

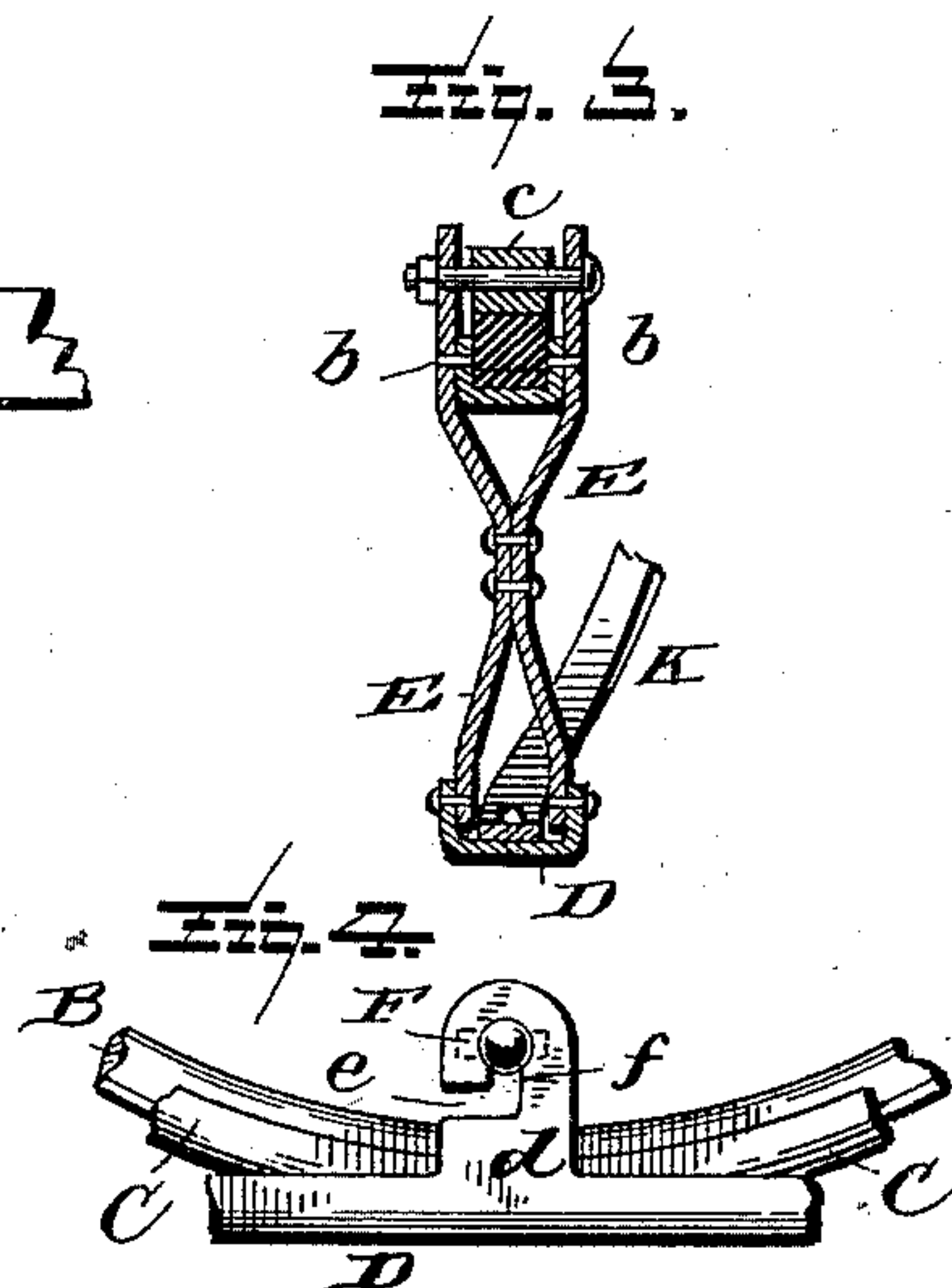
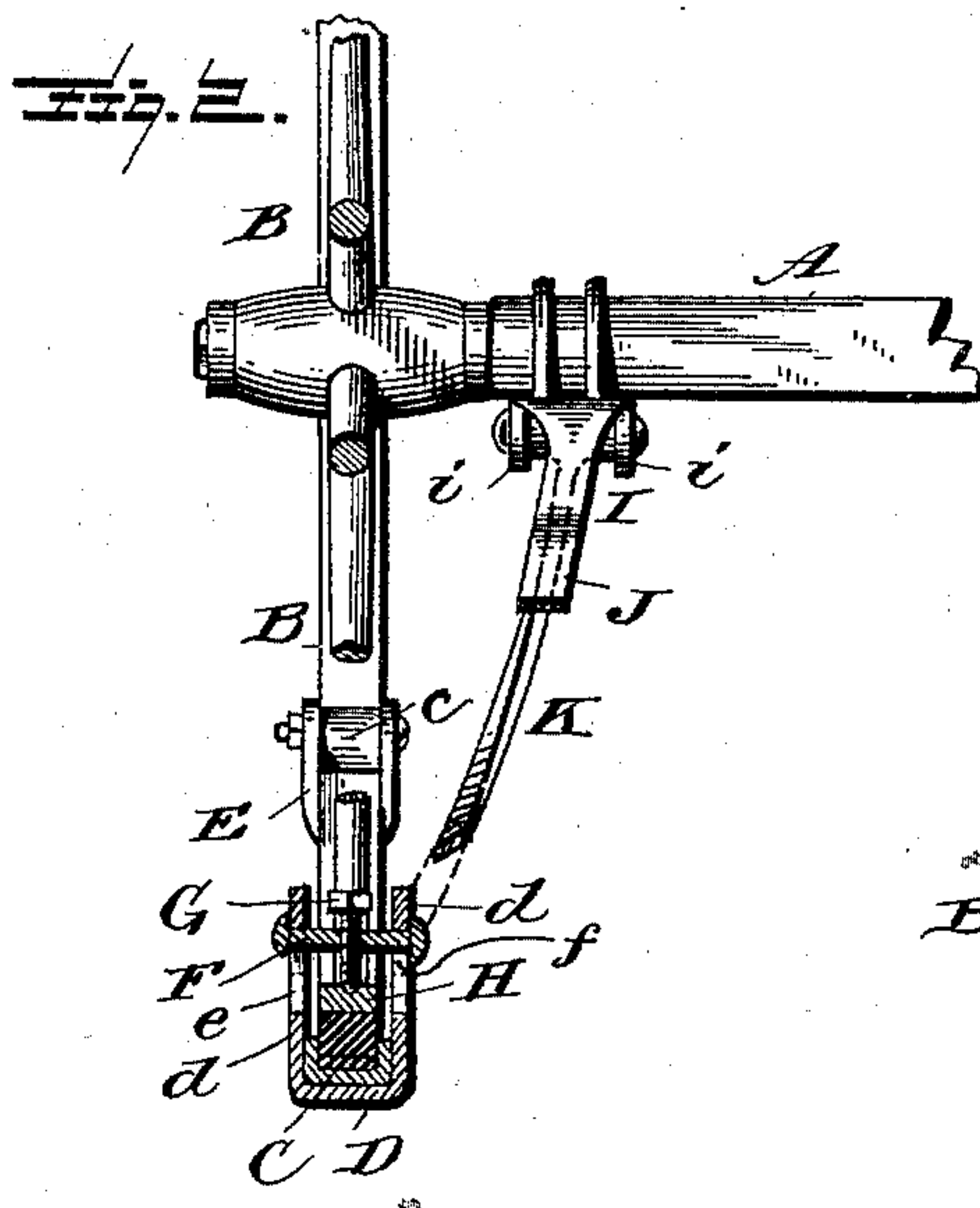
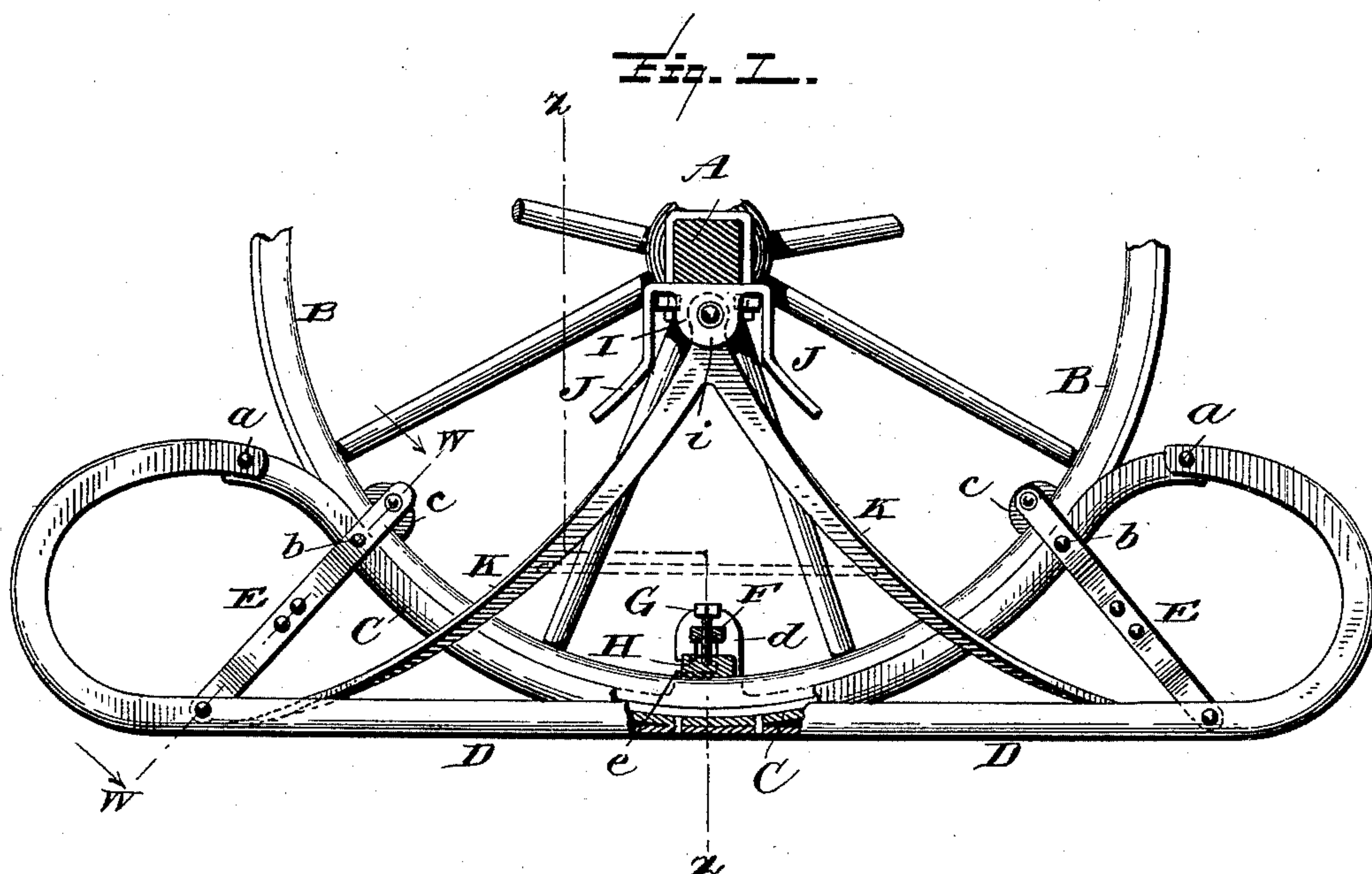
(No Model.)

G. L. HURD.

SLEIGH RUNNER FOR WHEELED VEHICLES.

No. 426,450.

Patented Apr. 29, 1890.



Witnesses

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UNITED STATES PATENT OFFICE.

GEORGE L. HURD, OF NEW YORK, N. Y.

SLEIGH-RUNNER FOR WHEELED VEHICLES.

SPECIFICATION forming part of Letters Patent No. 426,450, dated April 29, 1890.

Application filed March 13, 1890. Serial No. 343,769. (No model.)

To all whom it may concern:

Be it known that I, GEORGE L. HURD, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Runner Attachments to Wheels; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

This invention relates to certain new and useful improvements in runner attachments for wheels, whereby the latter may be quickly adapted for running on snow or ice in winter-time.

The novelty resides in the peculiar combinations and the construction, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the drawings, and then particularly pointed out in 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 side elevation with parts broken away and others in section, showing a portion of a wheel with my attachment applied. Fig. 2 is a vertical section on the line *z z* of Fig. 1. Fig. 3 is a section on the line *ww* of Fig. 1. Fig. 4 is a detail in side elevation.

Like letters of reference indicate like parts throughout the several views.

Referring now to the details of the drawings by letter, A designates the axle; B, the wheel, of any known construction.

C is a piece of channel-iron shaped to fit a portion of the periphery of the wheel, and has secured thereto by rivets or in any other suitable manner a piece of like material D, in the form of a shoe or runner. The piece C fits within the piece D, as shown in Figs. 1 and 2, and are thus braced and prevented from side displacement. The ends of the piece D are bent or curved toward each other, as shown in Fig. 1, and at their ends are riveted or otherwise secured to the ends of the piece C, as shown at *a* in Fig. 1.

E are inclined braces, connected at their

lower ends to the runner or shoe D, and at their upper ends connected to the piece C, as shown at *b*, and above the piece C these braces are attached to a cross-piece or block *c*, which bears upon the inner face of the rim of the wheel, as shown. The form of these braces is best shown in Fig. 3, where it will be seen that each set is composed of two pieces bent into the shape shown and securely riveted together near their center. This forms a very strong brace of light metal.

The piece D has upon opposite sides, at a point directly beneath the axle, lugs *d*, each having a horizontal slot *e*, communicating with a vertical slot *f*, as shown best in Fig. 4. In securing the attachment to the wheel, after it has been placed in the position shown, a transverse bolt or bar F is entered in the horizontal slots of these lugs, as shown in Figs. 1, 2, and 4, and a set-screw G, which passes through the said bar, is screwed up, and bearing against a wearing-plate H on the rim of the wheel draws the bar F up into the vertical portions of the slots, and thus firmly binds the attachment to the wheel.

Clipped on the axle is a rocking plate I, having depending lugs *i* and arms J, which extend vertically for a short distance and are then inclined, as shown in Fig. 1.

K are inclined brace-arms, connected at their lower ends to the runner D, and at their upper ends pivotally secured between the ears or lugs of the plate I. This allows the runners to rise at each end, and yet prevents them from turning over. The runner can rise at either end until the inclined bars of the arms J contact with the inclined braces K, as will be readily understood from Fig. 1.

What I claim as new is—

1. A runner attachment for wheels, consisting of a runner and a curved piece, both of channel-iron, secured together, and having provision for attachment to the wheel, and inclined braces connecting the runner and curved piece, substantially as specified.

2. The combination, with the runner having its ends curved toward each other, of the curved piece C, having its ends secured to the ends of the runner, the inclined braces E, attached at their lower ends to the runner, secured to the curved piece C, and at their up-

per ends carrying blocks bearing upon the inner face of the rim of the wheel, substantially as specified.

3. The combination, with the runner and
5 curved piece C, secured thereto, of the inclined
braces E, secured at their lower ends to the
runner, near their upper ends to the curved
piece, and between their ends secured to each
10 of the said braces and bearing upon the in-

ner face of the rim of the wheel, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

GEORGE L. HURD.

Witnesses:

J. T. MONTGOMERY,
A. K. MONTGOMERY.