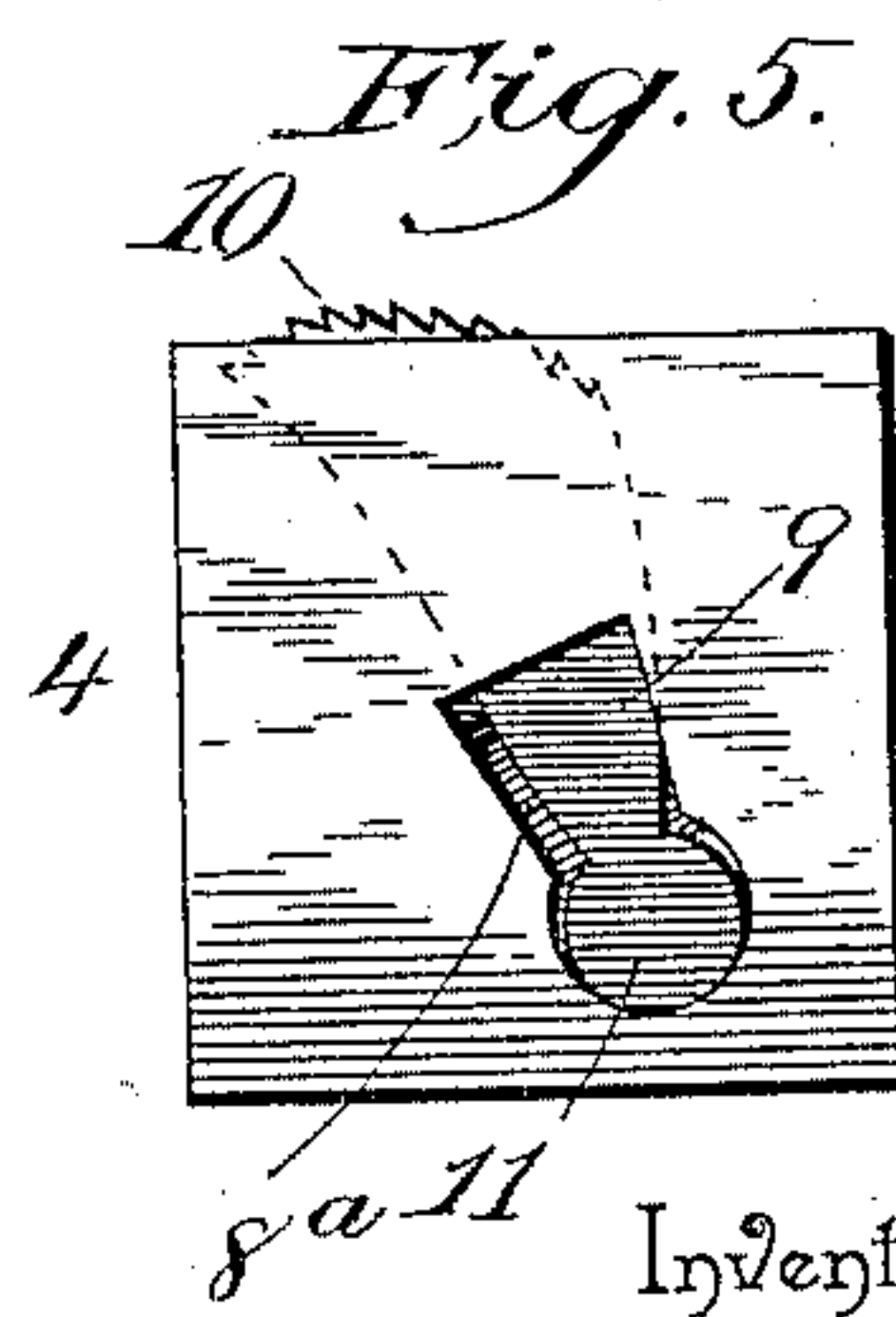
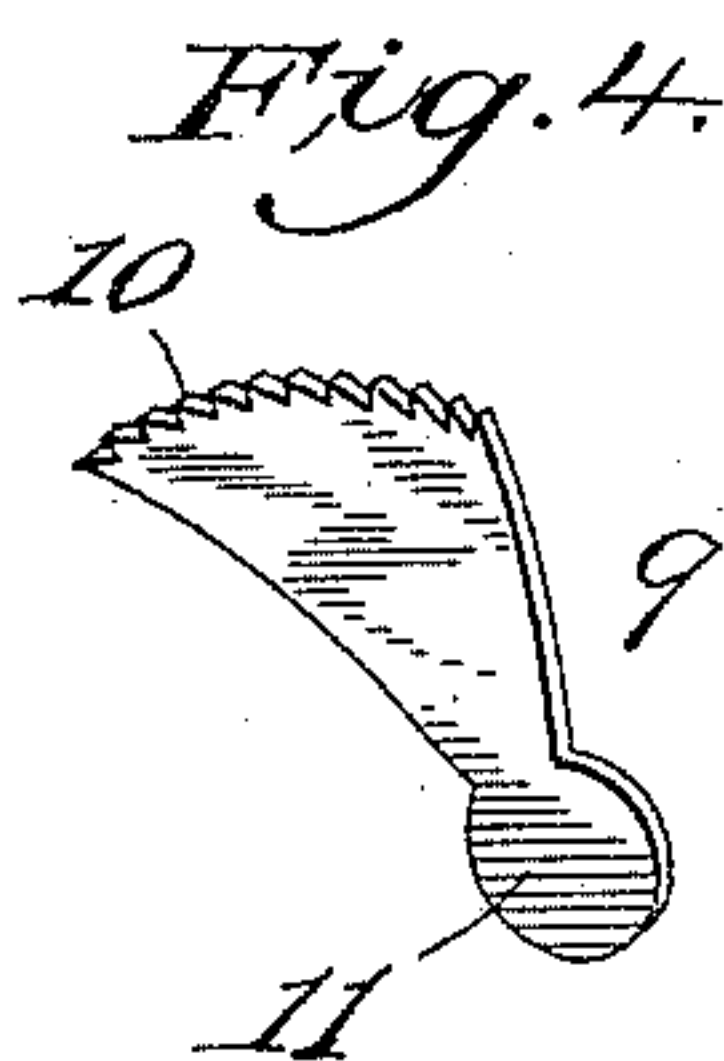
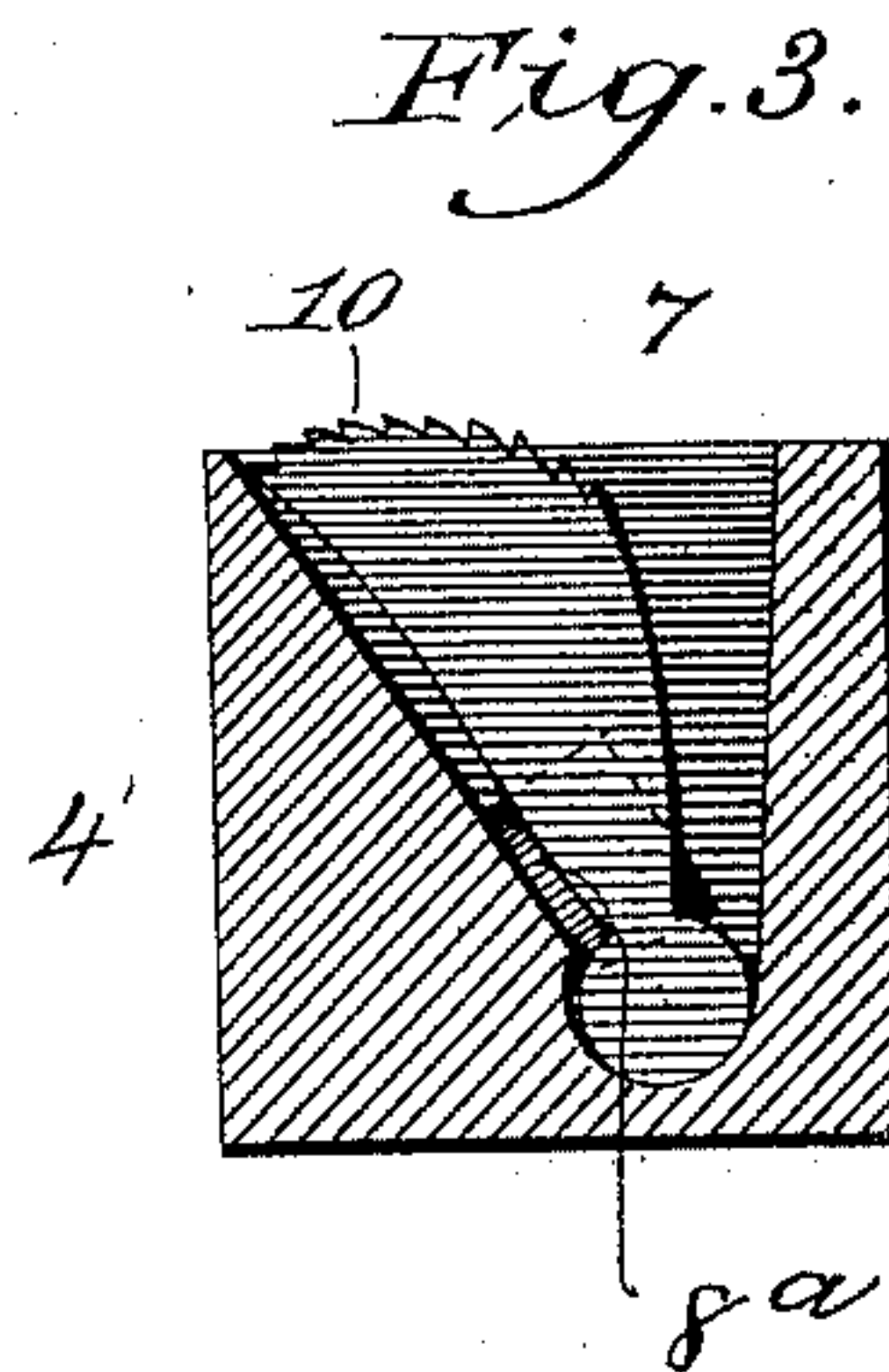
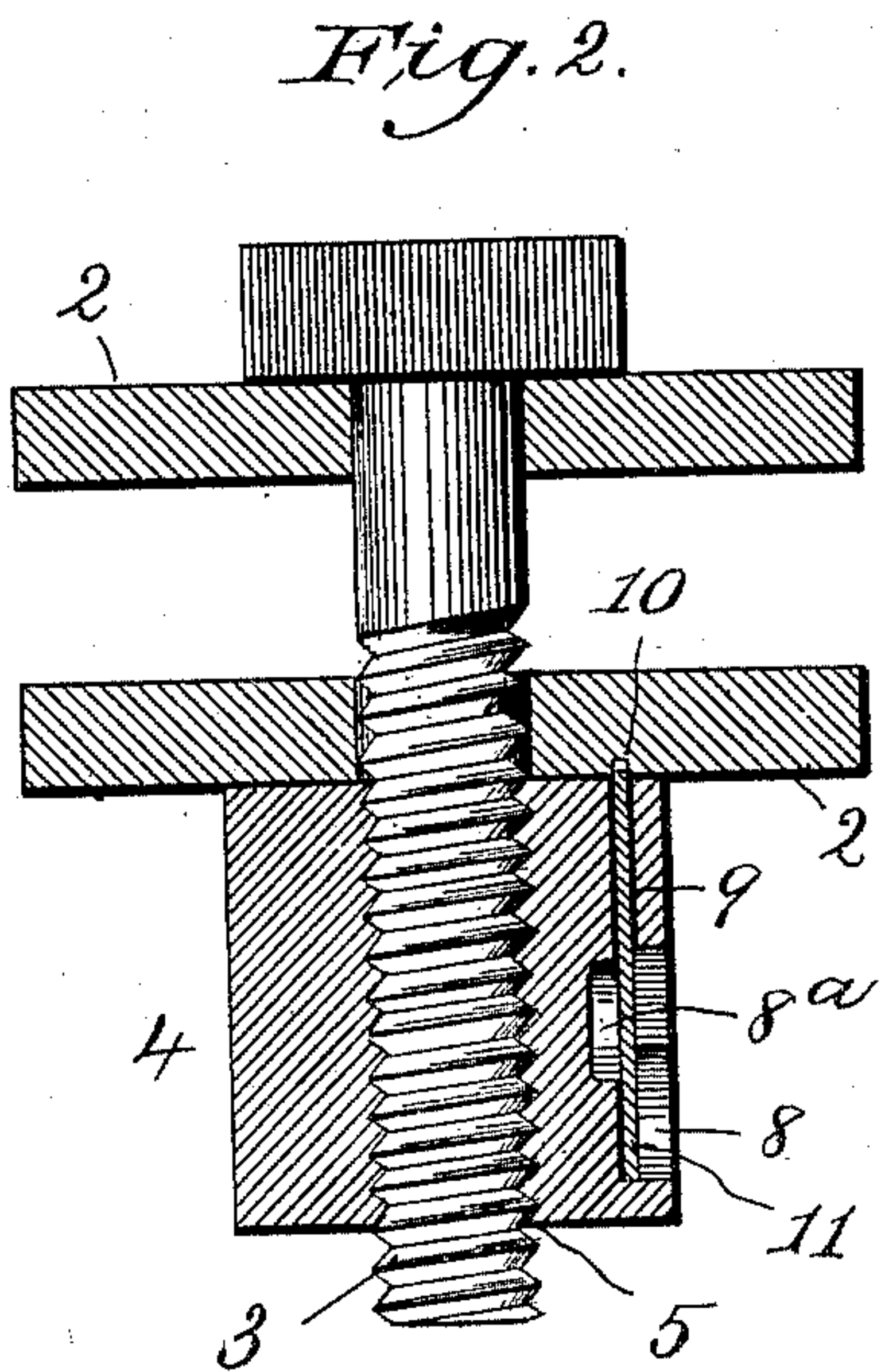
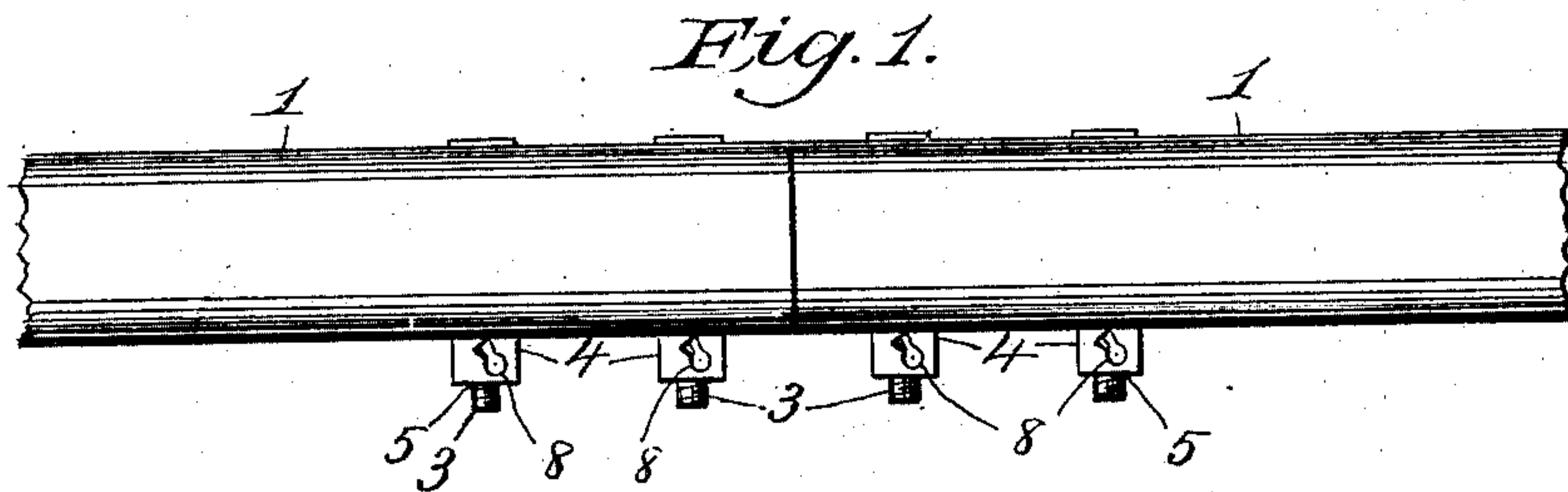


(No Model.)

R. R. CANFIELD.  
NUT LOCK.

No. 467,616.

Patented Jan. 26, 1892.



Witnesses  
*A. Schoenborn.*  
*N. J. Riley*

Inventor  
*Rufus R. Canfield.*

By his Attorneys,

*C. A. Snow & Co.*



# UNITED STATES PATENT OFFICE.

RUFUS R. CANFIELD, OF CLEARFIELD, PENNSYLVANIA.

## NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 467,616, dated January 26, 1892.

Application filed August 12, 1891. Serial No. 402,445. (No model.)

*To all whom it may concern:*

Be it known that I, RUFUS R. CANFIELD, a citizen of the United States, residing at Clearfield, in the county of Clearfield and State of Pennsylvania, have invented a new and useful Nut-Lock, of which the following is a specification.

This invention relates to improvements in nut-locks; and the objects in view are to provide a cheap and simple device adapted to positively, securely, and permanently lock nuts upon bolts and prevent their retrograding, and also to provide means for destroying the lock when necessary for the purpose of permitting of the removal of the nut from the bolt.

Other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a plan view of a portion of a rail-joint the bolts of which have their nuts locked thereon in accordance with my invention. Fig. 2 is a sectional view through the nut and lock. Fig. 3 is a horizontal section through the locking-nut. Fig. 4 is a detail in perspective of the locking-sector. Fig. 5 is a side view of the nut.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 designates the rail-sections, the abutting ends of which are maintained in alignment by the usual fish bars or plates 2, through which and the webs of the rails ordinary bolts 3 are passed. Nuts 4 are threaded on the ends of the bolts and have the usual external appearance, with the exception that they are cubical preferably and slightly larger than the ordinary nut. The nut is provided with the usual bolt-receiving opening 5, and at one side of the same and in the same plane as one of its faces there is formed in the inner face of the nut and parallel to the bolt-opening a V-shaped kerf or recess 7. A key-hole-shaped opening 8 is formed in that wall of the nut adjacent to which the opening or kerf 7 is located, and opposite the narrowest portion of said key-hole-shaped opening the inner wall or bottom of the recess 7 is drilled deeper or countersunk, as at 8<sup>a</sup>.

9 designates a locking-sector, which is of

substantial V shape and consists of the eccentrically-curved toothed base or edge 10, which teeth are inclined, and at its opposite end in the circular head 11 the recess 7 is inclined, and in the same is seated the sector, the narrowest portion or neck of which comes opposite the countersink in the recess 7. The nut is applied in the ordinary manner and screwed down upon the bolt until its inner face is in contact with the fish-bar, when a very slight retrograde movement causes the teeth of the locking-sector to engage with the face of the fish bar or plate and arrest any further retrograde movement of the nut. In this manner the locking-sector becomes wedged between the end of the recess and the fish-bar and constitutes a permanent lock, which in order to destroy requires a destruction of the lock. Should occasion require the removal of the nut, a chisel or other device suitable for the purpose is introduced through the key-hole slot or opening 8, and by a few blows of a hammer the neck or head of the locking-sector is broken from the remaining portion of the sector, which relieves the binding pressure and permits the main portion of the sector to recede within the recess 7 and the nut may be removed. In nuts where permanent locks are required and no occasion is likely to arise to necessitate a removal of the nut the countersink and key-hole-shaped slot may be omitted.

From the foregoing description, taken in connection with the accompanying drawings, it will be seen that I provide a lock of great efficiency, strength, and durability and which may be readily applied, and, while permanent in a certain sense, may, when occasion requires, be removed.

It will be readily understood that the sector-plate may, without departing from the spirit of the invention, be arranged to engage the bolt, and thereby prevent retrograde motion of the nut.

Having described my invention, what I claim is—

1. The combination, with the bolt and fish-bar or other equivalent object through which the bolt passes, of a nut having a bolt-receiving opening and at the inner face of the same provided with a V-shaped recess, the bottom of which near its outer end is provided with

a countersink or depression, and opposite said recess the side wall of the nut provided with a key-hole-shaped slot or opening, and a toothed sector of substantial V shape mounted  
5 in the recess of the nut and having at its outer end the inclined teeth and at its inner end the bearing-head and adapted for vibrating on said head, substantially as specified.

2. The herein-described nut, having the recess 7 formed in its inner face at one side of  
10 its opening and the V-shaped sector mounted in the recess and terminating at its inner end in a bearing end, upon which the sector is

adapted to vibrate, said sector being provided at its outer edge with a series of eccentrically- 15 curved teeth adapted to be extended beyond the inner face of the nut, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in 20 presence of two witnesses.

RUFUS R. CANFIELD.

Witnesses:

H. E. HUGHES,  
A. K. WRIGHT.