

C. FISHER.
Rail-Joint.

No. 215,446.

Patented May 20, 1879.

Fig. 1

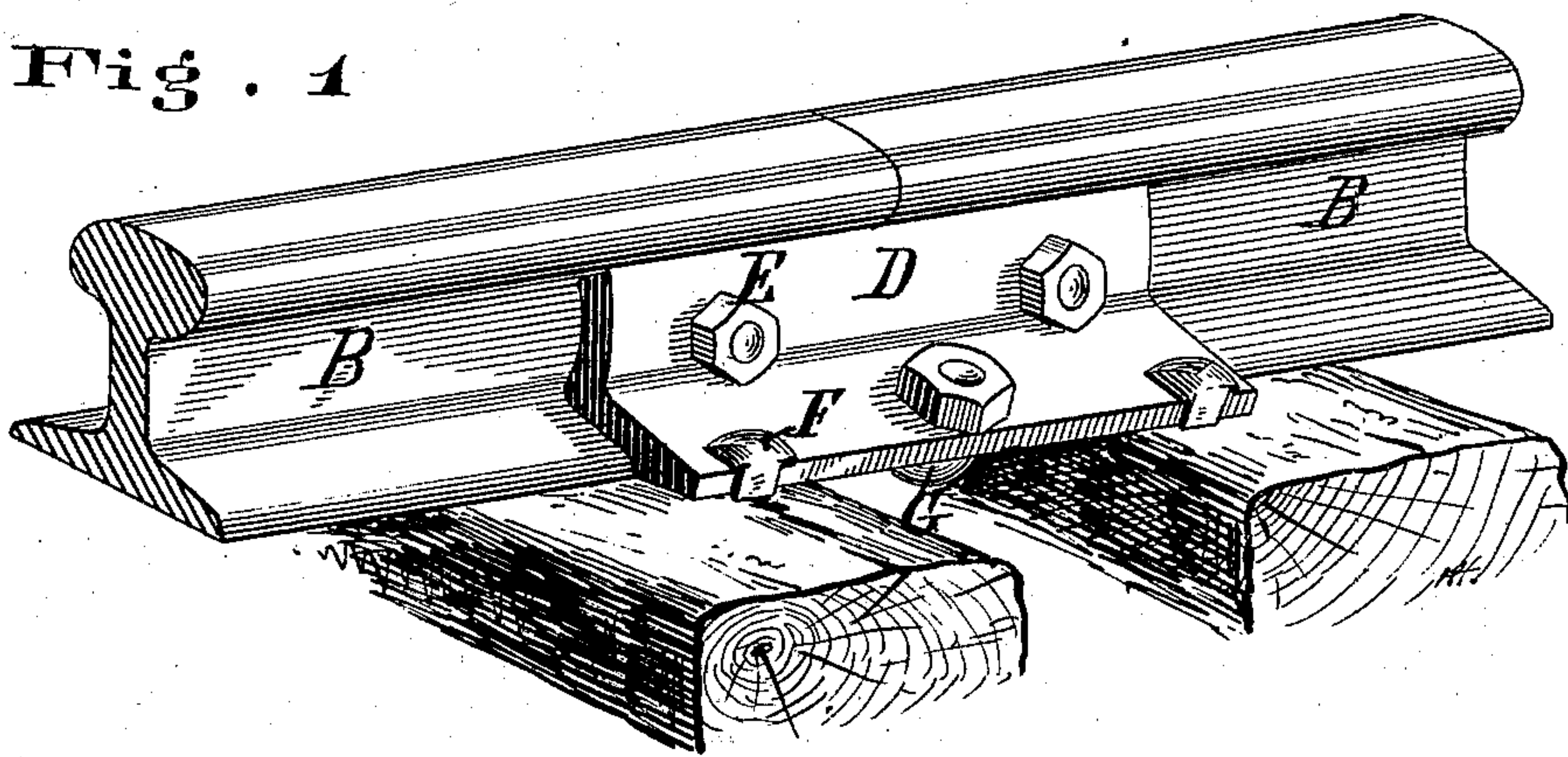


Fig. 2

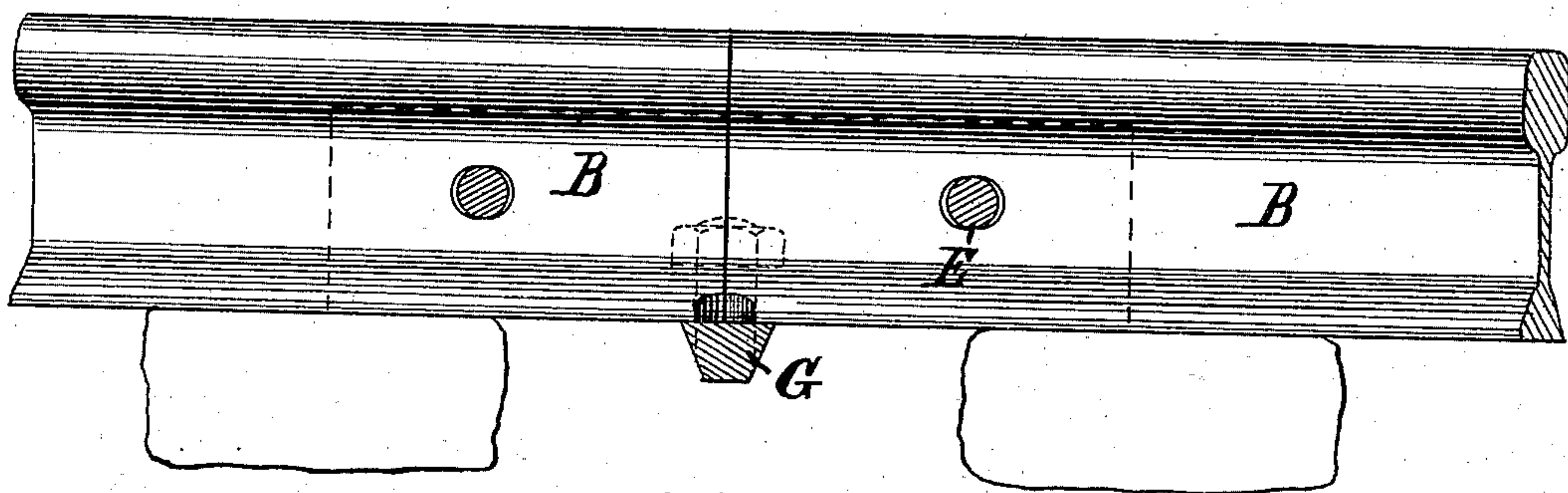


Fig. 3

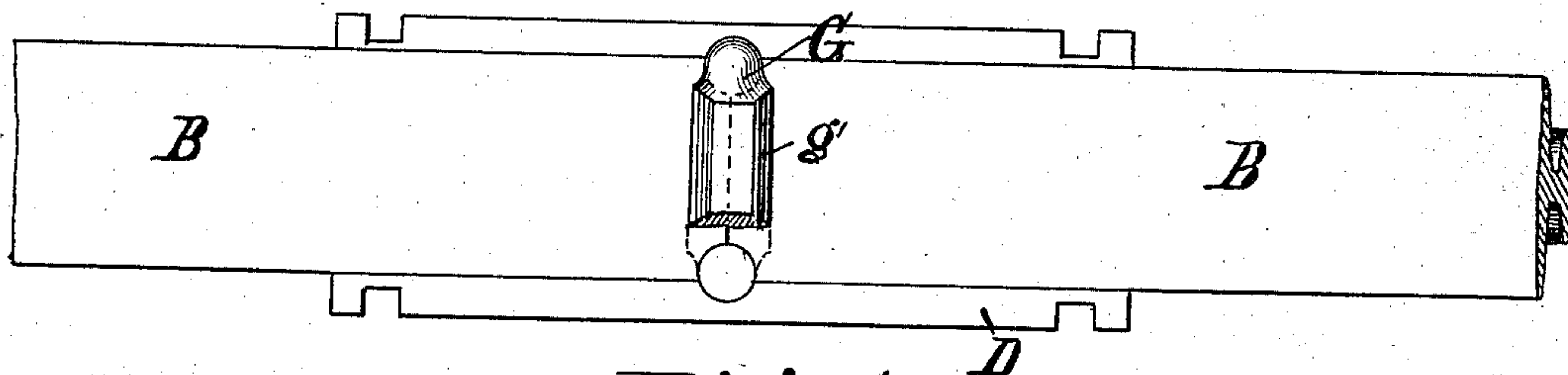
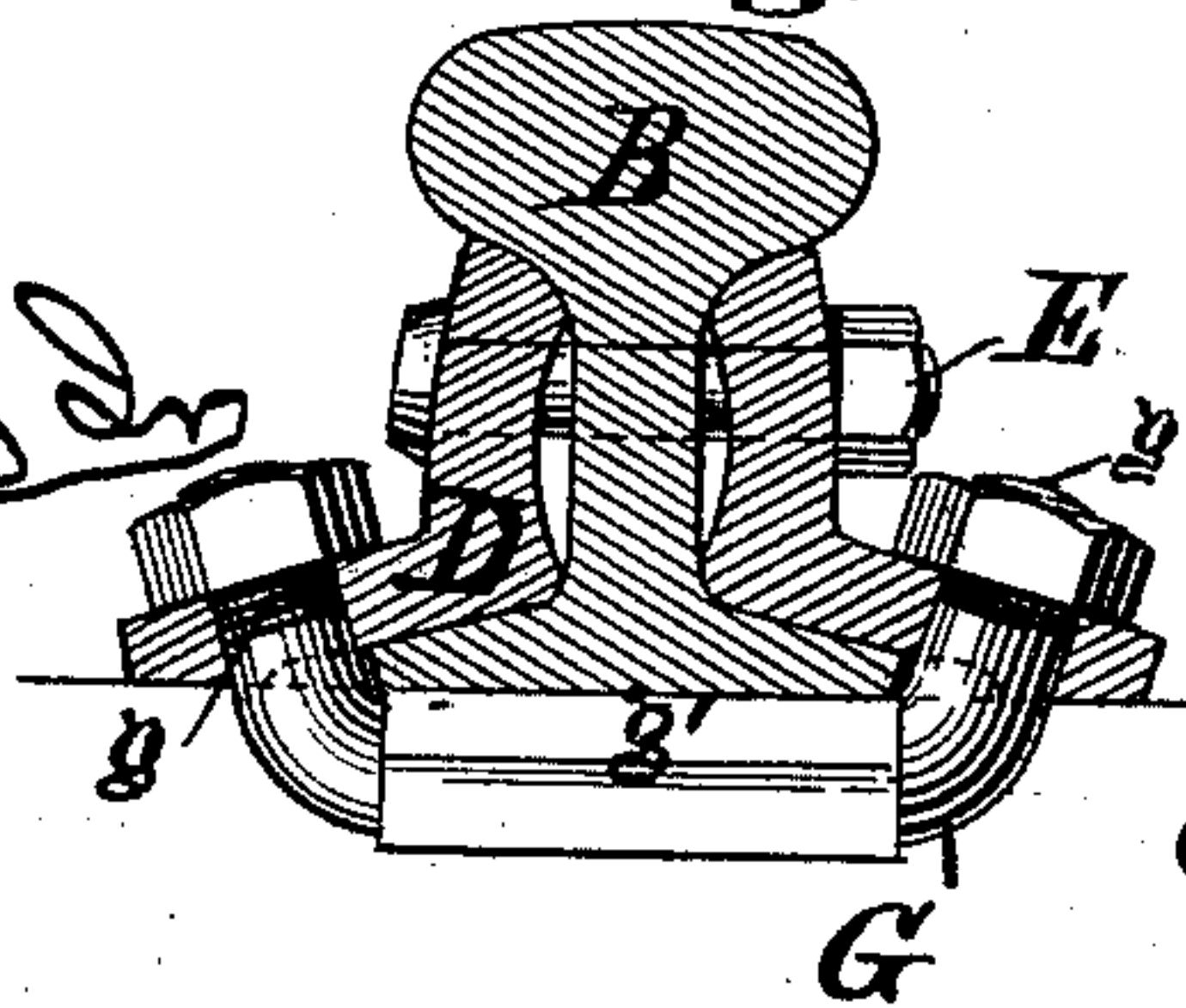


Fig. 4



Attests

John Doherty
John Doherty

Inventor

Clark Fisher,
By his Attorneys

W. C. Strawbridge
W. C. Strawbridge,
Barnall Taylor.

UNITED STATES PATENT OFFICE.

CLARK FISHER, OF TRENTON, NEW JERSEY.

IMPROVEMENT IN RAIL-JOINTS.

Specification forming part of Letters Patent No. **215,446**, dated May 20, 1879; application filed March 5, 1879.

To all whom it may concern:

Be it known that I, CLARK FISHER, of Trenton, New Jersey, have invented an Improvement in Rail-Joints, of which the following is a specification.

My invention relates to angle-bar rail-joints; and its object is to dispense with the old base chair or plate, at the same time, however, to support the rail beneath its base as well as beneath its head, and to insure vertical stiffness.

Of the drawings, Figure 1 is a view, in perspective, of a joint constructed according to my invention and applied to the rails; Fig. 2, a side elevation of the same, the base-bolt being sectioned; Fig. 3, a bottom-plan view of the same, one side of the base-bolt being removed; and Fig. 4, a central elevation, in cross-section, of the same, the base-bolt in elevation and not sectioned.

Similar letters of reference indicate corresponding parts.

In the drawings, B are ends of contiguous rails; D, angle-bar fish-plates, of common form, extending beyond the edge of the base of the rails, and flush beneath with the bottom of the same. E are fish-plate bolts; F, spikes. G is a base-bolt, well constructed, of the form shown—that is to say, as a long U-bolt or supporting beam running transversely across and beneath the rails at the intersections thereof, elongated so as to turn up and pass through the angle-bars, and armed with nuts at each extremity above said angle-bars to clamp the whole together, and thereby bring support under the bases of the rail ends.

The threaded shanks or ends of the base-bolt are lettered *g*, the bed portion thereof *g'*, which portion is best of such width as to insure ample support to the end of each rail when in the position of greatest contraction, and of such length as to be slightly less than

the extreme width of the base of the rail, so as to lie beneath the strongest portion of the base, and not beneath the extreme edges. With this end in view the corners of the base of the rail may, if desired, be cut away, as shown in Fig. 3, so as to afford room for the bolt-shanks.

The form of base-bolt represented in the drawings with a bed portion of the section shown in Fig. 2 I believe to be serviceable.

The angle of the shanks *g* should be such as to bring the nuts flat against the face of the lower portion of the angle-bars at whatever inclination the same may be.

The effect of my improvement is to bind the angle-bars tightly to the rails, to prevent to some degree the tendency of the former to spread, to insure vertical stiffness to the joint, and to dispense entirely with the base-chair, and to enable the use of shorter angle-bars than were possible with base-chairs.

Having thus described my invention, I claim and desire to secure by Letters Patent of the United States—

1. The combination, with the angle-bars D and the rails B, of a supporting base-bolt, G, running transversely to the rails beneath contiguous ends thereof, and connected with the angle-bars, substantially as and for the purposes set forth.

2. The base-bolt G, the bed or central portion, *g'*, of which is flattened on its upper or supporting surface, for the purpose set forth.

In testimony whereof I have hereunto signed my name this 24th day of February, A. D. 1879.

CLARK FISHER.

In presence of—

EDW. F. GREEN,

WILLIAM L. DAYTON.