

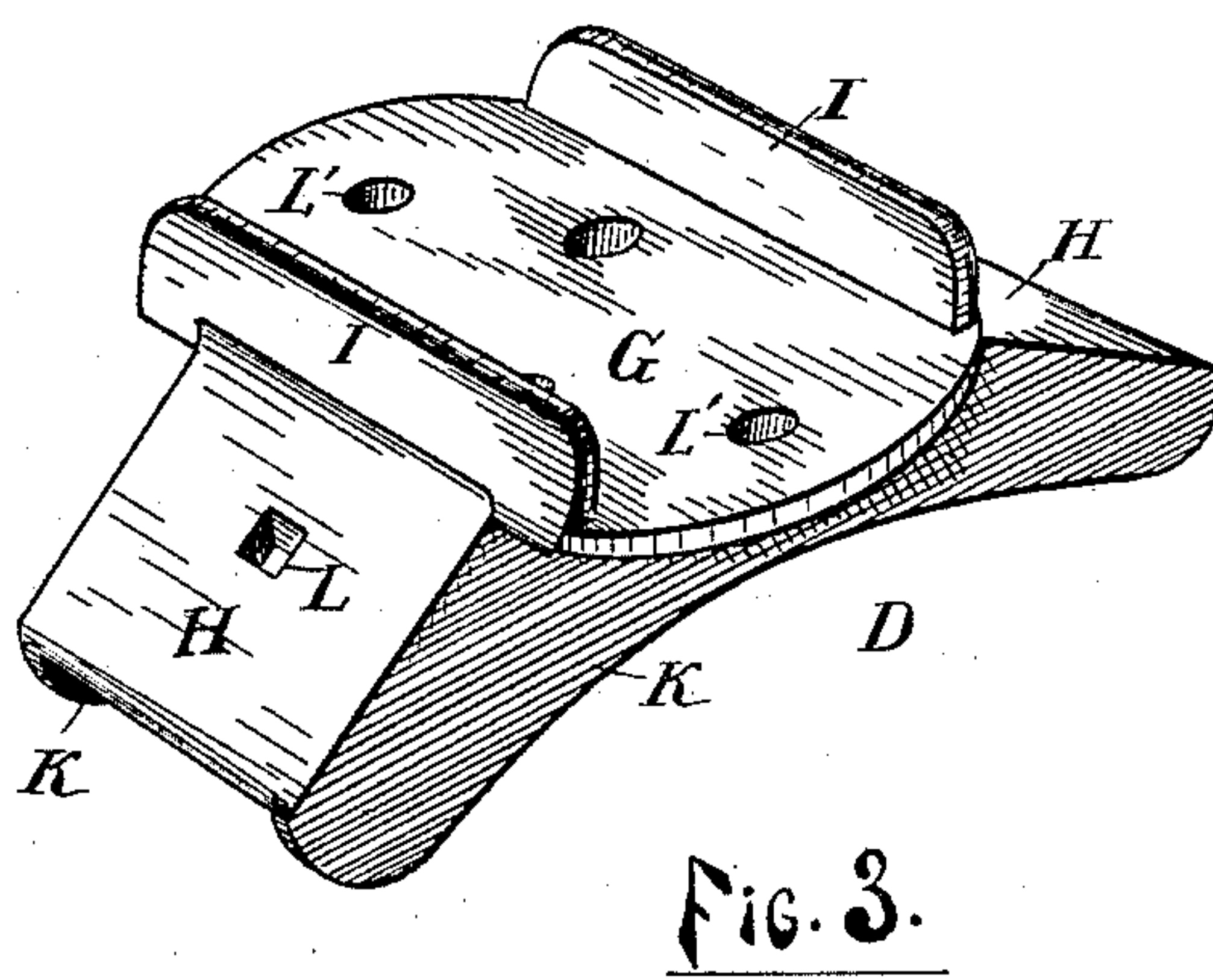
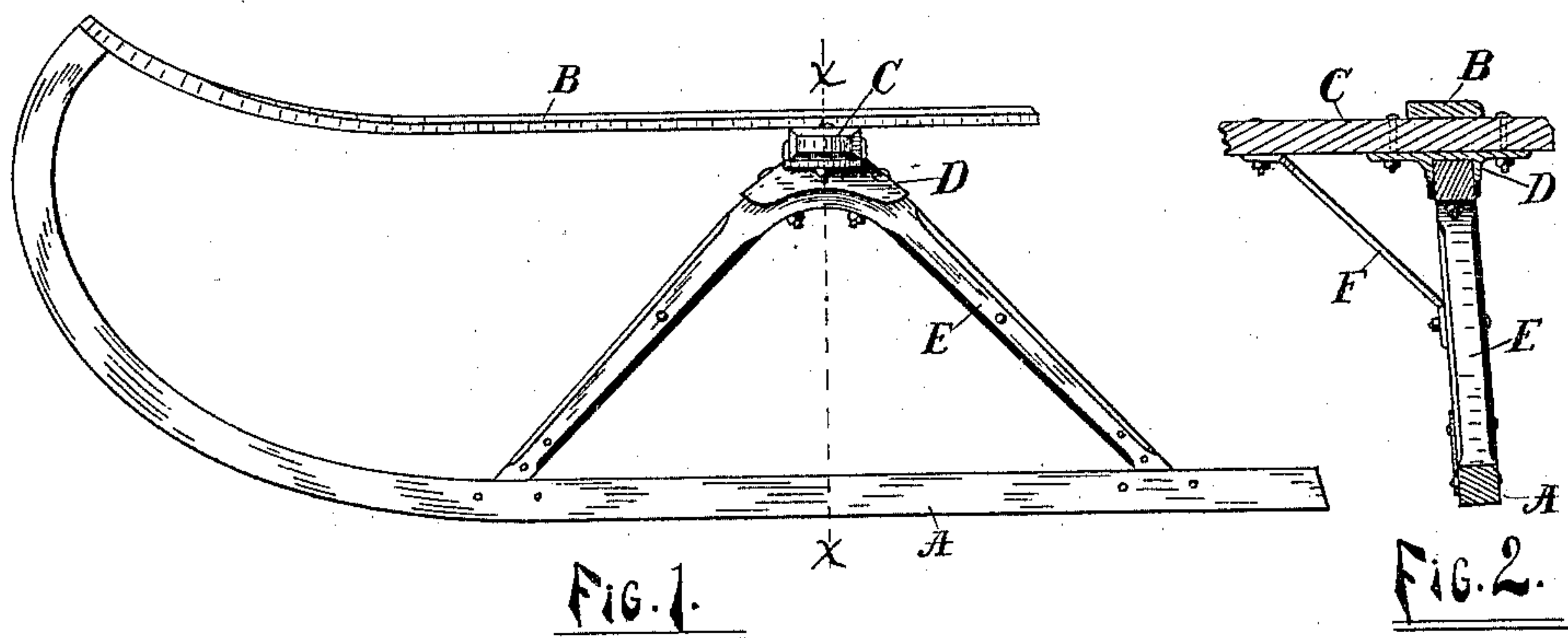
(No Model.)

J. J. COBB.

COUPLING FOR BENT SLEIGH KNEES.

No. 395,679.

Patented Jan. 1, 1889.



Witnesses.

Cassius H. Smith.
Frederic D. Miles

Inventor.

By his attorney
John J. Cobb
Lewis L. Rogers.

UNITED STATES PATENT OFFICE.

JOHN J. COBB, OF GRAND RAPIDS, MICHIGAN, ASSIGNOR TO SHERWOOD HALL AND MARTIN L. SWEET, OF SAME PLACE.

COUPLING FOR BENT SLEIGH-KNEES.

SPECIFICATION forming part of Letters Patent No. 395,679, dated January 1, 1889.

Application filed September 3, 1888. Serial No. 284,504. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. COBB, a citizen of the United States, residing in the city of Grand Rapids, in the county of Kent and State of Michigan, have invented a certain new and useful Improvement in Bent Sleigh-Knee Couplings, of which the following is a specification, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to the construction of bent-knee bob-sleighs having runners, bent knees, and beams, and is intended and adapted for coupling the knees and beams together, strengthening and protecting the knee, and forming a rest or support for the end of the beam; and it consists of transverse flat and curved plates, which may be cast integral of malleable iron or other suitable material, and each plate provided with flanges to embrace the beam and runner, respectively, and arranged between the beam and knee.

Referring to the drawings, Figure 1 is a side elevation showing the mode of construction and arrangement of the several parts. Fig. 2 is a vertical transverse section on the line *x* of Fig. 1. Fig. 3 is a detached view of my invention in perspective.

Similar letters of reference refer to corresponding parts throughout the several figures.

A represents the runner; B, the rave; C, the beam; D, the entire casting shown in Fig. 3; E, the bent knee; F, brace; G, flat beam-plate; H, curved knee plate or cap; I I and K K, flanges of G and H, respectively; L and L' L', bolt-holes.

The mode of construction and arrangement of parts, being exceedingly simple, is easily understood from inspection of the drawings without minute written description.

In the construction of sleighs having my improved coupling the coupling D is placed upon the apex of the knee E, being adapted by the curved or concave form of the plate H to this position, and is prevented from slipping laterally by flanges K K, and secured by bolts passing through the plate H at L, Fig. 3, as shown in Fig. 1. The beam C is placed upon top plate, G, and embraced

by flanges I I and secured by bolts, as shown in Fig. 1. The knee-cap H imparts rigidity and strength to the knee E. The beam-plate G acts as a rigid support for beam C. In this construction the brace F cuts no figure.

I am aware that cast plates having flanges to engage the beams, knees, and runners of sleighs have been used, and I do not claim these broadly.

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

1. In a sleigh, in combination with a beam and runner, a bent or arched sleigh-knee having its forward end secured to the runner and set bracing obliquely upward and backward, and its rear end secured to the runner and set bracing obliquely upward and forward and having a curved or arched apex, and a knee-cap of malleable iron or other suitable material cast integral and having opposite transverse upper and lower surfaces, the upper surface being flat and having flanges to engage the beam, and the under surface concave fore and aft to receive the apex of the arched knee, and having flanges to engage the sides of said knee, and provided with suitable means to secure said knee-cap, beam, and arched knee together, arranged between said beam and knee, substantially as described.

2. In a sleigh, in combination with a beam and runner, the knee-cap D, with arched knee E, arranged between the beam and runner, substantially as described.

3. In a sleigh, the combination of a knee-cap having flanges to embrace the beam and knee, the beam C, and the arched knee E, arranged between the rave and runner, substantially as described.

4. In a sleigh, in combination with rave B and runner A, the beam C, knee-cap D, and arched knee E, arranged substantially as described, and for the purposes set forth.

JOHN J. COBB.

Witnesses:

JAMES HUTCHINSON,
JAMES COOK.