

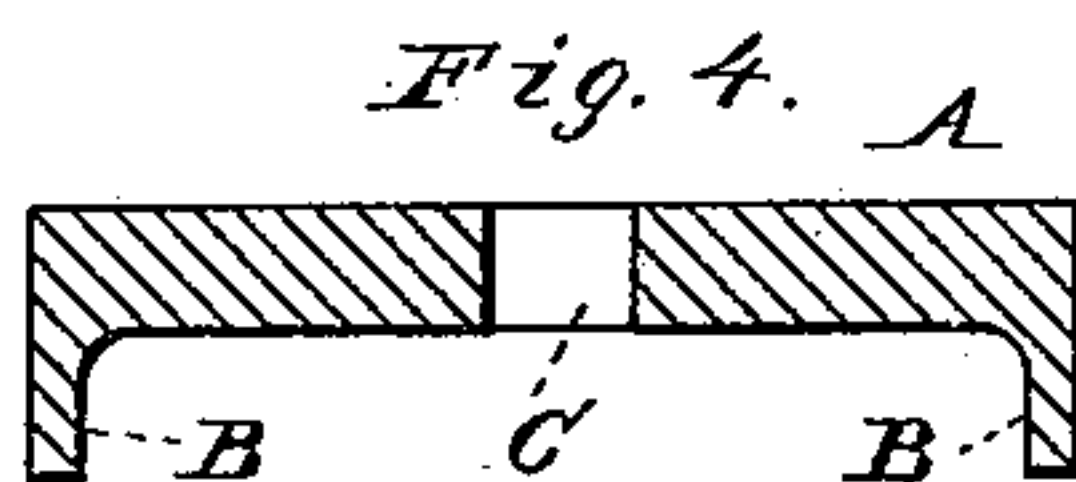
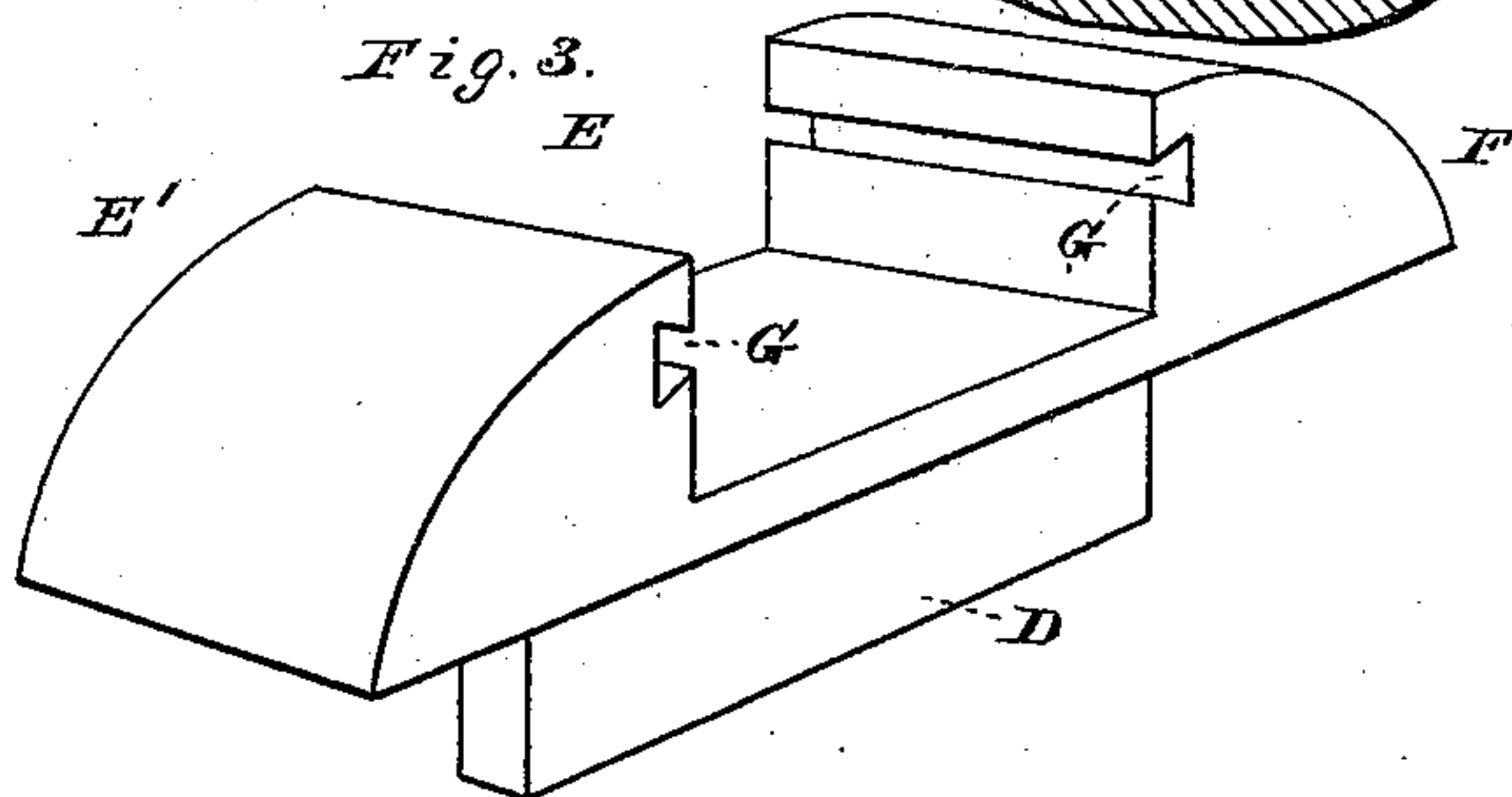
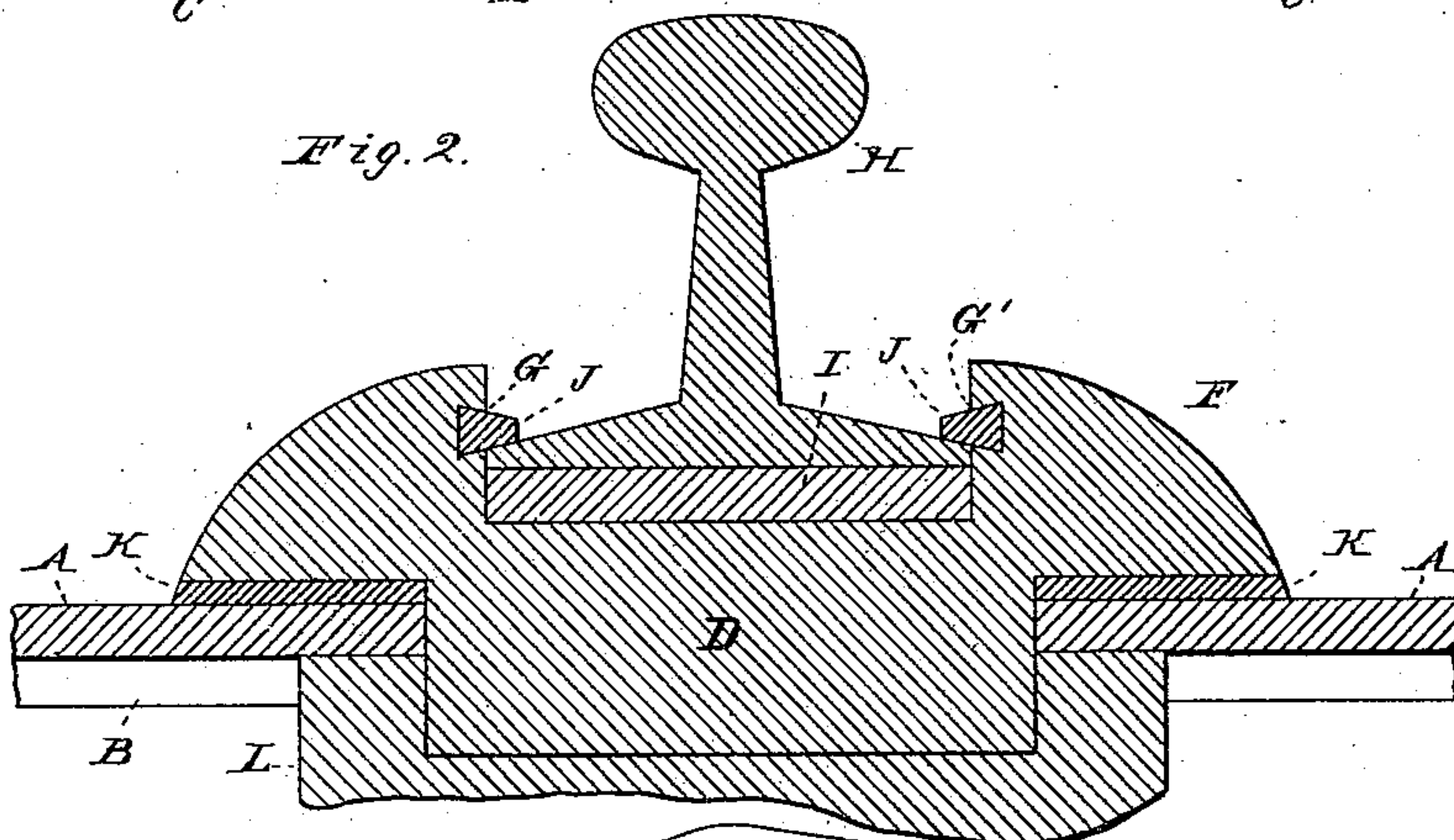
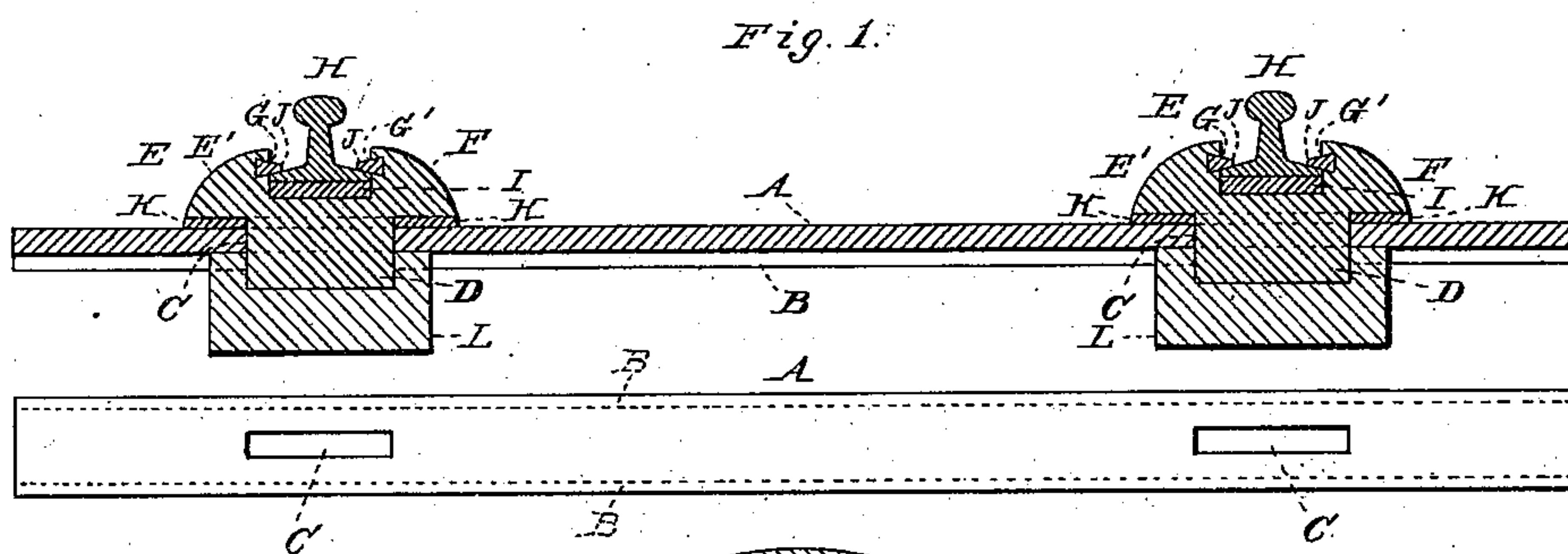
(No Model.)

L. B. PRINDLE.

METALLIC RAILWAY TIE AND CHAIR.

No. 333,480.

Patented Dec. 29, 1885.



WITNESSES

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UNITED STATES PATENT OFFICE.

LYMAN B. PRINDLE, OF BANTAM, CONNECTICUT.

METALLIC RAILWAY TIE AND CHAIR.

SPECIFICATION forming part of Letters Patent No. 333,480, dated December 29, 1885.

Application filed October 24, 1885. Serial No. 180,859. (No model.)

To all whom it may concern:

Be it known that I, LYMAN B. PRINDLE, a citizen of the United States, resident at Bantam, in the county of Litchfield and State of Connecticut, have invented certain new and useful Improvements in Metallic Railway Ties and Chairs; and I do 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, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

Figure 1 of the drawings is a representation of this invention, and is a vertical section taken across the rails. Fig. 2 is a detail and a vertical section. Fig. 3 is a perspective view of the chair. Fig. 4 is a cross-section through the tie.

My invention has relation to railroad ties and chairs; and it consists in the construction and novel combination of parts, as will be hereinafter fully described, and particularly pointed out in the claims.

Referring by letter to the accompanying drawings, A designates the tie, which is made of steel, from three-eighths of an inch to one-half inch in thickness, and is provided with integral depending flanges B B, extending along its entire length at its sides. Near each end the tie A is provided with longitudinal slots C C or mortises, in which the tenons D D of the railroad-chairs are seated.

E designates one of the railroad-chairs, and F F designate the lugs for the same, which lugs are provided in their inner faces with horizontal dovetail grooves G G', which come just above the flanges of the base of the rail H when the latter is in place. Beneath the rail H is placed a strip of wood, I, which can be replaced at any time without disturbing either the rail or chair.

J J are keys, which are driven into the dovetail grooves G G' just above the base-flanges of the rail, to hold the rail in place in the chair. Strips or pieces K, of felt or other fabric, are interposed between the steel tie and the bottom of the chair to protect the tie. Slotted blocks L L are introduced between the flanges of the tie at its ends and receive the lower end

of the tenon of the railroad-chair, and give a greater bearing to the tenons of the chair. The tie will be about from six to seven inches wide, and the flanges B B will be from one to one and one-half inch deep.

It has been demonstrated beyond controversy, both in this country and in Mexico, that the rail must rest on wood, and not on metal or stone. If it rests on either metal or stone, both the rail and the rolling-stock will be pounded out and worn out by use in a short time, as has been demonstrated both in this country and in Europe. I have investigated the matter and have satisfied myself that one-fourth inch in thickness of hard wood under the rail is as good, and will protect the rail as well as one foot in thickness will do. The chair holds the wood in place, and when the wood needs replacing, neither the chair nor the rail need be disturbed. The keys are of the same practical use as spike-heads, and prevent the removal of the rail from the chair. In practice the spike-heads do not touch the rails. They simply prevent the removal of the rails from the chairs. When a train is passing a sharp curve, all that holds the outside rail or keeps the rails from spreading is generally a single spike to each tie, or one-half inch of metal. In this construction the chair has twelve times the metal there is in a spike, and where the tenon goes through the tie there is three times the metal, as the slot in the tie is one and one-half inch wide, and the tenon is six to six and one-half inches long, so that it will be impossible for the rails to spread. The tenon on the chair extends each way farther than the flanges of the rail, so there will be one and three-fourths inch of metal under the rail. The chair in all instances extends across the width of the tie.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination, with the flanged and slotted steel tie, of the railroad-chair having its inner opposed faces provided with dovetail grooves and its base with a tenon, the flanged rail, and the dovetail keys for locking the rail in the chair, substantially as specified.
2. The combination, with the slotted and flanged steel tie and the slotted re-enforcing-

block, of the railroad-chair having grooves in the inner faces of its side lugs, the slotted felt interposed between the tie and the chair, the flanged rail, and the keys for clamping the
5 rail in place, substantially as specified.

3. The combination, with the railway-chair having the grooved lugs, of the wooden strip resting in the bottom of the chair between the

lugs, the flanged rail, and the keys for locking the rail in the chair, substantially as specified. 10
In testimony whereof I affix my signature in presence of two witnesses.

LYMAN B. PRINDLE.

Witnesses:

CLARA C. RAUCH,
FR. M. RAUCH.