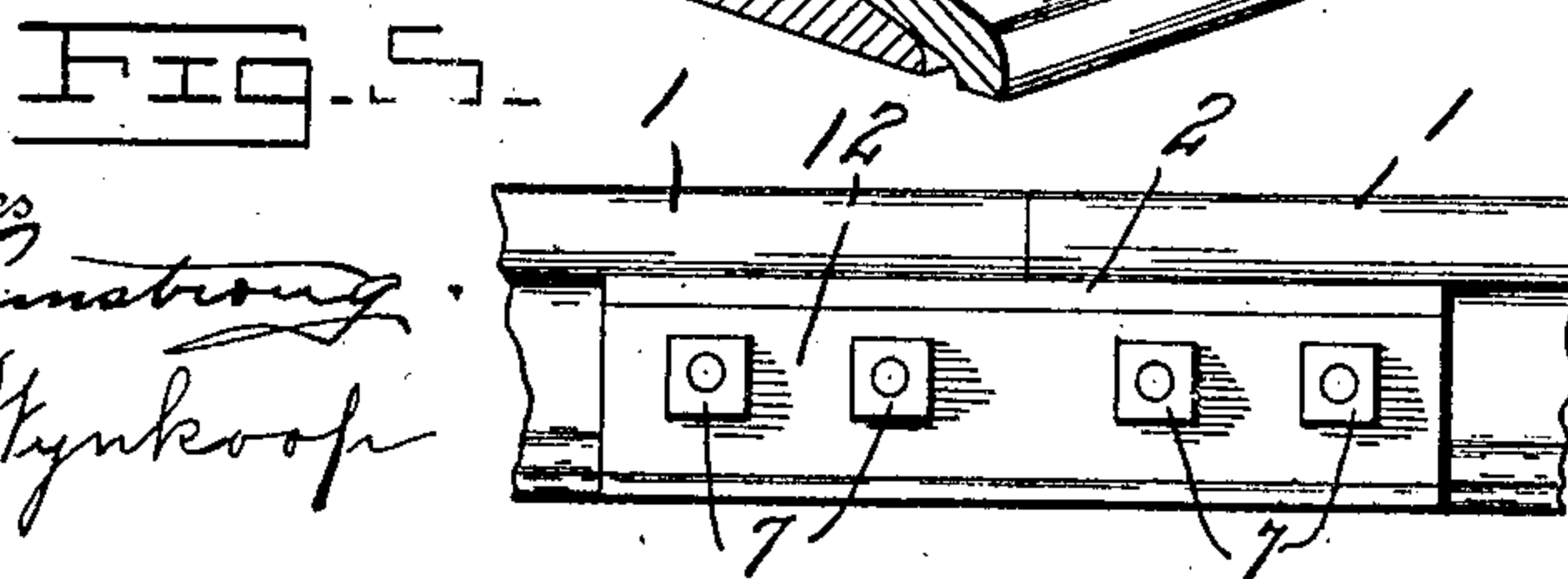
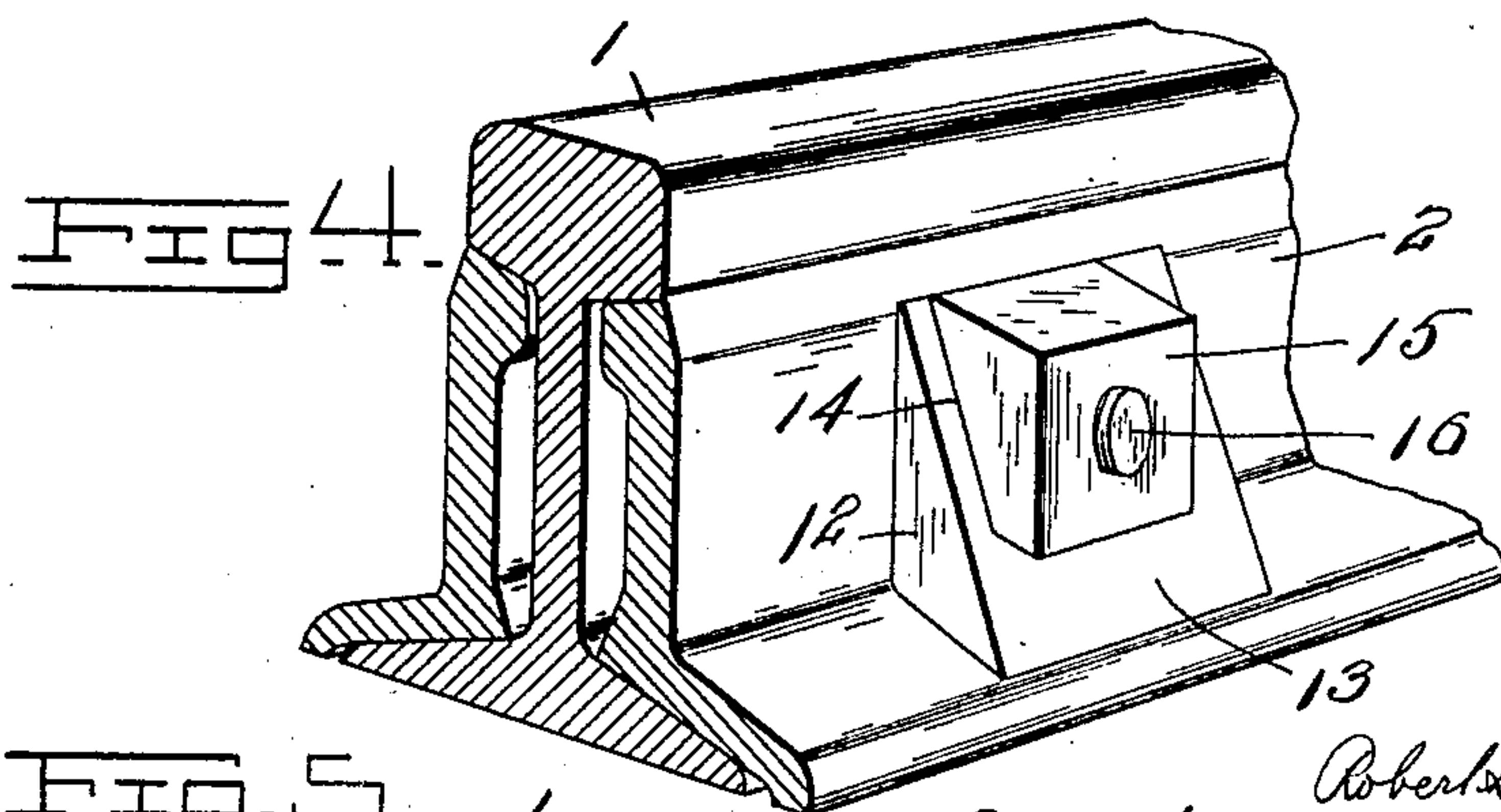
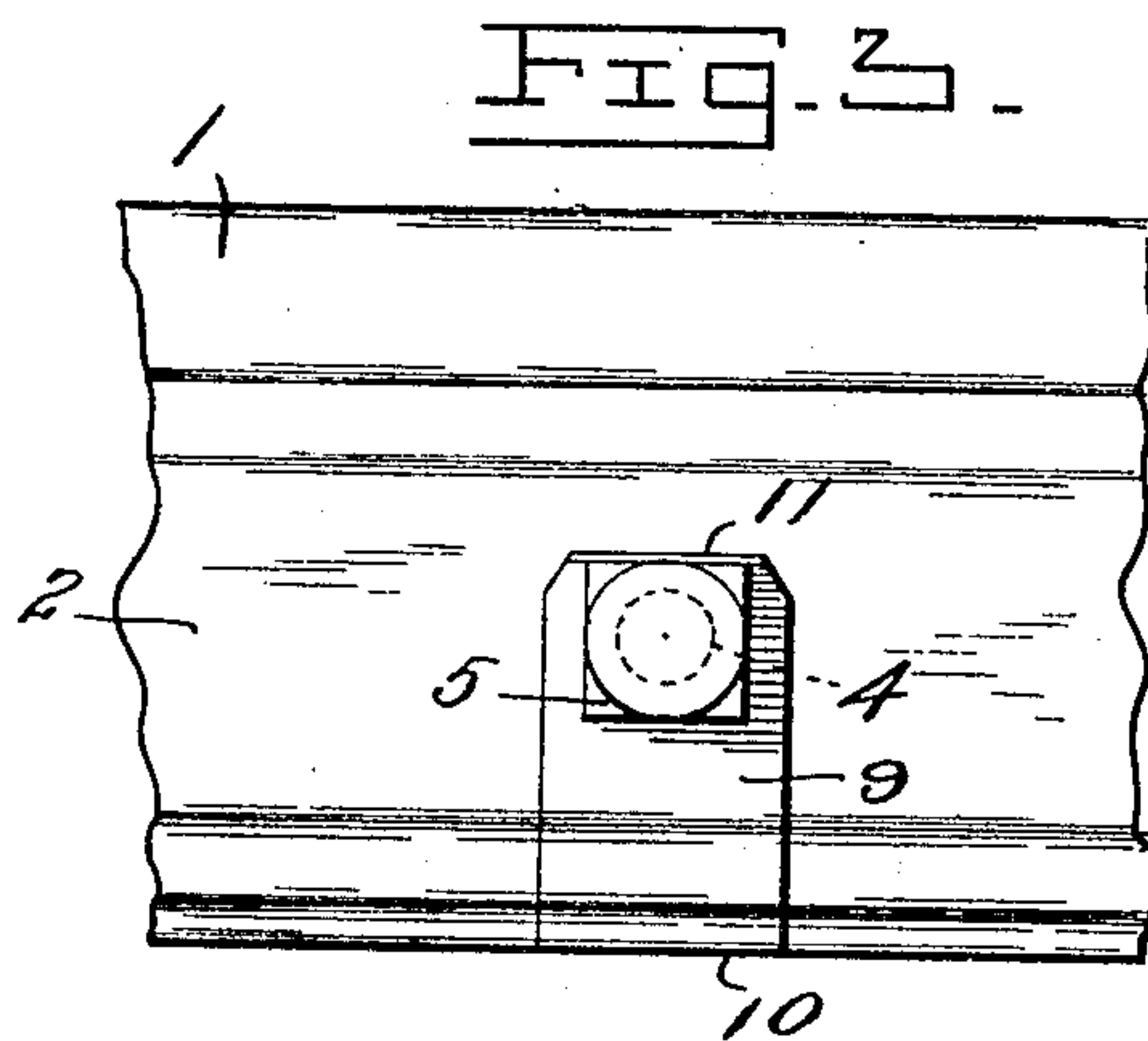
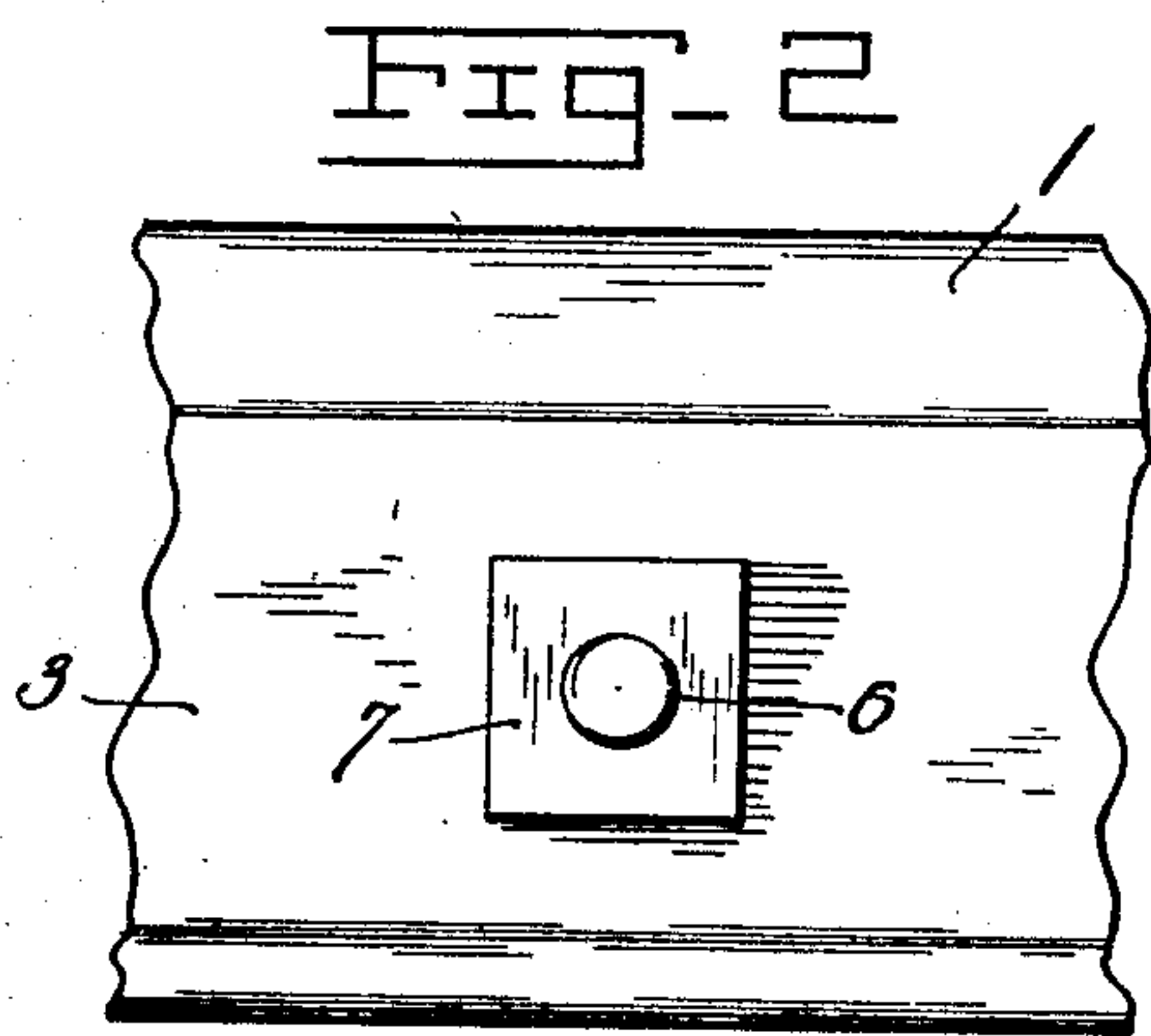
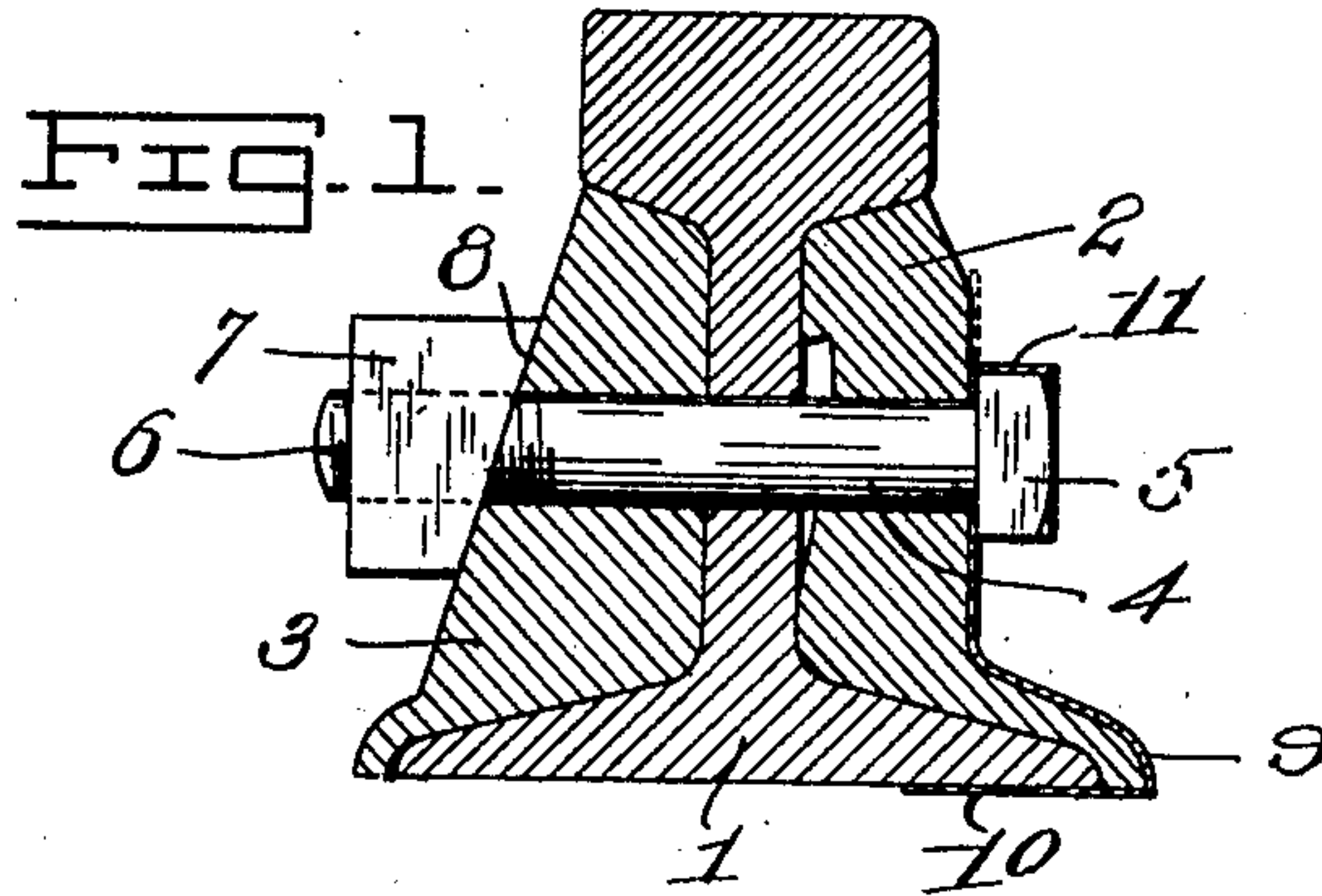


R. L. ELWOOD, SR. & R. L. ELWOOD, JR.
NUT AND BOLT LOCK.

APPLICATION FILED MAR. 29, 1907.

916,285.

Patented Mar. 23, 1909.



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UNITED STATES PATENT OFFICE.

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NUT AND BOLT LOCK.

No. 916,285.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed March 29, 1907. Serial No. 365,308.

To all whom it may concern:

Be it known that we, ROBERT L. ELWOOD, Sr., and ROBERT L. ELWOOD, Jr., citizens of the United States, residing at Monongahela city, in the county of Washington and State of Pennsylvania, have invented certain new and useful Improvements in Nut and Bolt Locks, of which the following is a specification.

The object of our invention is to obviate the necessity for the use of springs, washers, etc., and to provide a construction between the fish-plate and the nut which will prevent the turning of the nut on the bolt even should the bolt be slightly loosened; and with these and minor objects in view our invention consists of the parts and combination of parts as will be hereinafter more fully set out.

In the drawings—Figure 1 is a vertical sectional view of a rail and fish-plates with our invention applied. Fig. 2 is a side elevation of a rail. Fig. 3 is an elevation of the opposite side of a rail and fish-plates. Fig. 4 is a perspective view of a slightly modified construction. Fig. 5 is a side elevation of a rail joint embodying our invention.

1 represents a rail of any approved standard type, 2 a fish-plate of approved standard type. According to our invention the fish-plate 3 is of the general type of the fish-plate 2, with the exception that its outer face is beveled from top to bottom throughout the length of the plate.

4 is a bolt of any approved type having a square head 5 and the usual threads 6.

7 is a nut constructed according to our invention with a rear under-beveled-face 8, said beveled face extending from top to the bottom of the nut and inclined toward the front face of the nut. The beveled under-face of the nut is on the same angle as the beveled face of the fish-plate 3, so that when the two are brought together the angles provide a snug engagement between the two members, as is clearly shown in Fig. 1. The screw-threaded opening in the nut is axial with the bolt openings in the other fish-plate and in the web of the rail.

9 is a strip of sheet metal, the lower end 10 of which is bent under the tread of the rail, while the upper end 11 is adapted to be bent over the head of the nut. It will, of course, be understood that this strip of metal 9 is of pliable material to permit of its upper end

being readily bent down over the head of the nut.

In Fig. 4 we have shown a slight modification wherein our invention is adapted to be used with the fish-plates now in use on existing roads, and consists of a block 12, the bottom and rear faces of which are at right angles to each other and adapted to fit snugly against the web and the tread of the fish-plate. The outer face 13 of the block is beveled on the same angle as is the lower face 14 of the nut 15. In this view 16 is the bolt. Fig. 5 illustrates the block extending the entire length of the fish-plate.

As will be readily understood from the drawing, the nut 7 is held in juxtaposition to the fish-plate 3 and the bolt is inserted through the fish-plate 2 the rail 1 and the fish-plate 3 and turned from its head into the nut 7. The nut 7 is prevented from turning by reason of the bevel between its under-face and the bevel of the fish-plate. As soon as the bolt is screwed in sufficiently tight to clamp the fish-plates and rail, the end 11 of the metal strip 9 is bent over the head of the bolt, as shown in full lines in Figs. 1 and 3, whereby the bolt is prevented from turning. Even should the end 11 of the metal strip 9 be not bent down on the head of the bolt, the beveled faces of the nut and of the fish-plate are of such character as to prevent the loosening of the nut by jarring, inasmuch as it is impossible for the nut to turn about the axis of the bolt. Should the operator fail to clamp the bolt as tightly as is necessary in the nut, the nut, by reason of it being heavier at the top than at the bottom, has a tendency to gravitate. Of course, this gravitation cannot be to any great extent, but, as will be readily understood, the slightest movement of the nut on the bolt as an axis results in a binding action between the beveled faces of the nut and of the fish-plate, respectively, which wedges the threads in the nut in the threads of the bolt.

Our invention as shown in Figs. 1, 2 and 3, may be adapted for the present road structure by merely substituting the beveled face fish-plate for one of the fish-plates now in use. By the modified construction shown in Fig. 4, it is unnecessary to change the rail joints as now in use, as it is only necessary to use a nut constructed according to our invention and interpose between it and the fish-plate the beveled faced block 12.

We are aware that slight changes may be made in the details of construction of our invention without departing from the scope of the invention and we, therefore, desire it understood that we do not limit ourselves to the exact details shown.

What we claim and desire to secure by Letters Patent is:

1. In a nut lock, the combination with a bolt, of a member mounted on said bolt and having a beveled face, said member being anchored against revolution, of a nut having its under face beveled from top to bottom, whereby the top of the nut is heavier than the bottom, the bevel being on the same angle as the bevel of the said member.

2. In a nut lock for rail joints, the combi-

nation with a fish plate beveled outwardly from top to bottom and abutting the tread and bottom flange of the rail, said plate having bolt openings, and a bolt passed through said openings, of a nut having its rear face beveled from top to bottom toward the front of the nut, whereby the top of the nut is heavier than the bottom, the bevel of the nut being on the same angle as the bevel of the fish plate.

In testimony whereof we affix our signatures in presence of two witnesses.

ROBERT L. ELWOOD, SR.

ROBERT L. ELWOOD, JR.

Witnesses:

D. C. PARKINSON,

LEO LOGAN.