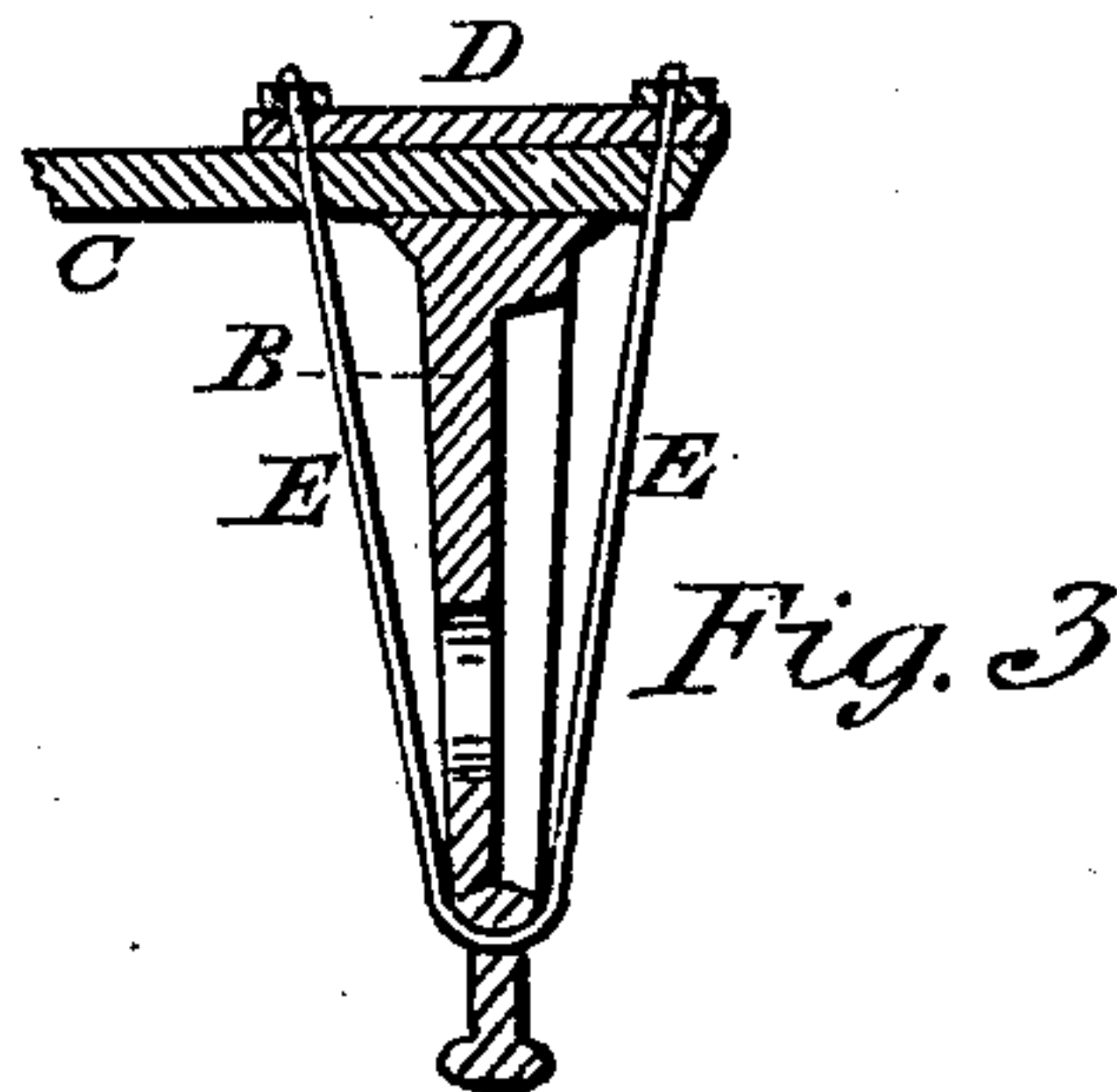
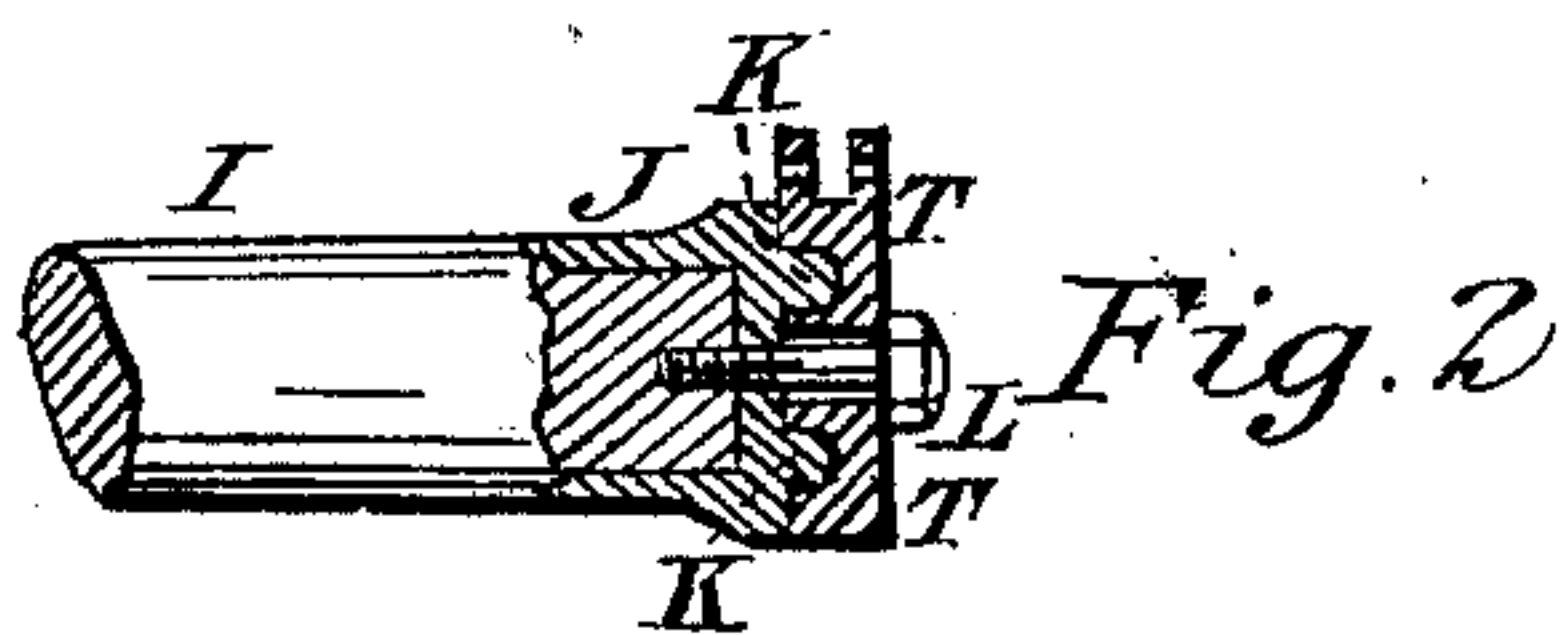
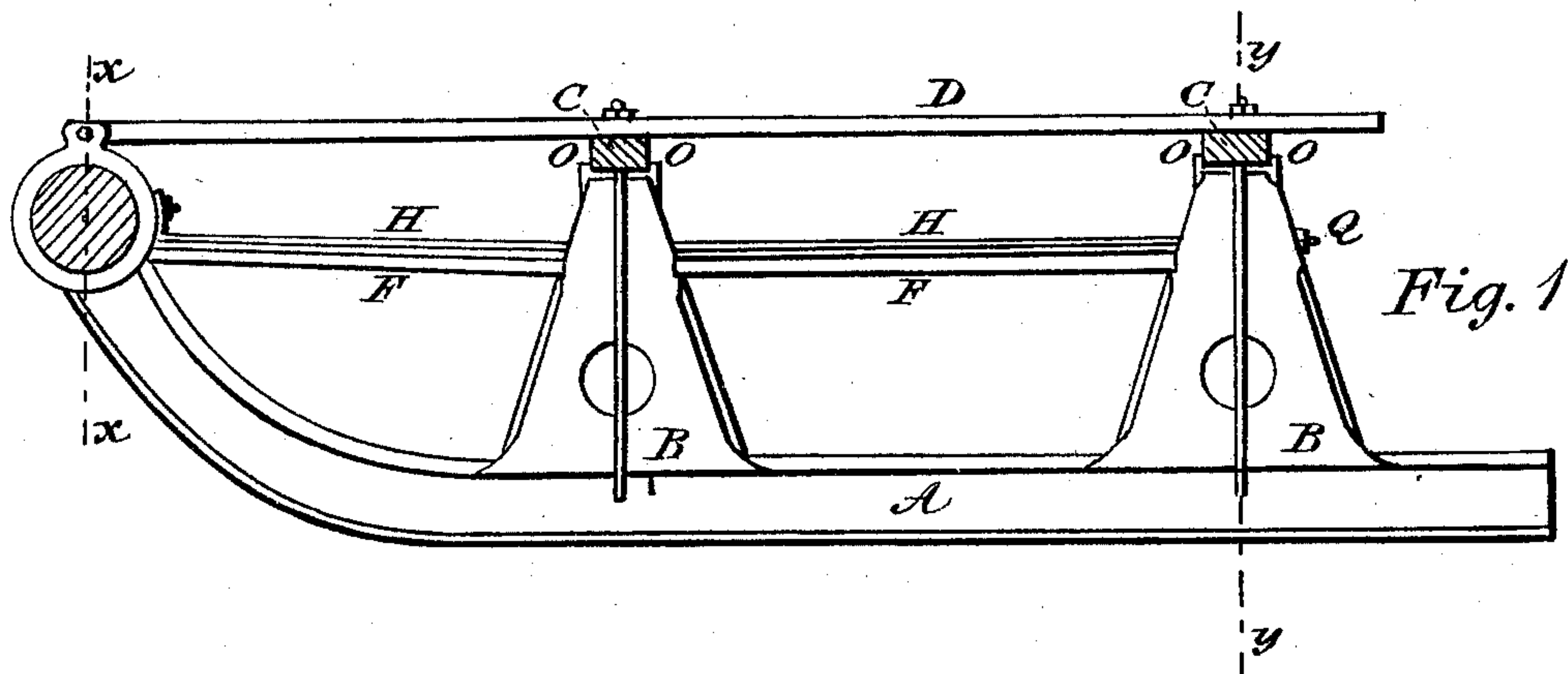


W. N. BERKLEY.

Sleigh Runner.

No. 94,699.

Patented Sept 14, 1869.



Witnesses:  
J. L. Coburn  
H. Prans.

Inventor:  
Wm. N. Berkley  
by Lewis L. Cooper  
attys

# United States Patent Office.

WILLIAM N. BERKELEY, OF CEDAR RAPIDS, IOWA.

Letters Patent No. 94,699, dated September 14, 1869.

## IMPROVEMENT IN SLED-RUNNER.

The Schedule referred to in these Letters Patent and making part of the same.

### To all whom it may concern:

Be it known that I, WILLIAM N. BERKELEY, of Cedar Rapids, in the county of Linn, and State of Iowa, have invented a new and useful Improvement in Sleds; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters and figures marked thereon, in which—

Figure 1 represents an inside view of one side of the sled.

Figure 2, a section on the line *x*.

Figure 3, a section on the line *y*.

The nature of my invention consists in bracing a cast-iron sled-runner and post of sled, cast together, to the beam of the sled, with an iron rod, which passes through a hole in the runner and has its ends secured to the beam by nuts, so that it can be tightened or loosened, as hereafter described; and

It further consists in bracing the posts by the braces F and rods H, as hereafter described; and, also, in the special device, hereafter fully described, for attaching the roller to the sled-beam.

A represents the runner, and B B the posts of the sled, which are of cast-iron, and cast together solid.

The posts are cast with thick edges, and thin, open centres, and of any desired shape; and the runners are also cast with thick edges, so that they may be comparatively light and at the same time strong.

C C are cross-beams, and D the raves of the sled.

The upper ends of the posts have flanges, O, on their front and rear faces, between which the cross-beams C C are fitted on the top of the posts.

Through the runner, at the foot of each post, I drill or cast a hole, through which an iron rod, E, passes, the ends of which pass up through the beams and rave, and are firmly secured thereto by means of nuts.

The rods recede farther and farther from the posts toward their upper ends, so as to form braces to the runners and cross-beams, as clearly shown in fig. 3, and they at the same time, by means of the nuts already mentioned, hold the cross-beams firmly in their positions between the flanges upon the upper ends of the posts.

F F are braces placed between the posts and between the forward post and the forward end of the runner, the ends resting in notches cast in the posts, as shown, fig. 1; and

H is an iron rod, one end of which is fastened to the

forward end of the runner, and the other, passing through the posts, is secured to the rear post by a nut, Q, in rear of the same.

These devices are for the purpose of stiffening and strengthening the sled.

The sled is also further braced by the rave D, which is firmly fastened, at its front end, to the sled-runner, as shown in fig. 1.

I is an ordinary sled-roller, to which the tongue or thills of the sled are attached, and

J, a band or ferrule upon the end of said roller, to protect it.

There is an annular projection, K, on said band, which fits into the annular recess T in the inside of the end of the runner.

The roller is secured in place by means of the screw L, which passes through the end of the runner into the roller; but as the roller must turn freely, there is a washer, V, around the screw L, in such a way that the ferrule J strikes against the inner end of the washer, and the annular projection is not pressed so firmly into the recess T but that it will freely turn therein.

The screw holds the roller firmly within the ferrule and presses the ferrule firmly against the washer V, but as the washer and screw freely turn in the hole in the runner they turn with the roller, which is allowed a free rotary motion.

Having thus fully described the construction and operation of my invention,

What I claim, and desire to secure by Letters Patent, is—

1. The brace-rod E, when passing through a hole in the runner, substantially as described, and fastened at each end to the sled-beam, so as to be tightened or loosened, and brace the sled-runner and beam, substantially as specified and shown.

2. The combination of the cast-iron runner and post, in combination with the braces F and H, when arranged and operating substantially as specified.

3. The combination of the roller I, ferrule J, screw L, washer V, and runners, when arranged and operating substantially as and for the purposes herein set forth.

WILLIAM N. BERKELEY.

Witnesses:

L. L. COBURN,  
J. L. COBURN.