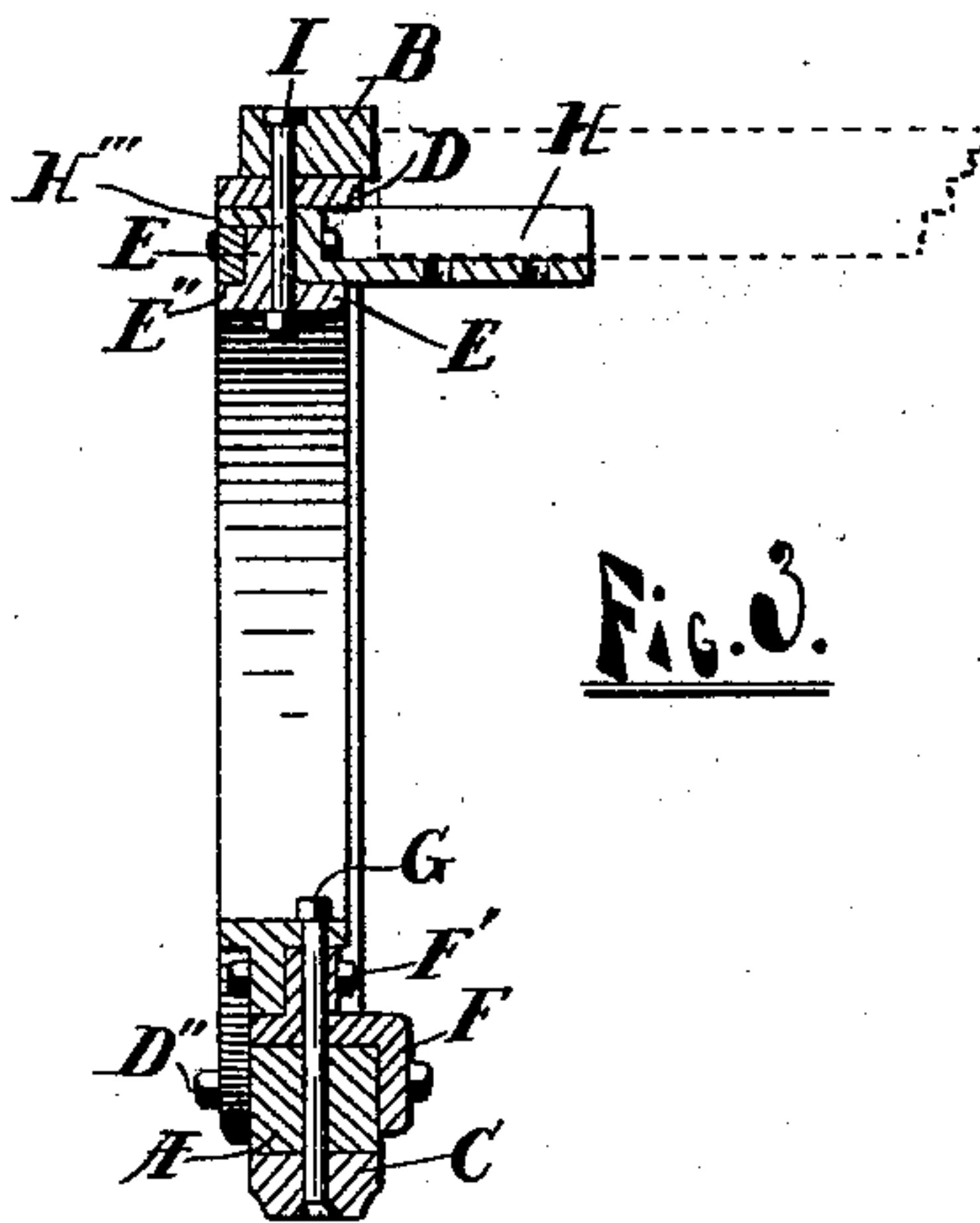
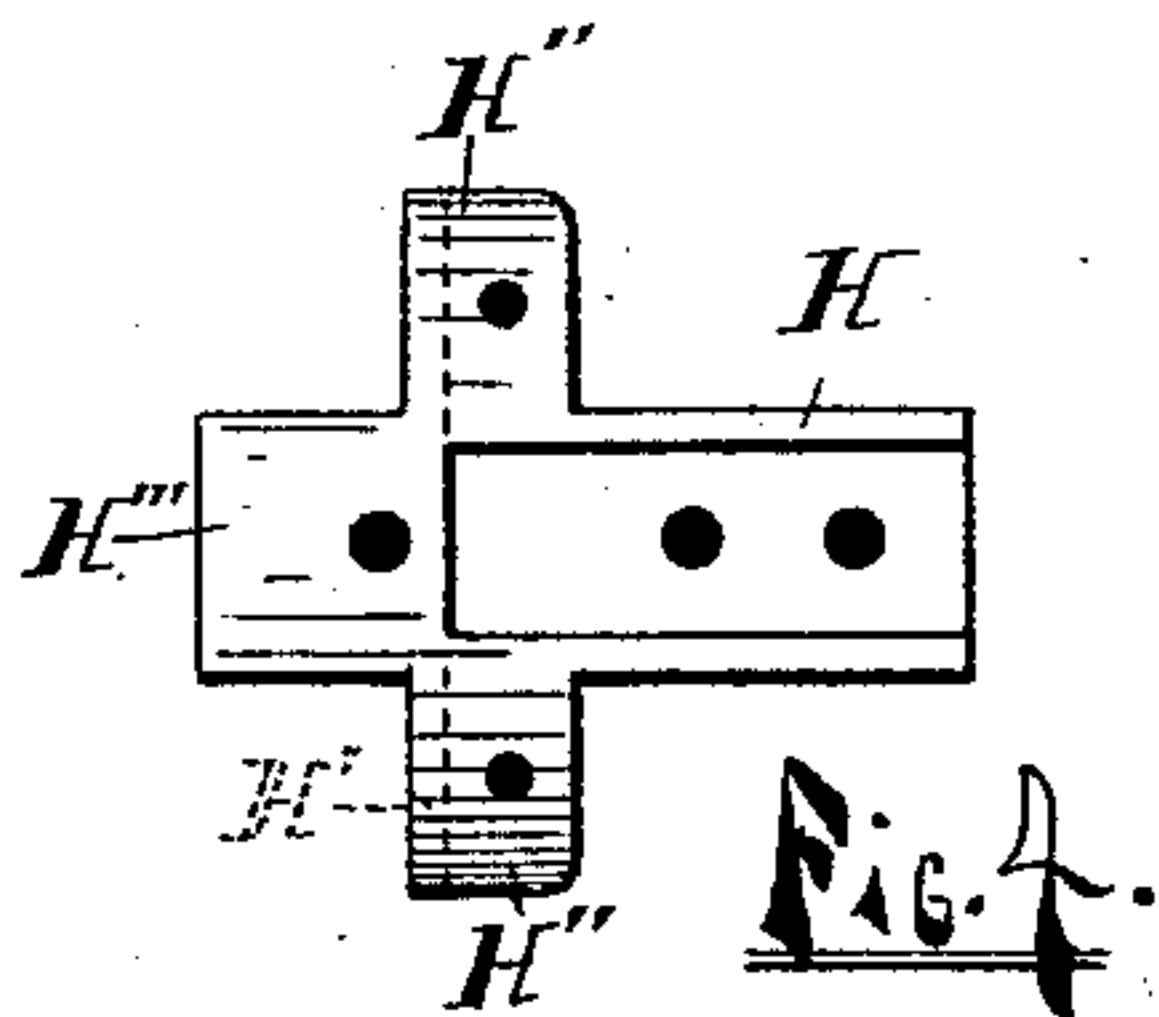
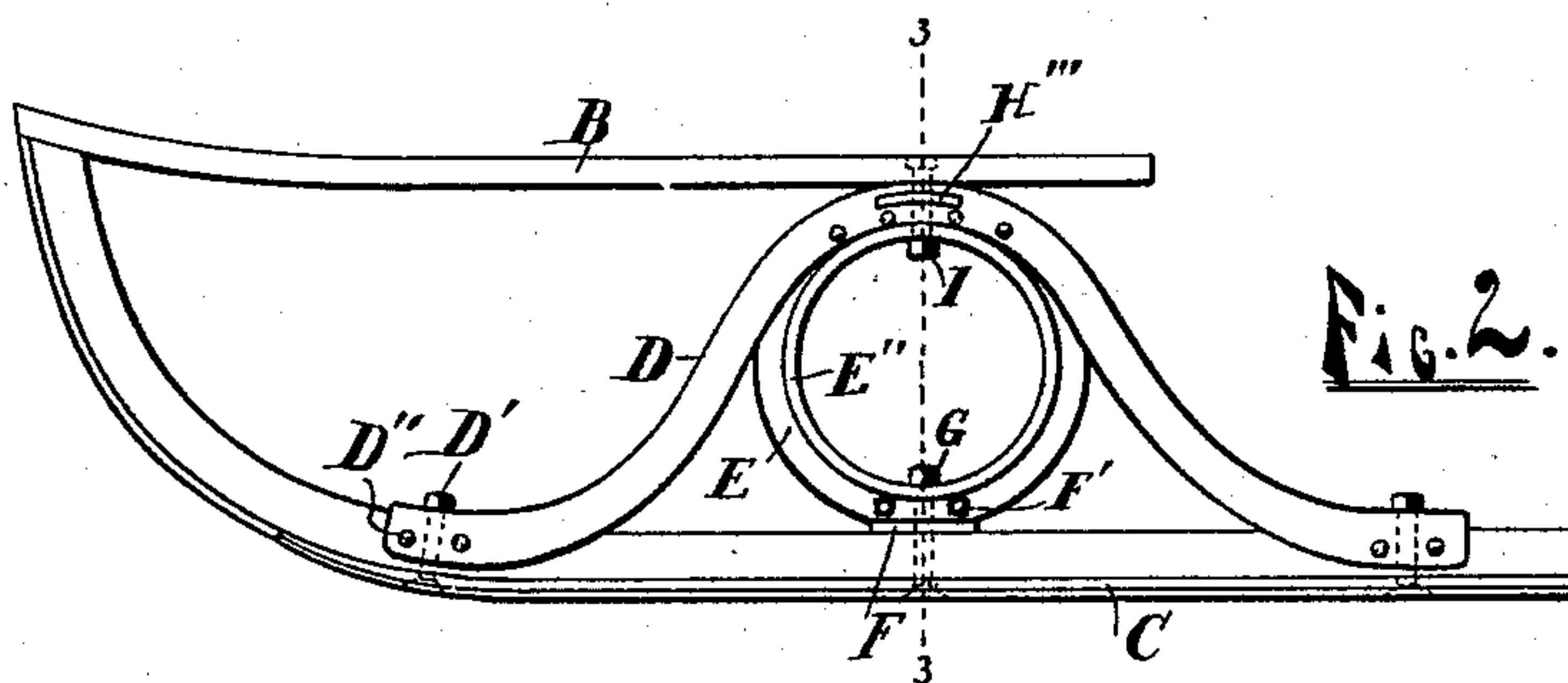
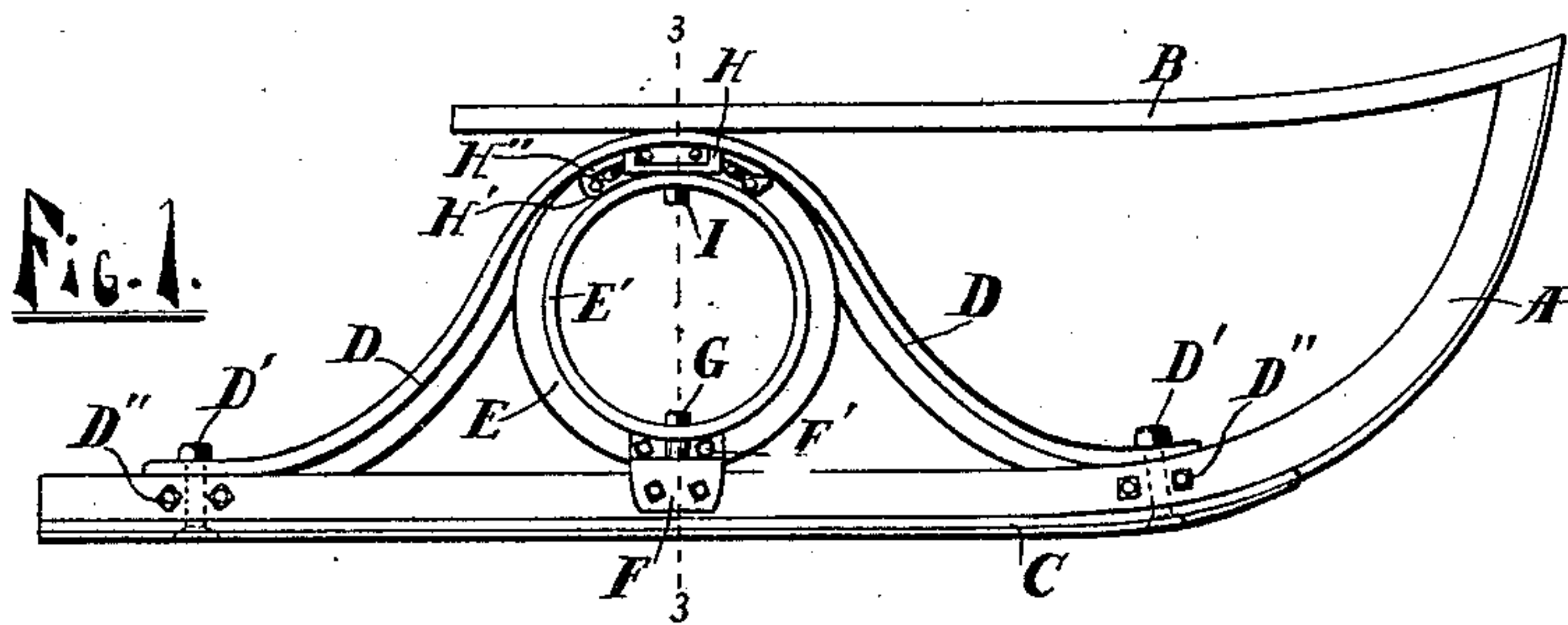


(No Model.)

J. J. COBB.
SLEIGH.

No. 539,766.

Patented May 21, 1895.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN J. COBB, OF MUSKEGON, ASSIGNOR TO THE HARRISON WAGON COMPANY, OF GRAND RAPIDS, MICHIGAN.

SLEIGH.

SPECIFICATION forming part of Letters Patent No. 539,766, dated May 21, 1895.

Application filed September 10, 1894. Serial No. 522,627. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. COBB, a citizen of the United States, residing at Muskegon, in the county of Muskegon and State of Michigan, have invented certain new and useful Improvements in Sleighs; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in sleighs, more especially to the construction and arrangement of a new and improved sleigh knee. My object is to simplify the construction of these articles by providing an interchangeable, easily detachable knee in the place of the ordinary knee, having a tenon mortised into the runner and braced with iron, in the usual manner. I accomplish this object by the device herein described and illustrated in the accompanying drawings, which, with the letters of reference thereon, form a part of this specification, and in which—

Figure 1 represents a side elevation of the inside of one runner of a device embodying my invention; Fig. 2, a side elevation of the outside of the same runner; Fig. 3, a vertical section on the line 3 3, and Fig. 4 a detail of the beam-support.

Like letters refer to like parts in each of the figures.

A, represents the runner having a shoe C, and B, the rave.

D, represents a sleigh knee, constructed of structural angle steel, having one vertical and one horizontal flange, at right angles to each other, bent into the bow shaped sinuously curved form shown, its ends secured to the runner by bolts, the horizontal flange secured to the top of the runner by the bolt D' and the vertical flange secured to the side thereof by bolts D'', and its arched top supporting the rave to which it is bolted, by bolt I. It may be constructed in a single piece or in two S shaped pieces joined, to produce the form shown, the horizontal flange in contact with the under side of the rave, and the top of the runner and the vertical flange in contact with the side of the runner, thereby clamping the upper outside corner of the runner.

E, is a circular supplementary or strength-

ening knee, constructed of structural T steel, having the flanges E' E'', which rest upon a saddle F, bolted to the runner, having an upwardly projecting portion, to which the knee E, is securely bolted by bolts F', and has the long bolt G, passing through the knee, saddle, runner and shoe.

H, is a beam supporter having wings H'' H'', spur H''' and flange H'. The spur H''' engages a slot in the vertical flange of the knee D, and the flange H' is bolted to the knee D, the bolts also passing through the knee E, and the wings H'' H'' are bolted to the horizontal flange of knee D, thereby forming a very strong and rigid and easily detachable structure. The knee D, may be made of structural steel known as channel steel or T steel, or other suitable metal, but I prefer to use angle steel for the reason that this form is easier manufactured and gives greater strength with less weight of metal, than the others, and is better adapted to the resisting of both vertical and lateral strains.

I claim—

1. The combination with the runner of the sinuously curved, bow shaped or arched metallic knee D, having one vertical and one horizontal flange, arranged as and in the form shown and described, and the circular knee E, arranged between the arched portion of the knee and the runner substantially as described.

2. The combination, with the runner, of the circular knee E, and the saddle F, bolted to the runner and carrying said knee substantially as set forth.

3. The combination, with the runner, of the circular knee E, the saddle F, bolted to the runner and carrying said knee and the beam supporter, secured to said knee arranged substantially as described.

4. The combination, with the runner, of the sinuously curved, bow shaped or arched metallic knee D, arranged in the form shown, the circular knee E, the saddle F, bolted to the runner and carrying said circular knee and the beam supporter H, arranged substantially as set forth.

5. As an improved article of manufacture the herein described combined sleigh knee and beam supporter, having the metallic knee D,

formed of structural angle metal into the sinu-
ously curved arched form shown: having its
vertical flange placed parallel to the outside
of the runner, its horizontal flange with the
5 top of the runner, its oppositely extended ends
securely bolted to said runner, the vertical
flange to the side and the horizontal flange to
the top, at the front and rear portions thereof
respectively, a slot in the upper portion of said
10 vertical flange, a horizontally projecting por-
tion H''', of said beam supporter engaging
said slot: laterally extended wings H'', H'',

having vertical flanges bolted to the vertical
flange of said knee upon the inside and ribs
on the main portion of said beam supporter 15
adapted to the sleigh beam, substantially as
set forth.

In testimony whereof I affix my signature
in presence of two witnesses.

JOHN J. COBB.

Witnesses:

DENNIS L. ROGERS,
EMILY C. MOHL.