

No. 679,613.

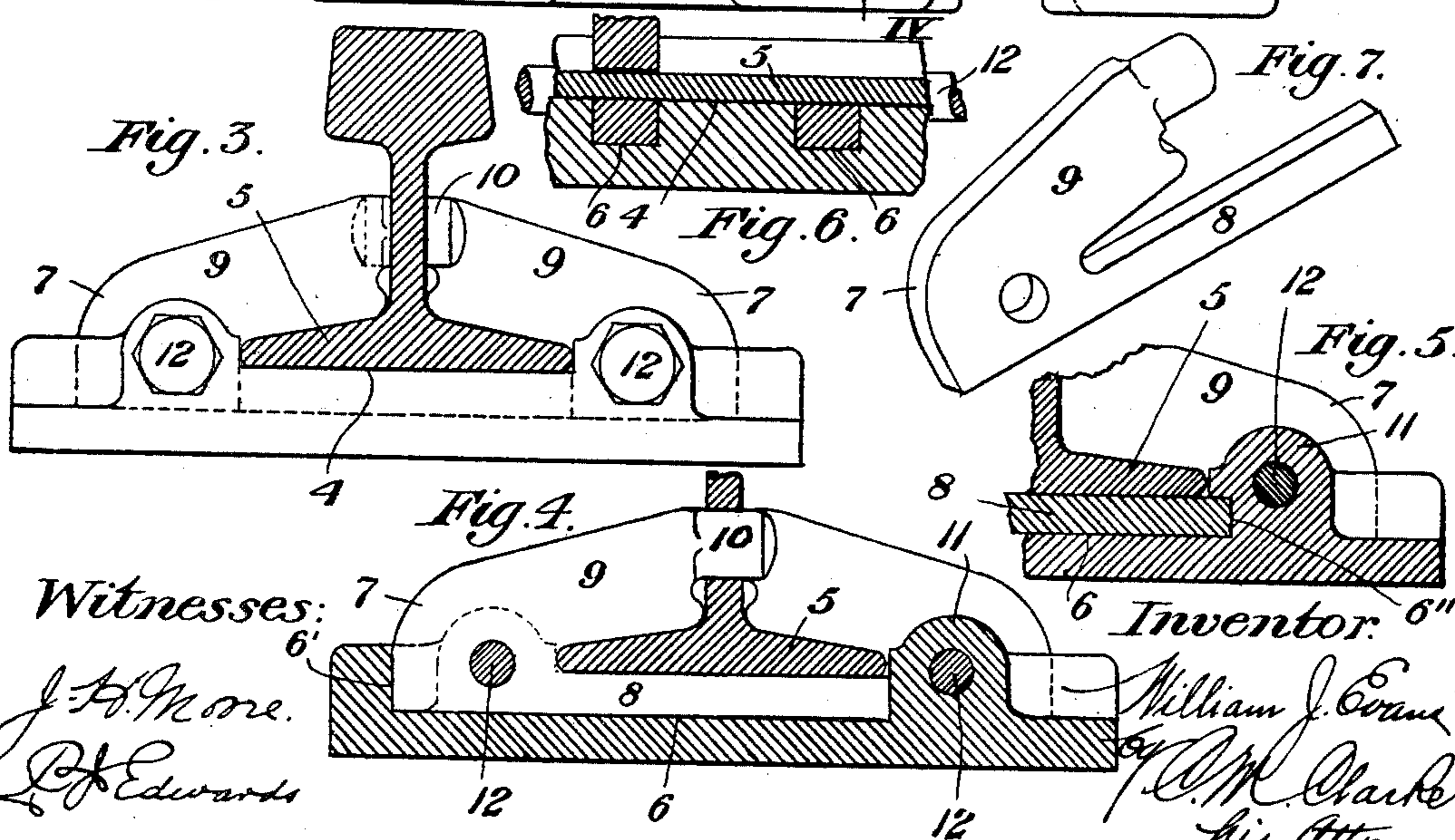
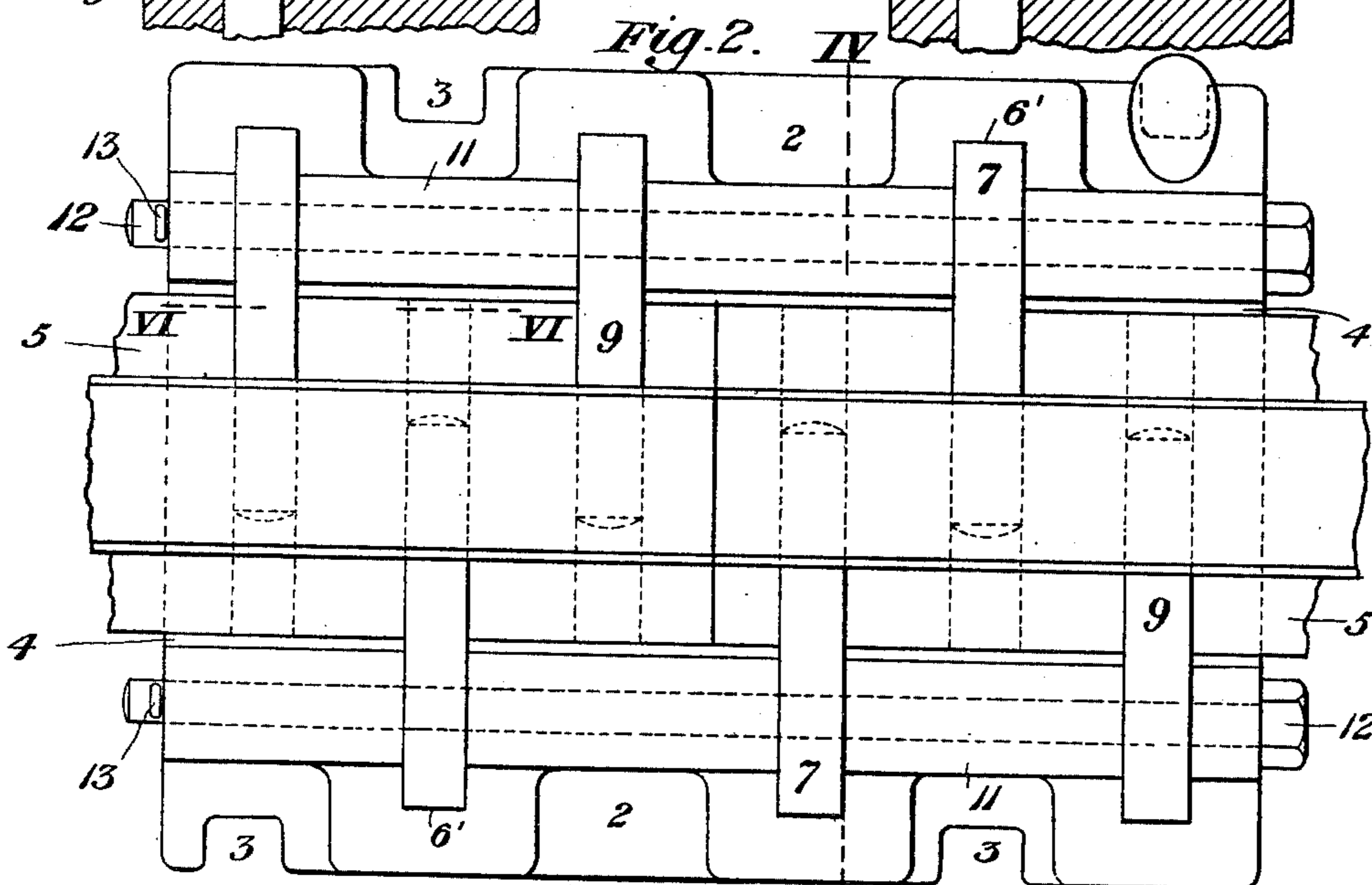
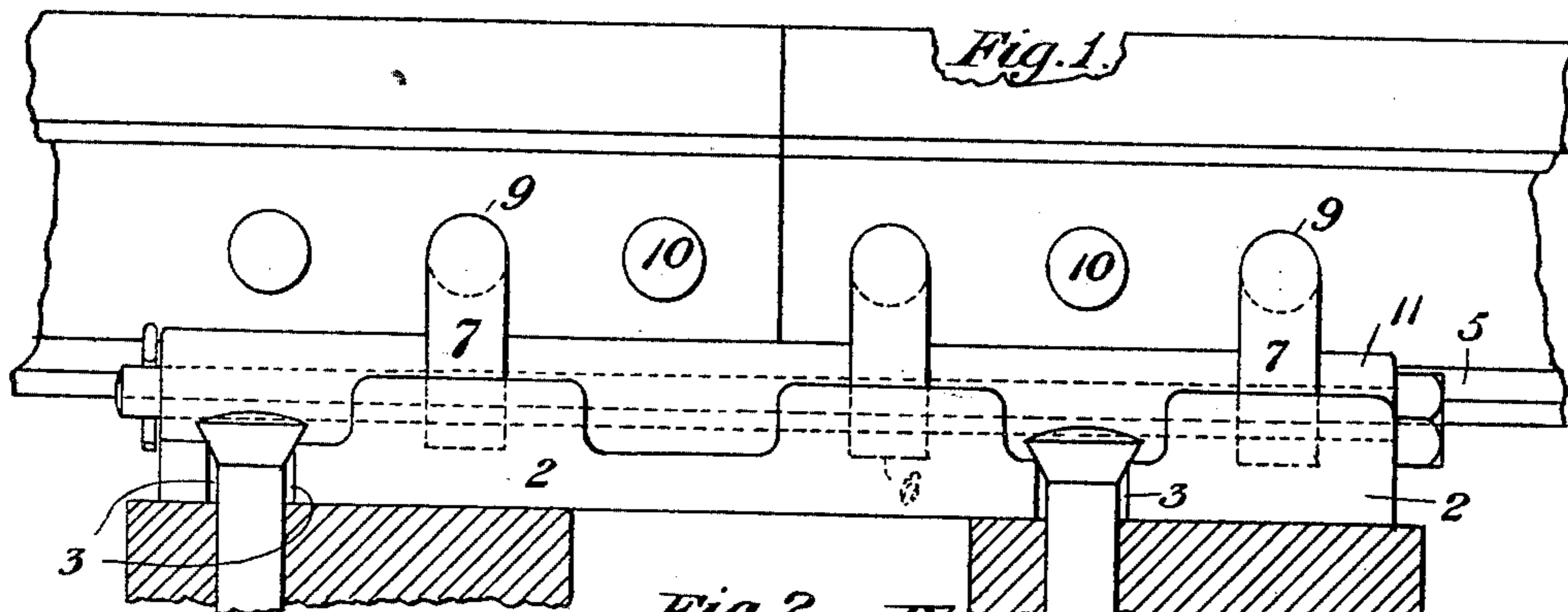
Patented July 30, 1901.

W. J. EVANS.

RAIL JOINT.

(Application filed Feb. 20, 1901.)

(No Model.)



# UNITED STATES PATENT OFFICE.

WILLIAM J. EVANS, OF PITTSBURG, PENNSYLVANIA.

## RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 679,613, dated July 30, 1901.

Application filed February 20, 1901. Serial No. 48,200. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM J. EVANS, a citizen of the United States of America, and a resident of Pittsburg, county of Allegheny, State of Pennsylvania, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a view in side elevation of my improved rail-joining plate. Fig. 2 is a plan view thereof. Fig. 3 is an end view, the rail being shown in section. Fig. 4 is a cross-sectional view on the line IV IV of Fig. 2. Fig. 5 is a partial similar view illustrating a modification. Fig. 6 is a detail similar view indicated by the line VI VI of Fig. 2. Fig. 7 is a perspective detail view of one of the fastening-keys.

My invention relates to improvements for connecting the ends of railway-rails, and is designed for the purpose of providing a strong, simple, and efficient bearing for the meeting ends of the rails provided with means for clamping them securely in position and in fixed relation to each other, whereby the continuity of the track is maintained in perfect alinement.

A feature of especial advantage in my invention consists in the absence of fish-bars, bolts, and nuts, whereby I entirely avoid the trouble incident to the use of such means, and the necessity for any form of nut-lock is entirely dispensed with.

Referring now to the drawings, 2 represents the bearing-plate, adapted to be set upon the ties, as shown, and secured thereon by spikes engaging recesses 3 and driven into the ties in the usual manner. Along the central upper portion of the plate is a chair-recess 4 of proper width to receive and form a bearing for the flanges of the rails 5. Transversely arranged across the plate 2 are recesses 6, which extend underneath the surface 4, forming opposite edges of such surface bearing underneath and outwardly beyond on each side of the rail-flanges for some distance, as shown at 6', and such recesses are, as shown, arranged alternately on one side and the other. In such recesses are inserted the locking-keys 7, having a lower horizontal body portion 8,

which fills the recess 6 underneath the rail-flanges and which is formed with an upper clamping portion 9, adapted to embrace the flange on one side and to bear inwardly against the web of the rail, such portion 9 terminating in an extremity 10, which projects through the rail-web to the other side. On each side of the plate, parallel with the bearing-recess 4 and on each outer side thereof, are formed enlargements 11, through which from end to end are drilled holes for retaining-bolts 12, which pass through the plate from end to end and also through each one of the clamps 7, as clearly shown. The bolts project outwardly at the other end and are provided with cutters, by which the bolt is prevented from removal. As thus constructed, the plate and the clamping-bars when so held together will firmly incorporate the meeting ends of the rail with the plate and will constitute a practically solid continuous joint, the weight of the rail and of the rolling-stock upon it bearing down upon the member 8 of the clamp effectually forming a self-lock during all the time when it is in use, and in practice all of the parts will be continuously maintained in their initial relation to each other.

In Fig. 5 I have illustrated a modification wherein the member 8 extends somewhat beyond the opposite edge of the flange and into an extended recess 6'', thus providing an additional retaining-bearing, although the construction as shown and described will provide ample security for such parts.

The advantages of my invention will be appreciated by those skilled in the art, and it is obvious that it may be applied to other types of rails—as, for instance, street-railway tracks, tramways, &c.—and such use is contemplated as within the scope of the invention, as well as other changes and variations which may be made in its design, proportions, or in other details by the skilled mechanic, since I do not desire to be confined to the specific construction set forth.

Having described my invention, what I claim is—

1. A rail-joint bearing-plate provided with a recessed seat for the rail ends and having transverse recesses for retaining-clamps, and longitudinal bolts passing through the plate

and clamps and securing them together, substantially as set forth.

2. A rail-joint bearing-plate provided with a recessed seat for the rail ends, transverse  
5 recesses, holding-clamps therein, and longitudinal bolts passing through the plate and clamps and securing them together, substantially as set forth.

3. In combination, a rail-joint bearing-plate  
10 provided with a longitudinal recessed seat for the rails, transverse recesses, holding-clamps seated in the recesses, and embracing the rail-flanges, and longitudinal bolts passing through the plate and clamps and securing  
15 them together, substantially as set forth.

4. In combination, a rail-joint bearing-plate provided with a longitudinal recessed seat for the rails, transverse recesses, holding-clamps seated in the recesses, embracing the rail-  
20 flanges and having extremities projecting through the rail-web, and longitudinal bolts passing through the plate and clamps and securing them together, substantially as set forth.

5. In combination, a rail-joint bearing-plate 25 provided with a longitudinal recessed seat for the rails, transverse recesses, holding-clamps seated in the recesses, embracing the rail-flanges and having extremities projecting through the rail-web, and securing-bolts passing 30 longitudinally through the plate and clamps, substantially as set forth.

6. In combination, a rail-joint bearing-plate provided with a longitudinal recessed seat for the rails, transverse recesses, alternately-ar- 35 ranged holding-clamps seated in the recesses having a lower portion extending below the rail-flanges, and an upper portion embracing the rail-flanges, and extending through an opening in the rail-web, and securing-bolts 40 passing through the plate and clamps on each side of the rails, substantially as set forth.

Signed at Pittsburg this 5th day of January, 1901.

WILLIAM J. EVANS.

Witnesses:

J. F. McKENNA,  
C. M. CLARKE.