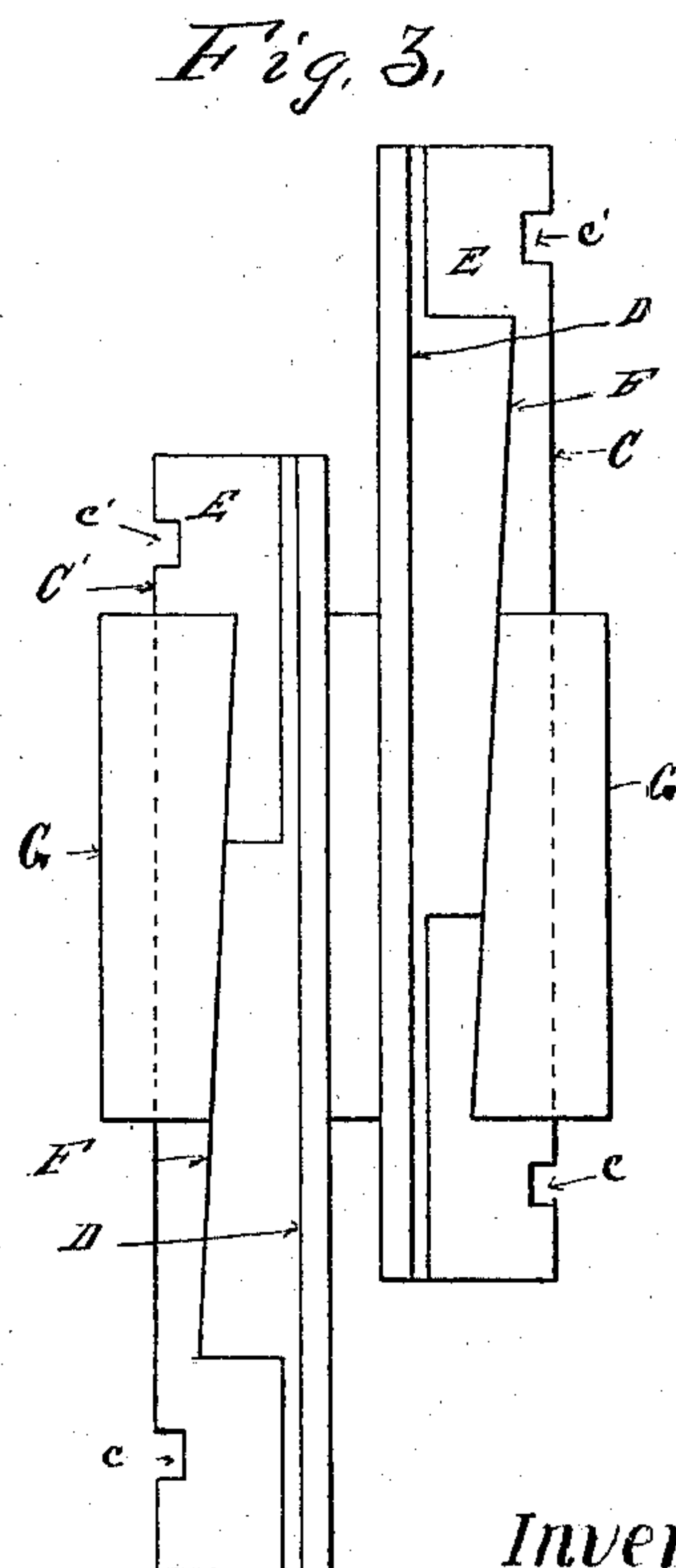
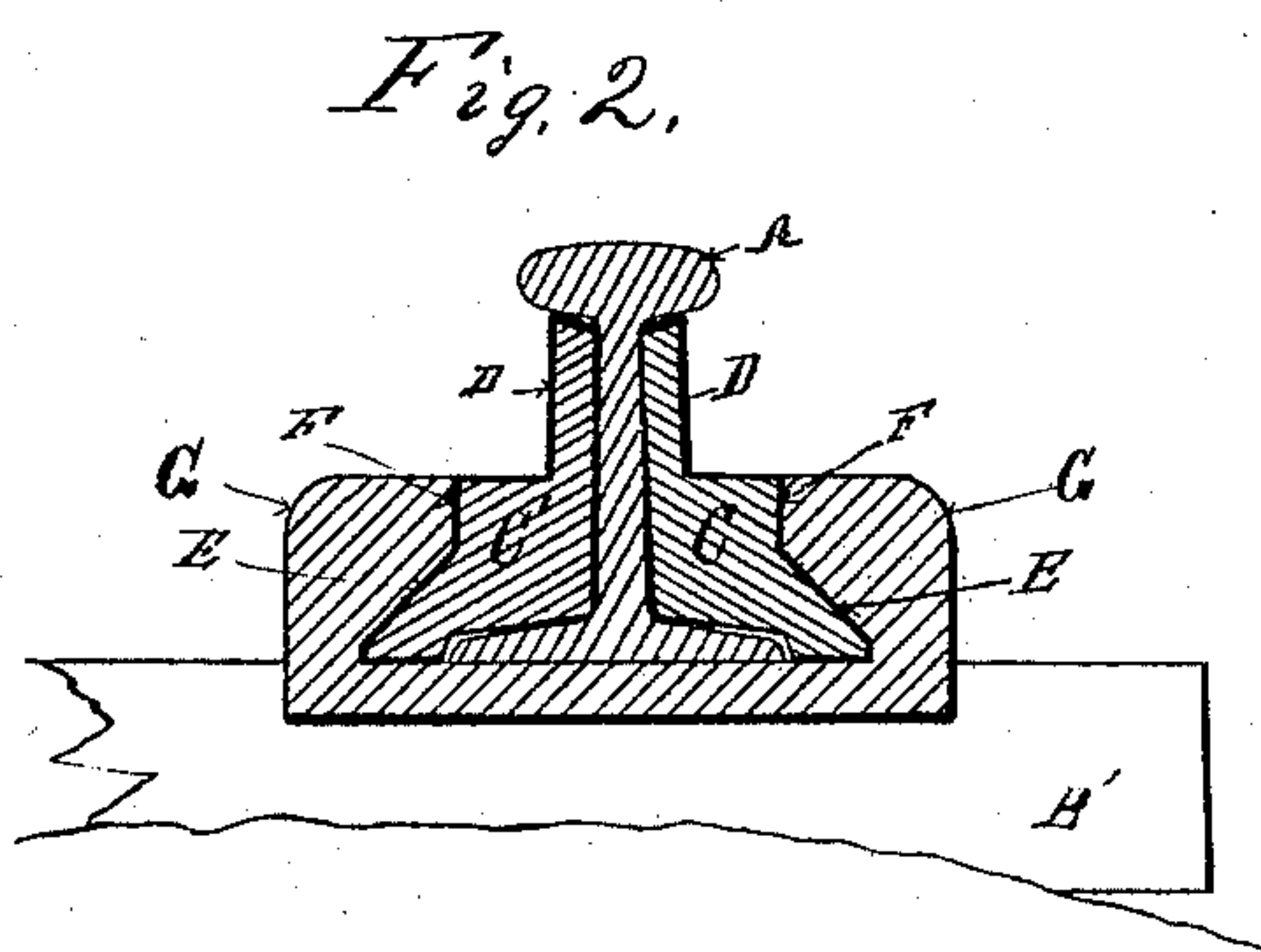
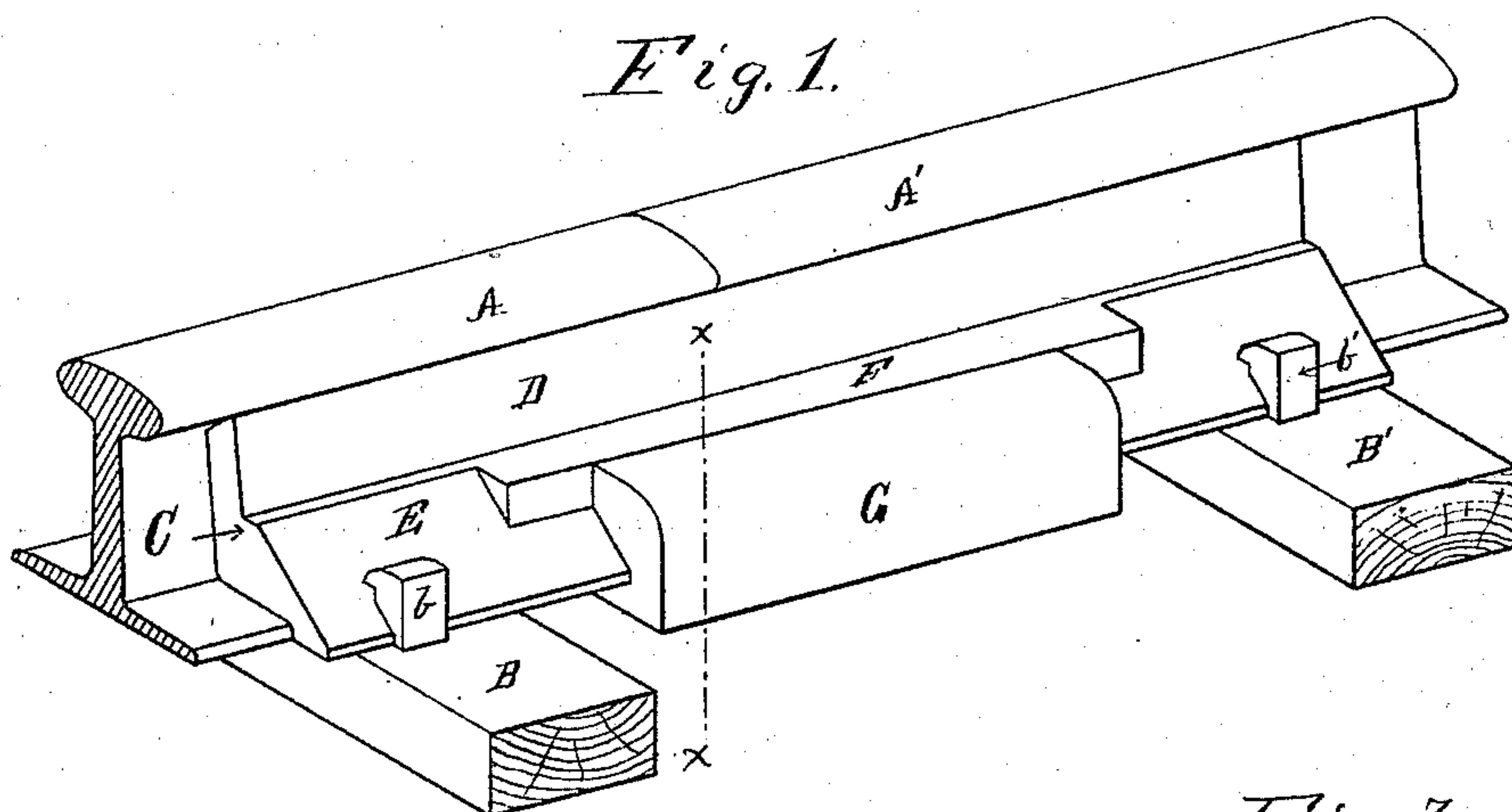


(No Model.)

B. FRANKLIN.
RAILWAY RAIL JOINT.

No. 369,704.

Patented Sept. 13, 1887.



Witnesses.

Geo. A. Sturgeon

W. J. Clark.

Inventor.

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Per.

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Att'y.

UNITED STATES PATENT OFFICE.

BENJAMIN FRANKLIN, OF BRADFORD, ASSIGNOR OF ONE HALF TO ALONZO I. WILCOX, OF SMETHPORT, PENNSYLVANIA.

RAILWAY-RAIL JOINT.

SPECIFICATION forming part of Letters Patent No. 369,704, dated September 13, 1887.

Application filed December 7, 1886. Serial No. 220,891. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN FRANKLIN, a citizen of the United States, residing at Bradford, in the county of McKean and State of Pennsylvania, have invented certain new and useful Improvements in Railway-Rail Joints; 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, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

My invention relates to railway-rail joints; and it consists in the improvements herein-after set forth and explained.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my improved railway-rail joint. Fig. 2 is a cross-section of the same on the line *xx* in Fig. 1. Fig. 3 is a top or plan view of the clamping mechanism of the joint detached from the rail.

Like letters refer to like parts in all the figures.

In the construction of my improved railway-rail joint shown, *A A'* are sections of two railway-rails, and *B B'* cross-ties upon which the rails rest. In this joint I make two fish-plates, *C C'*, of such shape that their inner faces conform to the contour of the side of the rails *A A'* from the tread thereof downward, and also so that the outer edges of the bases thereof will rest upon the cross-ties *B B'*, (though this latter feature may be omitted, if desired,) and of sufficient length to reach from one cross-tie to the other, substantially as illustrated in Figs. 1 and 2 of the drawings. The outer sides of these fish-plates *C C'*, I make perpendicular for about one-half of their height, forming the portion *D* thereof, the thickness of this portion *D* being such that the tread of the rail will project somewhat beyond it, so that it will clear the flanges of the car-wheels run on said rail. Below the portion *D* of the fish-plates *C C'* the outside of the plate slopes downward and outward at an angle of, say, forty-five degrees, to the base of the fish-plates *C C'*, forming the portion *E* thereof. On the central portion of the part *E*, I provide wedge-shaped projections *F*, (illustrated in Figs. 1 and 3,) adapted to tighten the fish-plates *C C'* against the rails when the fish-plates *C C'* are driven into a clamp or chair, *G*. This clamp or chair *G*, I construct of such shape that the inside of the bottom thereof will fit up closely to the bases of the rails *A A'* and of the fish-plates *C C'* when in place, the sides of the clamp or chair projecting upward and inward in such shape as to embrace the ends of the rails *A A'* and the joint formed thereby for some distance each way from said joint, and fit on the portions *E* of the fish-plates *C C'*, and also engage with the wedge-shaped portions *F* thereof, substantially as illustrated in Figs. 1 and 2, so that when the clamp *G* is placed under the rails at the joint and the fish-plates *C C'* are driven into place, one from one direction and the other from the opposite direction, as illustrated in Fig. 3, they will tightly clamp each side of the joint, the fish-plates *C C'*, the joint between the ends of the rails *A A'*, and the clamping-chair *G*, embracing said joint, occupying the relative positions to each other and to the cross-ties *B B'*, upon which the rails *A A'* and the ends of the fish-plates *D D* rest, (illustrated in Figs. 1 and 2,) where they may be permanently secured by driving spikes *b b'* through the notches *c c'* in the fish-plates *C C'* into the cross-ties *B B'* on each side of the rail, and thus preventing the working loose of the fish-plates *C C'* and the loosening of the joint thereby.

Having thus fully described my invention, so as to enable others skilled in the art to which it appertains to construct and use the same, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination, in a railway-rail joint, of a clamp or chair embracing the lower portions of the ends of both rails and of the joint formed thereby with fish-plates of such length as to rest upon the cross-ties on both sides of the joint, having wedge-shaped projections on the central portion of the outsides thereof adapted to operate to tighten said fish-plates between said clamp and joint, substantially as and for the purpose set forth.
2. The combination, in a railway-rail fish-plate, of an inner face thereon adapted to fit the contour of the side of the rail below the tread thereof with an outer face thereon pro-

vided with a wedge-shaped projection on the
outside of the central portion thereof, adapted
to engage with the side of a clamp or chair em-
bracing the ends of both rails and the joint
5 formed thereby, substantially as and for the
purpose set forth.

3. The combination, in a railway-rail joint,
of the clamp or chair G, embracing the ends of
both of the rails and the joint formed thereby,
10 with the fish-plates CC', having thereon wedge-
shaped projections F, substantially as and for
the purpose set forth.

4. The combination, in a railway-rail joint,
of the clamp or chair G with the fish-plates C
C', having the wedge-shaped projections F 15
thereon, and the spike-notches cc' therein, sub-
stantially as and for the purpose set forth.

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

BENJAMIN FRANKLIN.

Witnesses:

P. M. FULLER,
GEO. A. STURGEON.