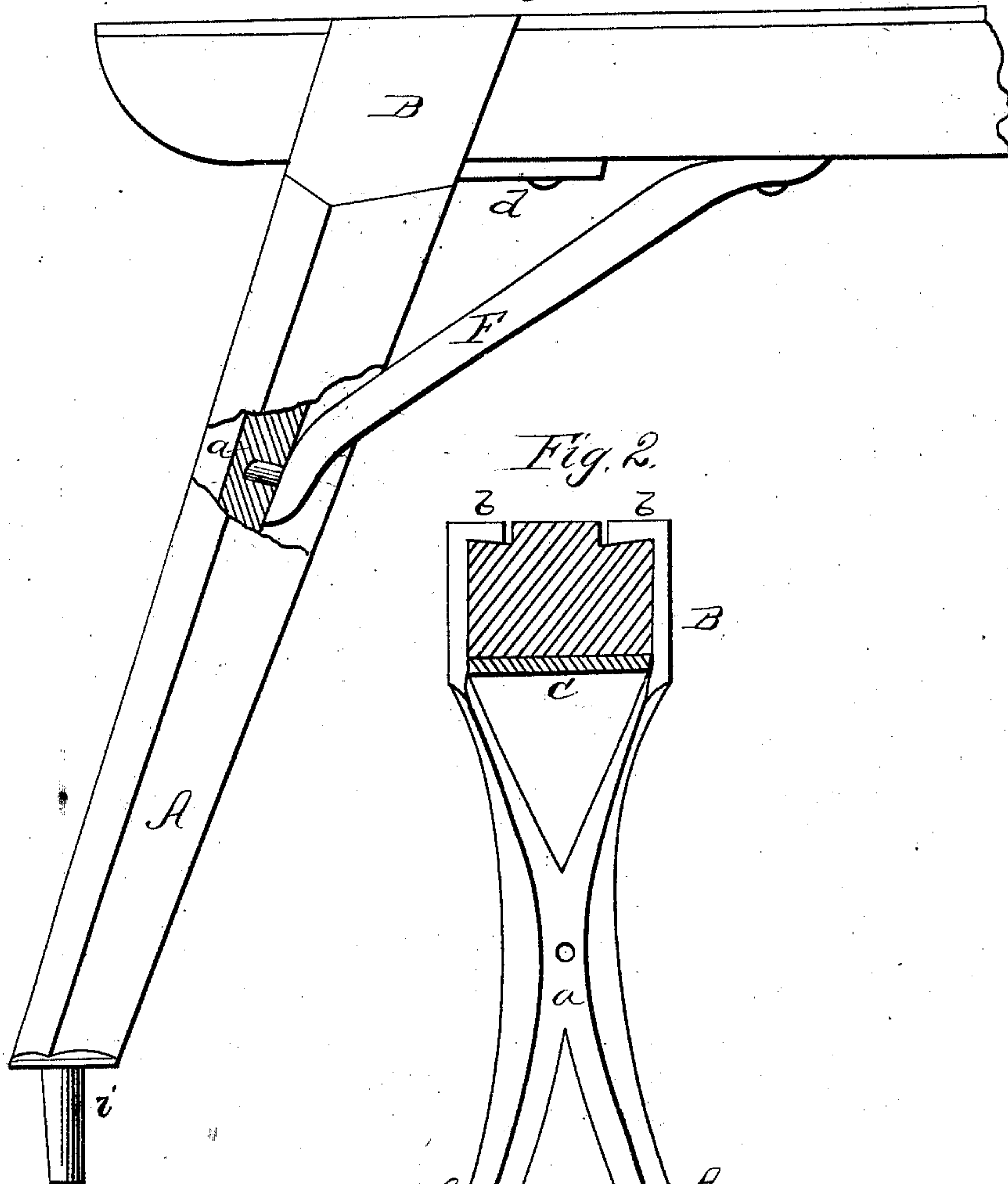
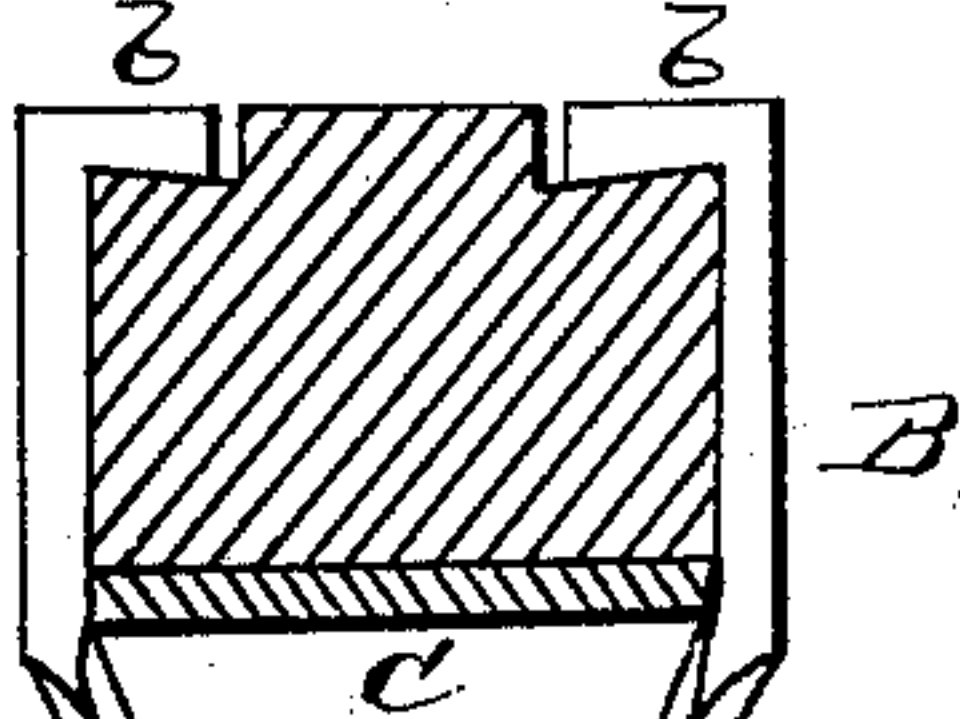


Fig. 2.



Witnesses:

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IMPROVEMENT IN SLEIGH-KNEES.

Specification forming part of Letters Patent No. **216,156**, dated June 3, 1879; application filed December 20, 1878.

To all whom it may concern:

Be it known that I, PATRICK H. CUMMINS, of Amsterdam, in the county of Montgomery and State of New York, have invented certain new and useful Improvements in Sleigh-Knees; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

The nature of my invention consists in the construction and arrangement of a malleable-iron knee for sleighs, cutters, bob-sleighs, and hand-sleighs, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawings, in which—

Figure 1 is a side elevation, partly in section; and Fig. 2, an end view, partly in section.

My improved sleigh-knee forms two diverging legs, A A, connected at *a*, and diverging at the top, forming a head, B, having inwardly-projecting flanges *b b*; and a suitable distance below these flanges is a plate, C, having an inwardly-projecting arm, *d*.

The knee is hollowed out or made rounding on both sides, as shown at *x x*, which makes it light and cheap. The knee is bracing in itself, each brace or leg being wider at the top, and running bracing as it grows narrower to the runner, thereby leaving no weak spot to bend or break between the beam and runner. This knee is attached to the runner by the two pins *i i* at the lower end or foot of the knee, said pins being intended to go clear through the runner and be riveted on the under side. There is a lug, *h*, on one side of each pin *i* on the under side of the foot of the knee, which lug is to draw into the grain of the timber of the runner, thereby strengthening the

rivet and foot of the knee, making a much stronger and cheaper connection of the knee to the runner than by sawing or punching holes and putting in extra rivets.

The knee is connected to the beam D by means of the flanges *b* and plate or cross-piece C, made solid to each half of the knee, connecting them together, and fitting up close to the beam. This cross-piece C runs out from the inside of the knee sufficient to form the arm *d* to receive a bolt, screw, or nail.

The beam D is plowed out on the top edges in a half-dovetailed shape, so that when the knee is slipped into place the part of the knee—*i. e.*, the flanges *b b*—that comes over the top of the beam is driven down into this groove, thereby preventing the knee from spreading on the beam or slipping back and forth. It also prevents the beam from splitting, and makes a substantial mortise and tenon on top of the knee and end of beam.

For large sleighs or cutters I use an additional brace, F, running from the knee at *a* toward the center of the beam.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The sleigh-knee herein described, formed with the diverging legs A A, hollowed out on both sides at *x x*, and provided at the foot with the pins *i i* and lugs *h h*, substantially as and for the purposes herein set forth.

2. The flanges *b b* and cross-piece C, at the upper end of the sleigh-knee, in combination with the grooved beam D, substantially as and for the purposes herein set forth.

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

PATRICK HENRY CUMMINS.

Witnesses:

HENRY MCNIEL,
WILLIAM GREGG.