

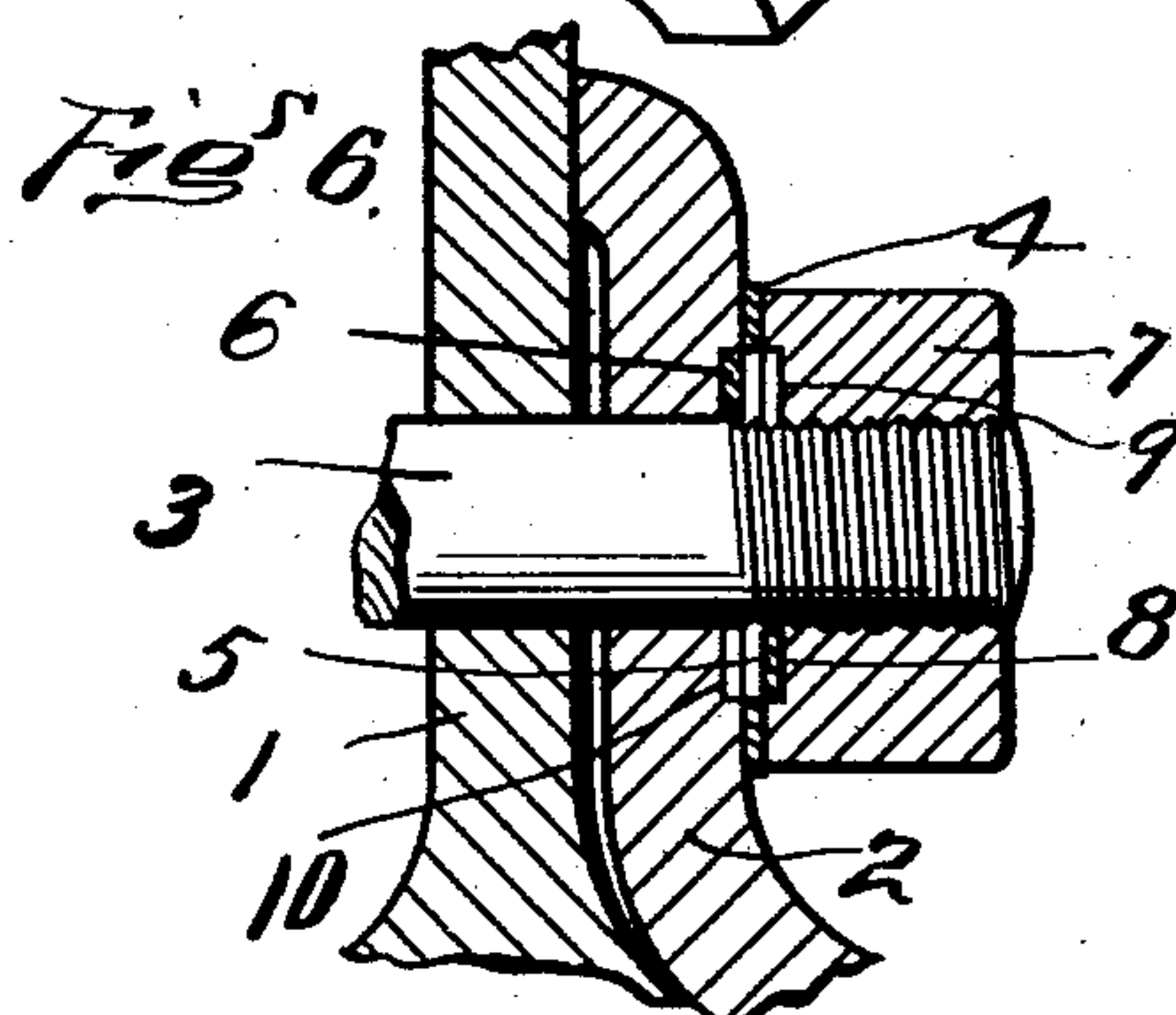
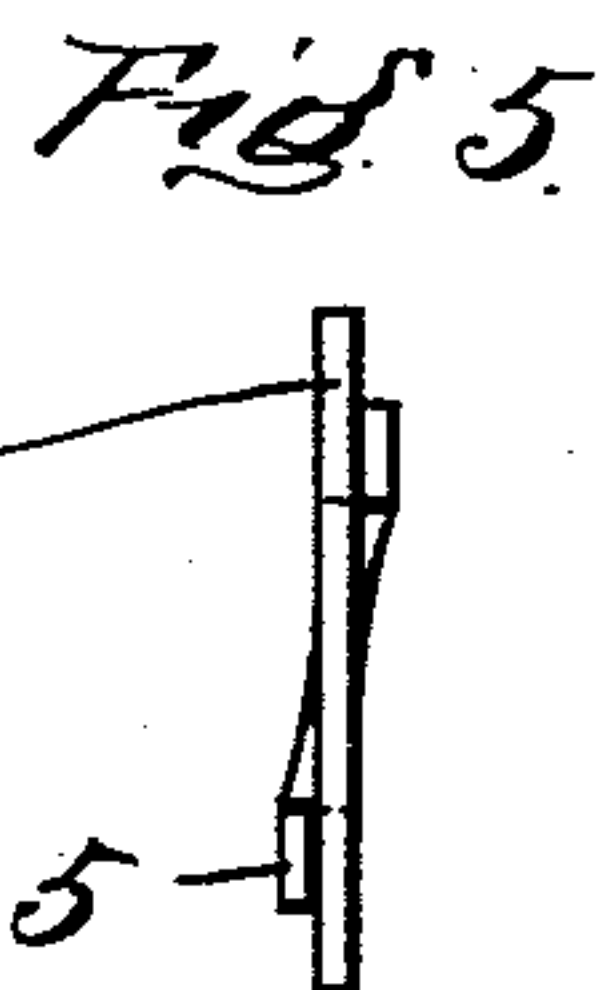
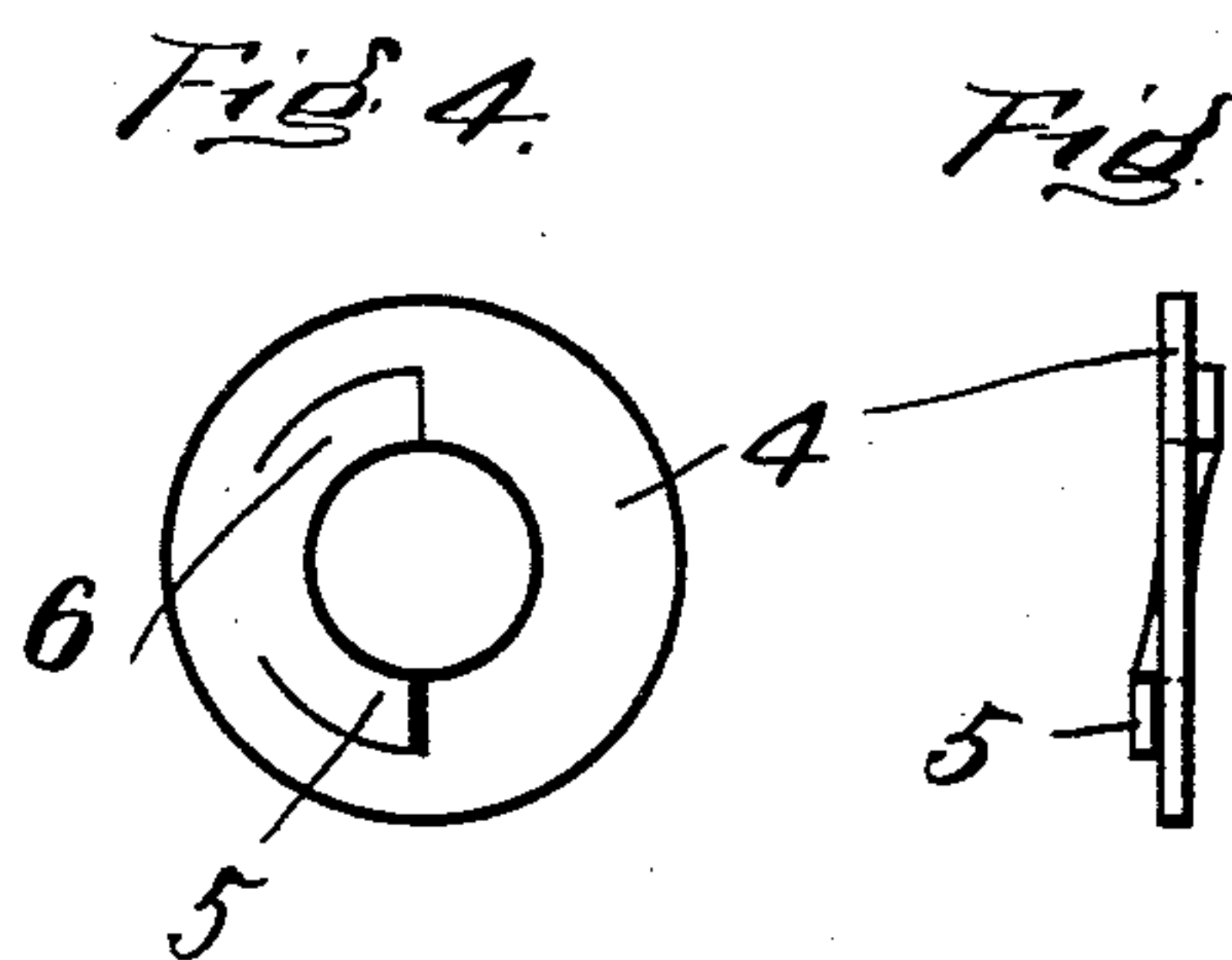
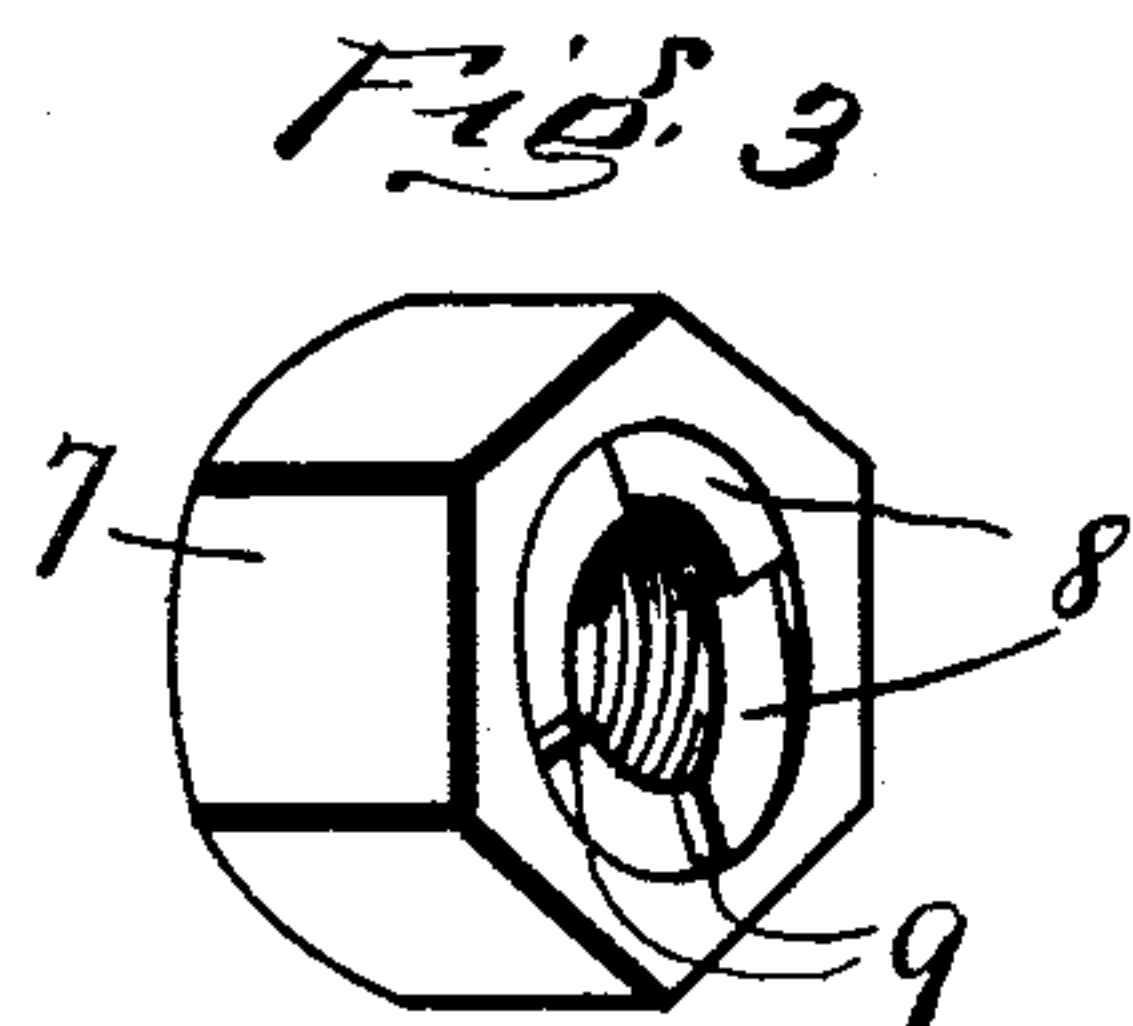
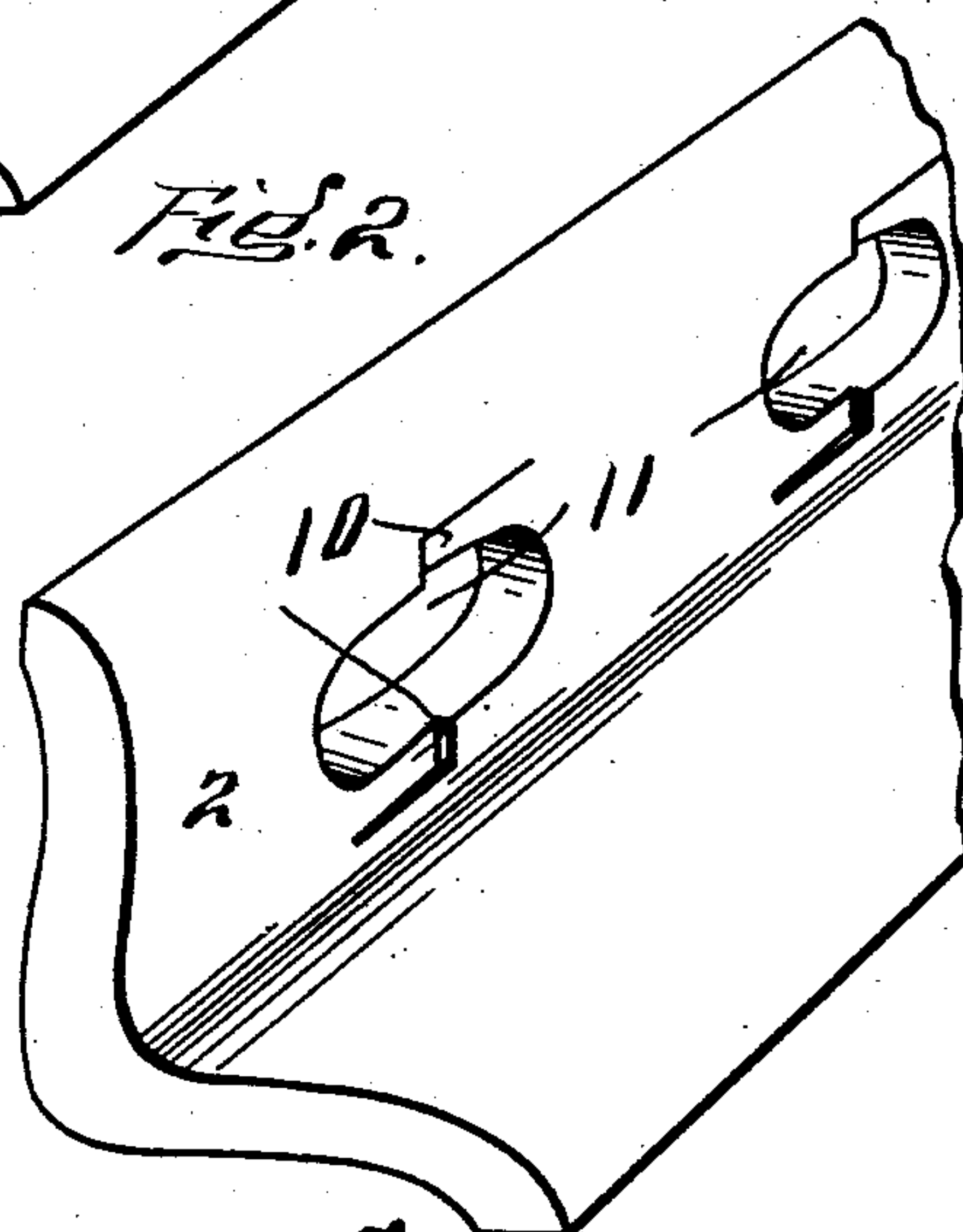
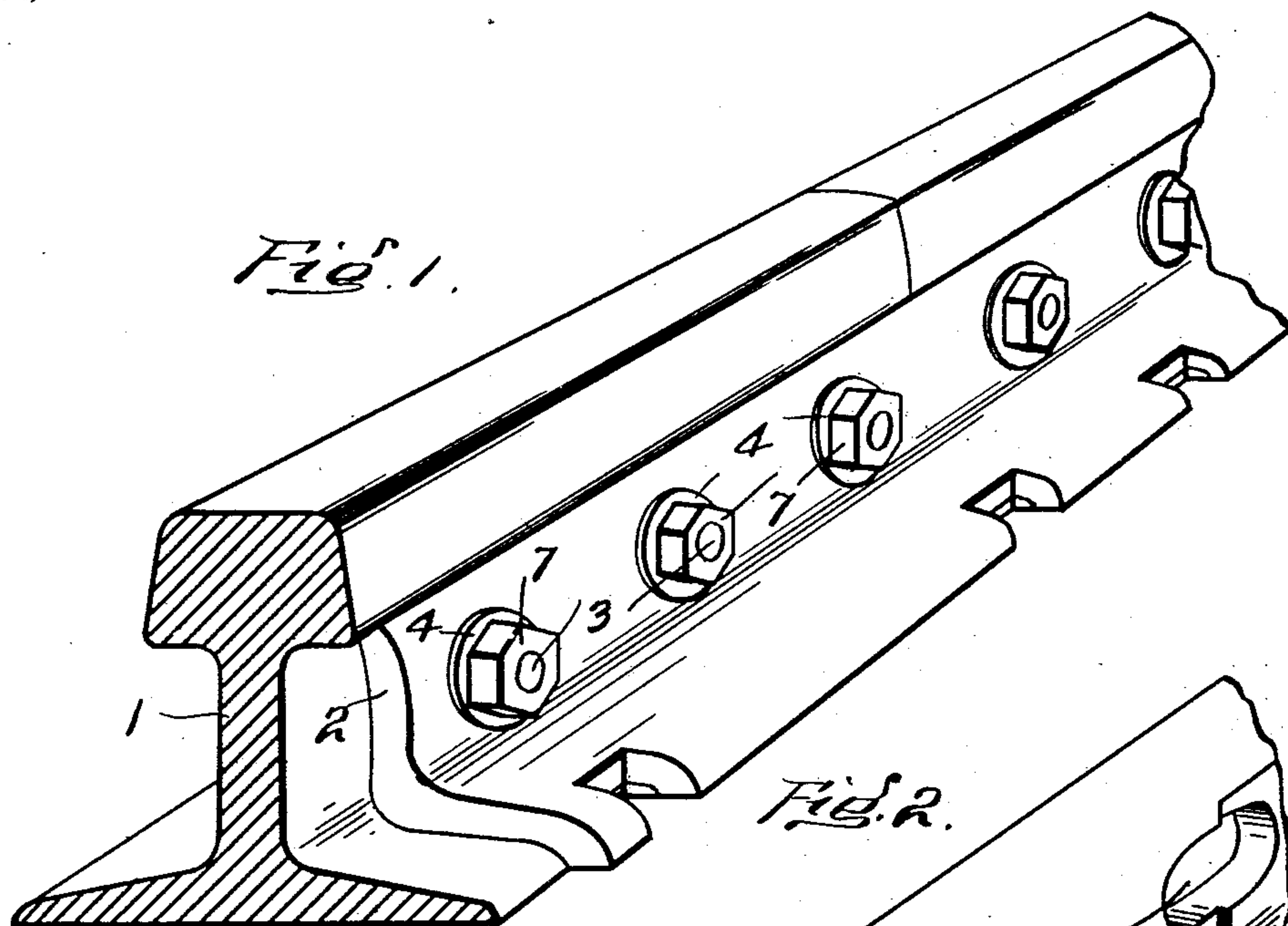
No. 713,585.

Patented Nov. 18, 1902.

F. C. ARNOLD.
NUT LOCK.

(Application filed Feb. 18, 1902.)

(No Model.)



WITNESSES:
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UNITED STATES PATENT OFFICE.

FRANCIS C. ARNOLD, OF CANTON, OHIO.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 713,585, dated November 18, 1902.

Application filed February 18, 1902. Serial No. 94,650. (No model.)

To all whom it may concern:

Be it known that I, FRANCIS C. ARNOLD, a citizen of the United States, residing at Canton, in the county of Stark and State of Ohio, have invented certain new and useful Improvements in Nut-Locks; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the figures of reference marked thereon, in which—

Figure 1 is a perspective view showing my invention applied to use with reference to joining the adjacent ends of railway-rails together. Fig. 2 is a detached view showing a portion of one of the angle-plates. Fig. 3 is a perspective view of the nut. Fig. 4 is a side elevation of the washer. Fig. 5 is an edge view of the washer. Fig. 6 is a transverse section showing portion of a railway-rail and an angle-plate, also illustrating a portion of the bolt and its nut and washer.

The present invention has relation to nut-locks; and it consists in the novel construction hereinafter described, and particularly pointed out in the claim.

Similar numerals of reference indicate corresponding parts in all the figures of the drawings.

In the accompanying drawings, 1 represents the railway-rails, which are of the usual construction. The angle-bars 2 are of the usual form, except as hereinafter described.

The bolts 3 are of the ordinary construction, and of course one end is provided with the usual head and the opposite end provided with screw-threads. The washer 4 is provided with the tongues 5 and 6, which tongues are preferably cut so as to produce segmental sections unsevered from the washer 4, but one end of each of the tongues cut free, preferably at diametrically opposite points; but this feature is not absolutely necessary, as the purpose hereinafter described can be carried out without any reference to the exact location of the free ends of the tongues. Said tongues must be cut or severed in the same direction, so that their free ends will stand in the same direction with reference to the center of the washer.

The nut 7 is provided with the inclined ways 8 and the shoulders 9, or, in other words,

the nut has a ratchet-face, the ratchets proper being of a width to correspond with the width of the tongues 5 and 6, so that one of said tongues will act to lock the nut against rotation and at the same time leave the face of the nut smooth, so as to provide a proper bearing-surface against the face of the washer 4 and of course bind the angle-bars and rails together, when the nut is preferably tightened.

The angle-bars 2 are provided with the shoulders 10, which shoulders are produced by forming inclines in the angle-bars 2, as illustrated in Fig. 2.

In use the rails 1 and the angle-bars 2 are placed in their usual position and the bolts 3 placed through the rail and angle-bars as usual. The washers 4 are then applied and as shown between the angle-bars 2 and the nuts 3, when the nuts are placed in proper position. It will be understood that as the nuts are turned to the right they will be moved toward the proper angle-bar 2 and against the washers 4, and by springing the tongues 5 and 6 at an angle to the washers the tongue 5 will strike against the proper shoulder 10, thereby preventing any backward movement of the washer 4, or, in other words, an opposite rotation of the washer from the rotation of the nut to tighten the same. It will be understood that as the nuts 3 are turned upon their bolts the tongue 6 of the washer 4 will be sprung out of an angle to the plane of a washer as the inclines 8 ride over the tongue; but when the shoulders 9 come opposite or slightly past the free ends of the tongues they will be free to engage the proper shoulders 10, and thereby prevent any backward movement of the nut 7, by which arrangement the nuts will be prevented from any backward or loose movement by reason of the jar of railway-trains or other machinery to which my invention may be applied.

It will be understood that by my peculiar arrangement and by providing a smooth-faced nut having a portion of said face ratcheted the parts designed to be clamped can be securely and tightly clamped and at the same time leave the tongues 5 and 6 in proper condition to prevent any backward movement of the nut.

It will be understood that the washer should

be formed of such material that the tongues when bent at an angle will remain in that position when free or unclamped.

Having fully described my invention, what
5 I claim as new, and desire to secure by Letters Patent, is—

The combination of an angled bar or plate provided with shoulders having inclines leading from said shoulders in opposite directions, a bolt provided with a screw-threaded
10 end, a washer provided with severed tongues and an aperture, the tongues located adjacent to the apertures and inclined in opposite directions and upon opposite sides of the

washer, and a nut provided with a ratchet- 15 face around its aperture, and a smooth face located adjacent to the ratchet portion of the nut and the ratchet portion located between the aperture and the smooth-face portion, substantially as and for the purpose specified. 20

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

FRANCIS C. ARNOLD.

Witnesses:

J. A. JEFFERS,
F. W. BOND.