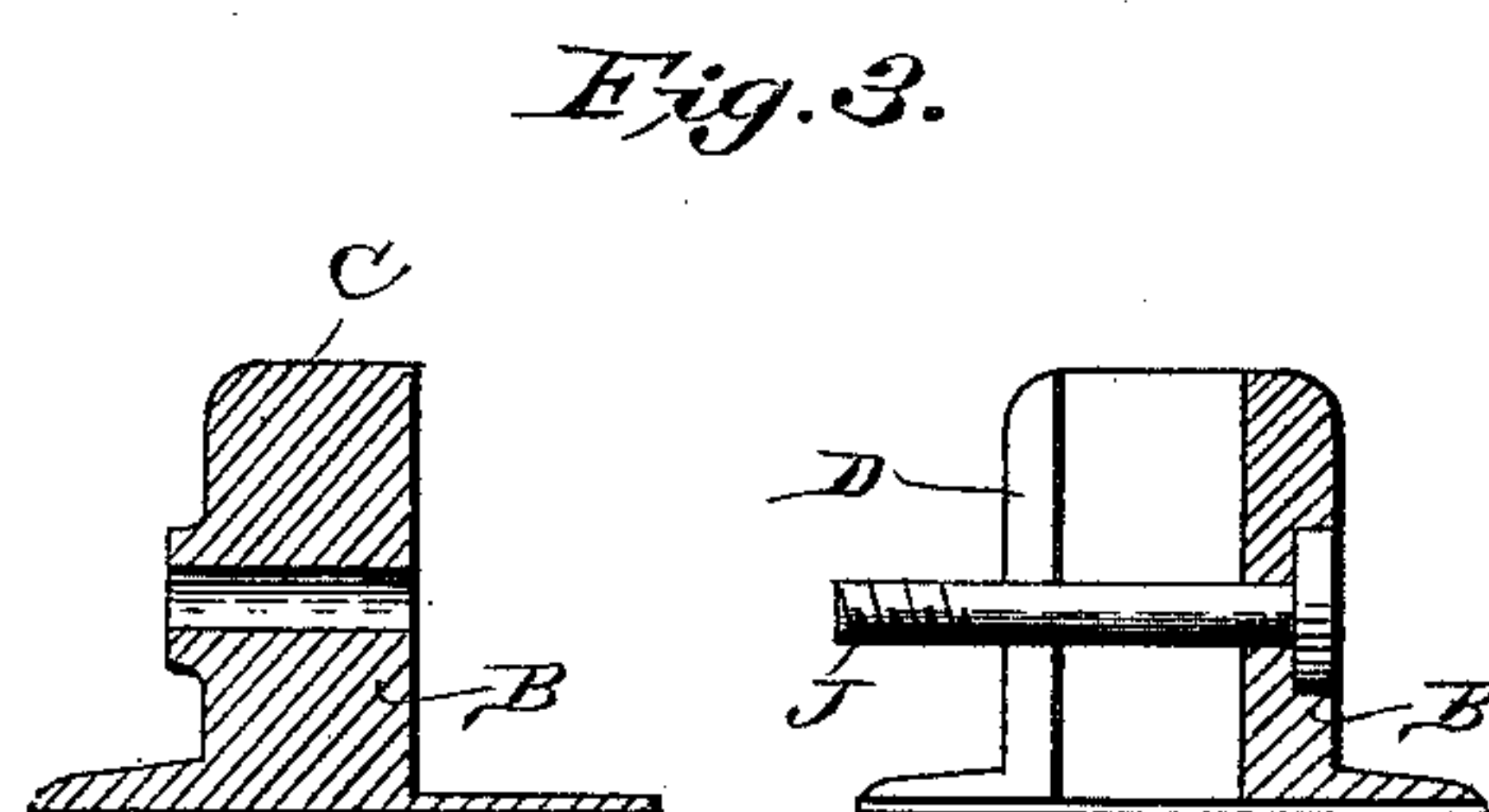
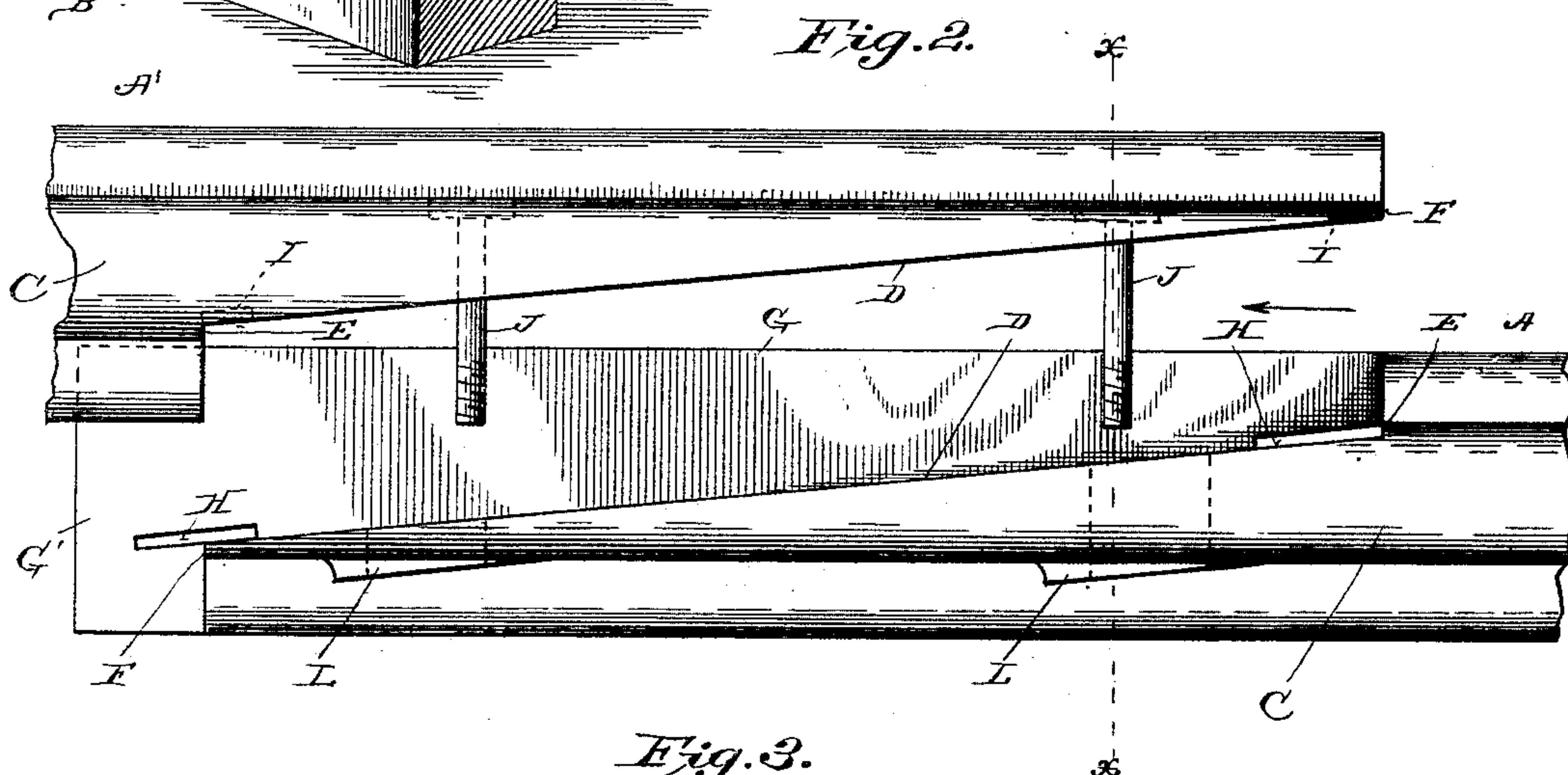
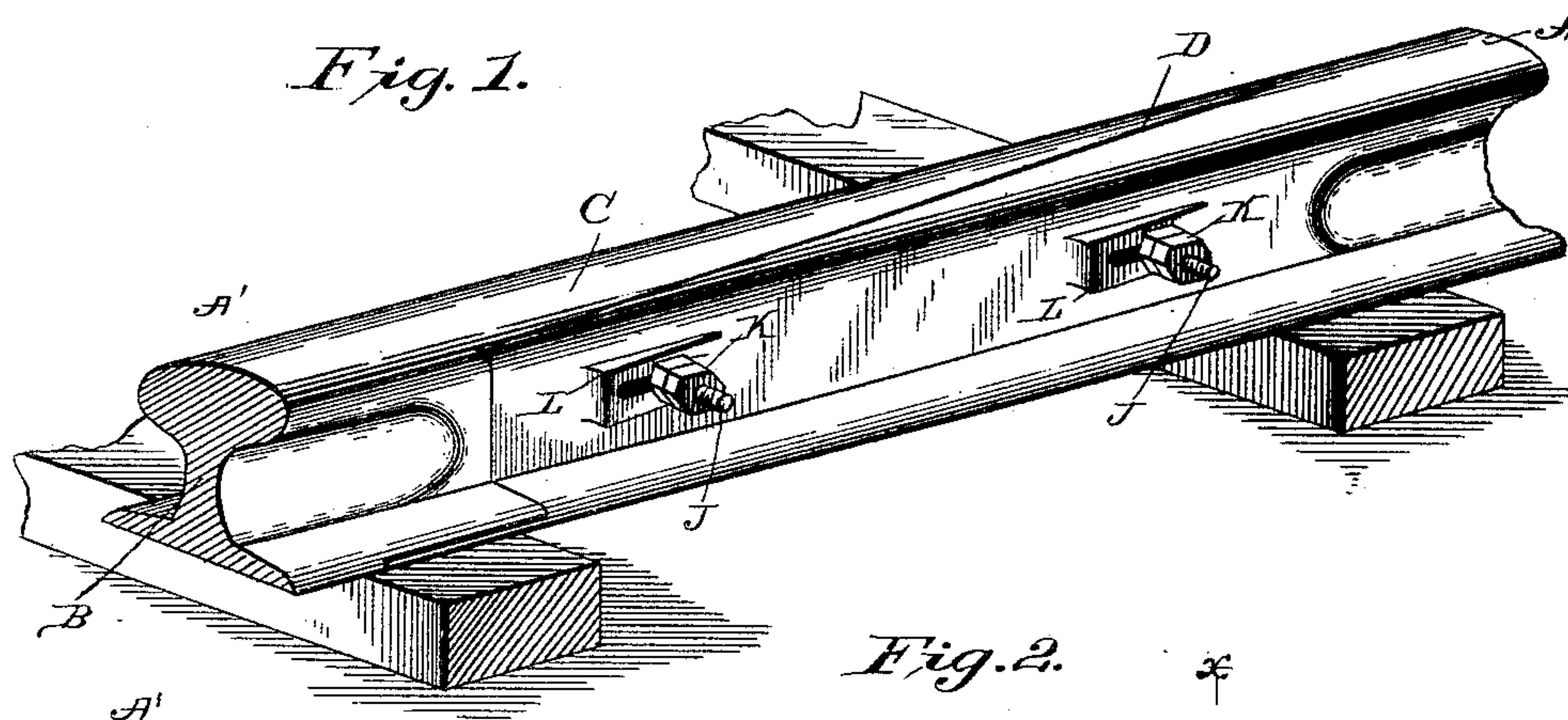


(No Model.)

H. B. POTTER.
RAIL JOINT.

No. 410,696.

Patented Sept. 10, 1889.



Witnesses

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UNITED STATES PATENT OFFICE.

HIRAM B. POTTER, OF CANTON, KANSAS.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 410,696, dated September 10, 1889.

Application filed May 7, 1889. Serial No. 309,868. (No model.)

To all whom it may concern:

Be it known that I, HIRAM B. POTTER, a citizen of the United States, residing at Canton, county of McPherson, State of Kansas, have invented certain new and useful Improvements in Rail-Joints; and I do hereby declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use the same.

The object of the invention is to provide a rail-joint that shall be safer than the joint usually employed, and that at the same time shall entirely avoid the slight offset of the ends of adjacent rails and the consequent hammer-blows given by the passing wheels.

The invention is fully shown in the accompanying drawings, in which—

Figure 1 is a perspective view of the adjacent ends of two rails joined in accordance with my invention. Fig. 2 is a top plan of the same, the parts being laterally separated and in position to be brought together for uniting. Fig. 3 is a section on the line xx , Fig. 2.

In the drawings, $A A'$ are adjacent portions of two rails, the body portions of which are of the usual form in cross-section. For some distance from the ends the vertical web B of each rail is thickened until of the same width or thickness as the top or ball C of the rail, and the web and top are cut diagonally in a vertical plane at D , the cut, however, not extending entirely across, but leaving a vertical shoulder E at one end and an equal vertical face F at the other end of the inclined or diagonal cut. The base of one of the rails extends entirely beneath and a little beyond the joint, as shown at G , Fig. 2, the overlapped part being, as shown, of about one-half the normal thickness, and the base of the other being correspondingly cut away, so that when the parts are together they form one continuous rail.

The rails being thickened, no fish-plates are needed or used, and as the overlapped ends extend fully across the usual space between two adjacent ties they are held in proper relative position by proper placing of the ordinary spikes; but for more perfect security the projecting portion G of the base is

provided with slots H parallel to the inclined overlapping face, and the other overlapping part with correspondingly-placed lugs I , that drop into these slots and prevent relative lateral displacement of the parts. Two bolts J are also passed through the splice transversely, and are secured by the usual double nuts K upon the outer side of the rail, the bolt-heads being sunk in the thickened web to be out of the path of the flanges of passing wheels. To allow contraction and expansion by heat, the bolt-holes are widened horizontally to form the usual slots, and the slots H are also made longer than the lugs that enter them. The base G , extending beneath the body of the other rail at G' , also insures a complete support for the overlapping part, even when the splice is drawn apart to its utmost limit, and in order that the bolts may not be loosened by such drawing apart the outer face of the rail is provided with bosses L , formed integrally with the rail, and having their outer faces parallel with the inclined face of the joint and in position to receive the nuts upon the bolts.

The depth of the shoulder E and the corresponding thickness of the end F should be sufficient to obviate the danger of the bending of the latter inward.

Now, it is plain that as the base G extends beneath the whole length of the joint and rests upon two adjacent ties, it and not the bolts must stand the strain of the passing wheel, tending to offset the rail ends, and that as the weight, owing to the inclination of the joint, passes gradually from one to the other of the rails, there can be no jar nor hammer-like blow whatever, the passage being as smooth and noiseless as over any other portion of the rail.

What I claim is—

1. The combination, with a diagonally-cut rail having an integrally-formed base-plate extending beyond the end of the body of the rail, of a second oppositely-cut rail recessed at its base to receive said plate, substantially as set forth.

2. The combination, with a diagonally-cut rail having an integrally-formed base-plate extending beyond the end of the rail and of the full width of the rail's base throughout,

of a similarly-cut rail adapted to overlap the first and having its base recessed to receive and rest upon the whole surface of said plate, whereby the joint may be supported and be
5 held against torsional opening by spikes upon each side of the rail, binding together said plate and the superposed base of the other rail.

3. The combination, with the diagonally-cut
10 rail A, provided with the integrally-formed slotted base G, of the similarly-cut rail A', recessed to receive said base and provided with the lugs to enter said slots, substantially as and for the purpose set forth.

4. The combination, with the diagonally-cut 15 overlapped rails, the bolts passing transversely through the overlapped ends, and the bosses formed integrally with one of said ends and having their outer surfaces parallel to the diagonally-cut faces, substantially 20 as and for the purpose set forth.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

HIRAM B. POTTER.

Witnesses:

SUMTER PHILLIPS,
JEREMIAH MCKNEW.