

J. GRIMMER.

NUT LOCK.

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934,522.

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Fig. 1.

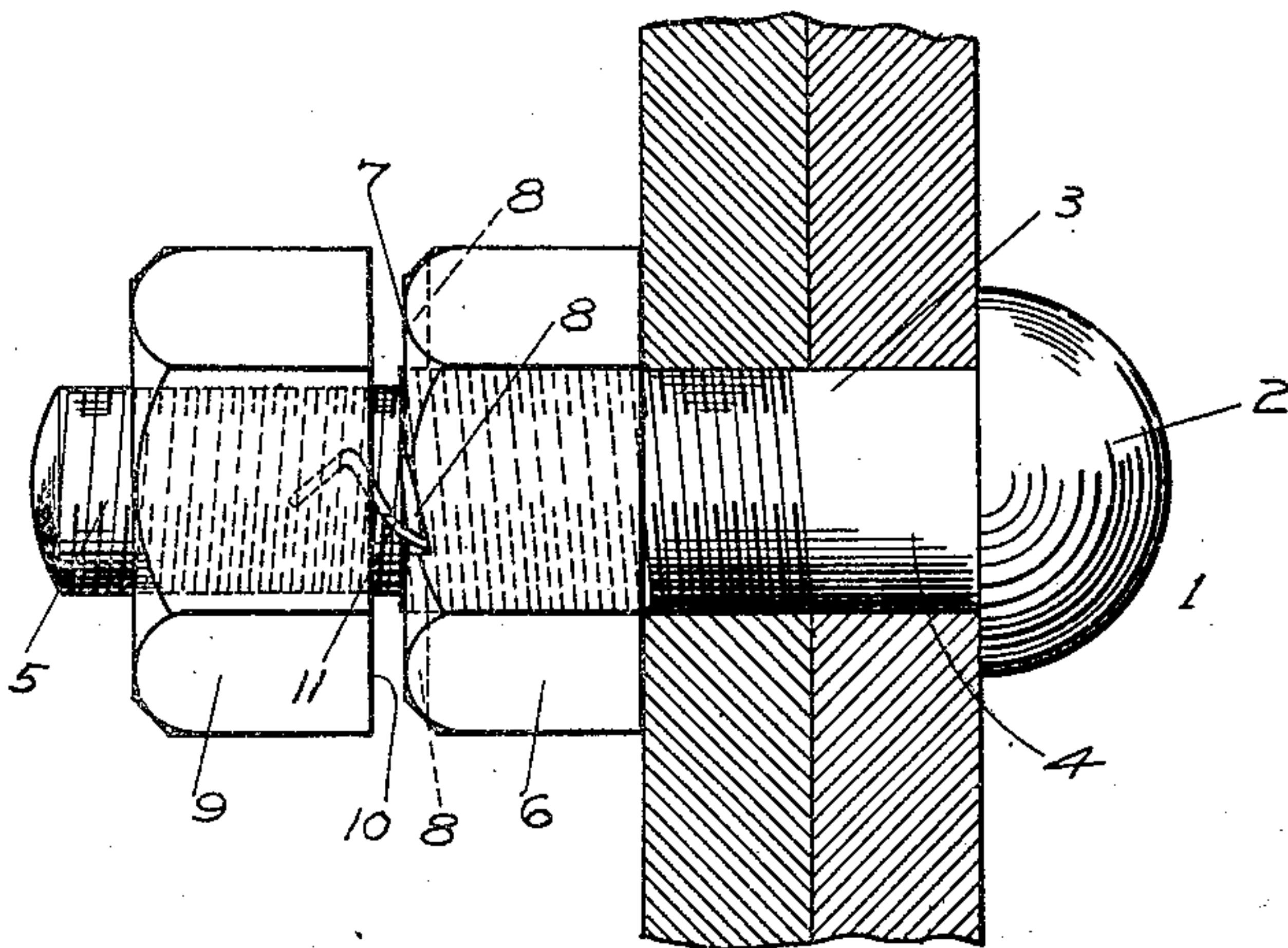


Fig. 2.

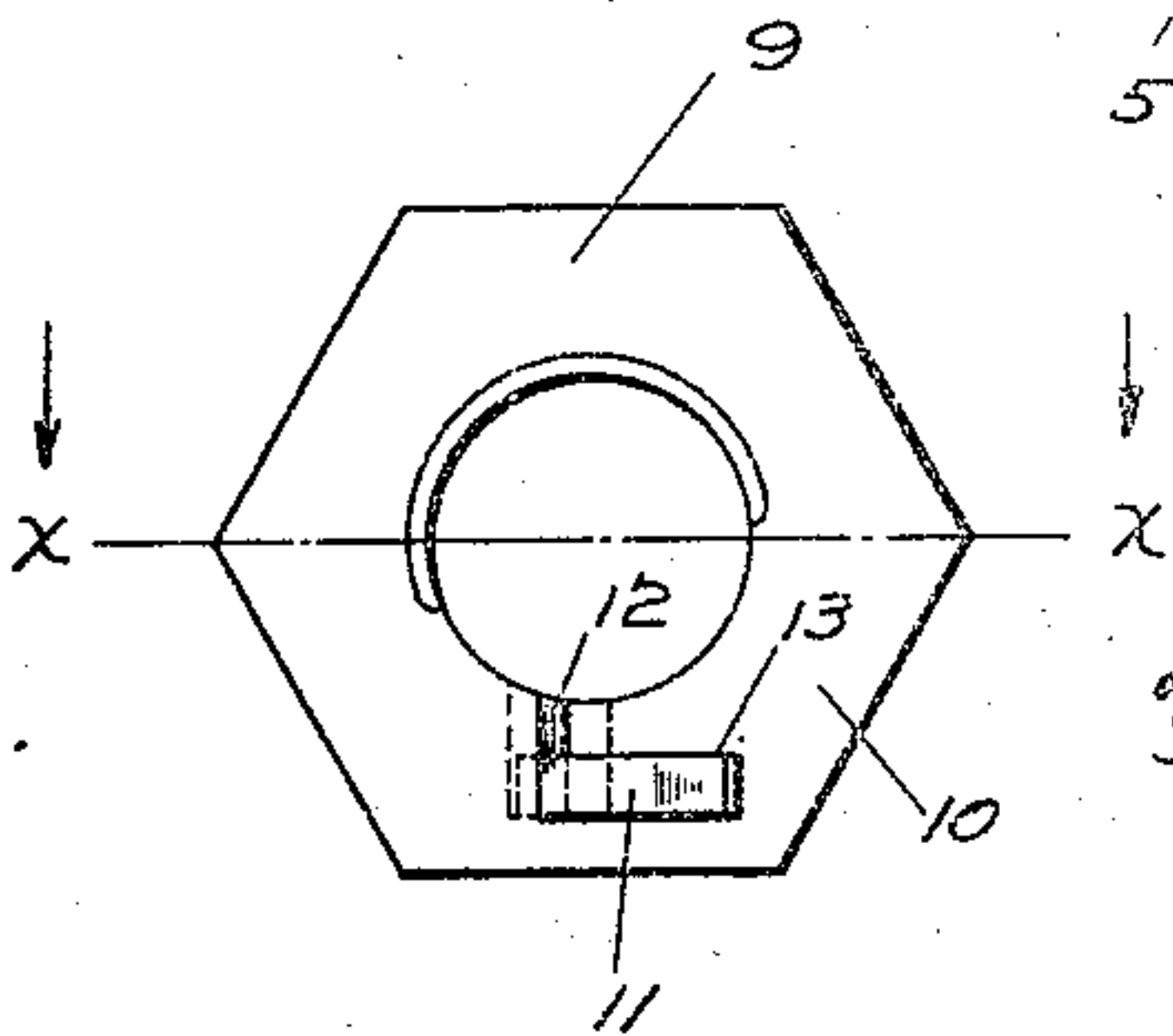
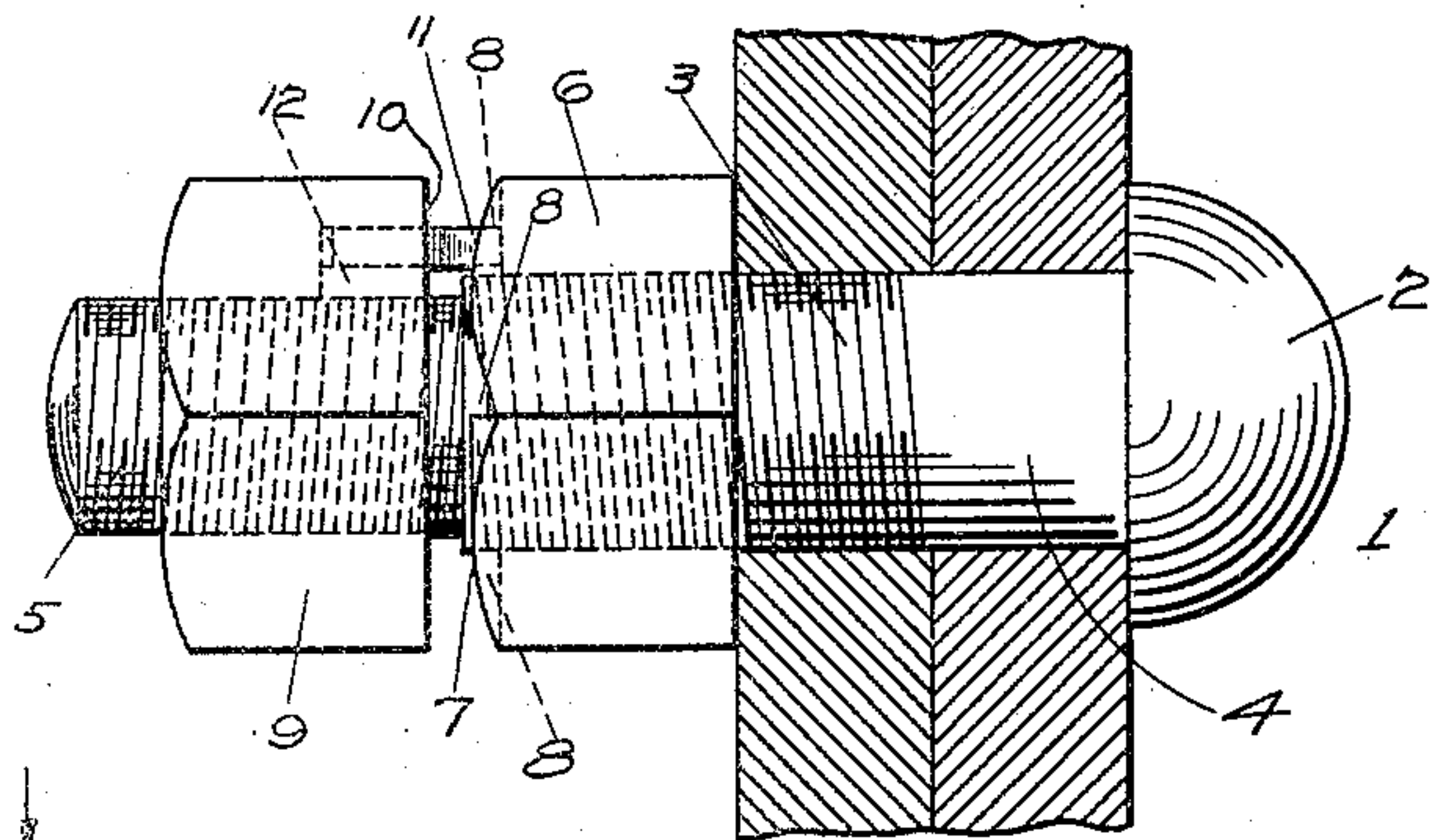


Fig. 4.

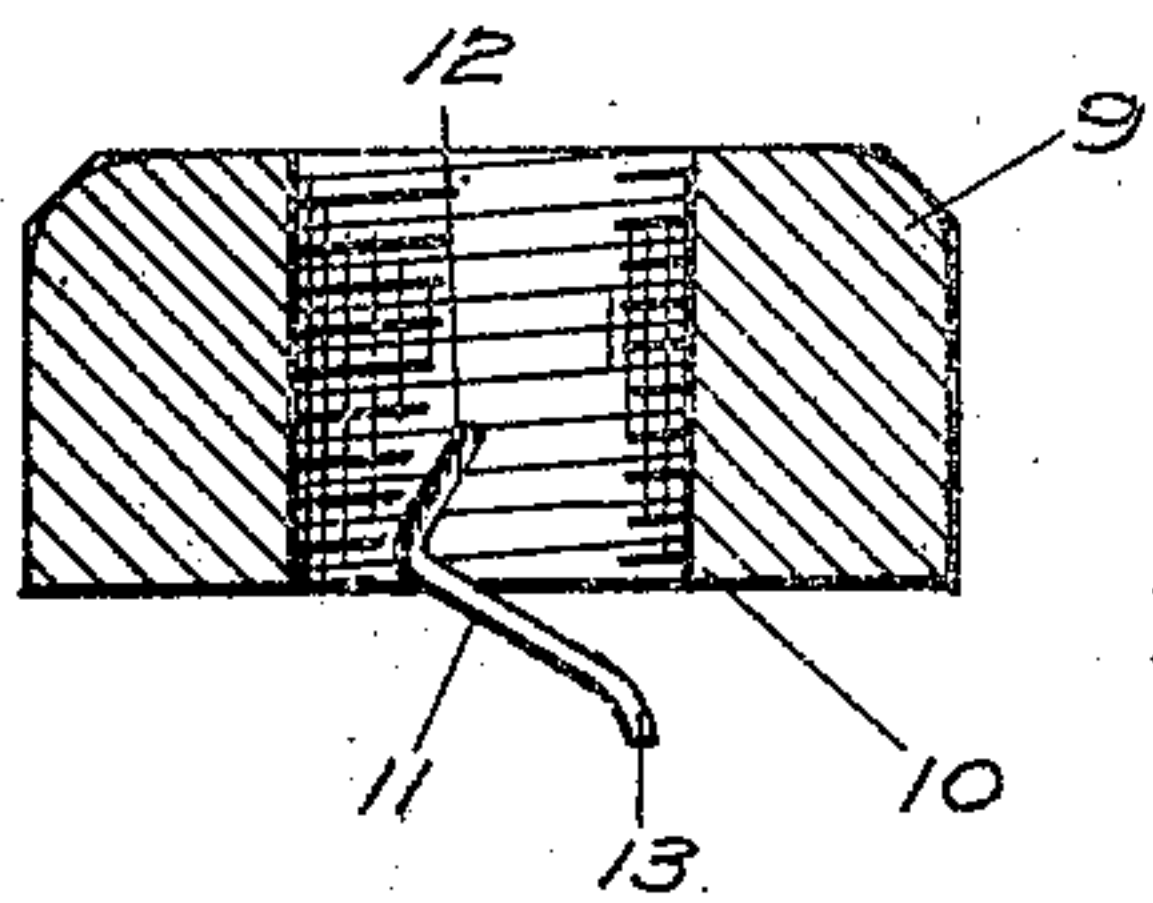
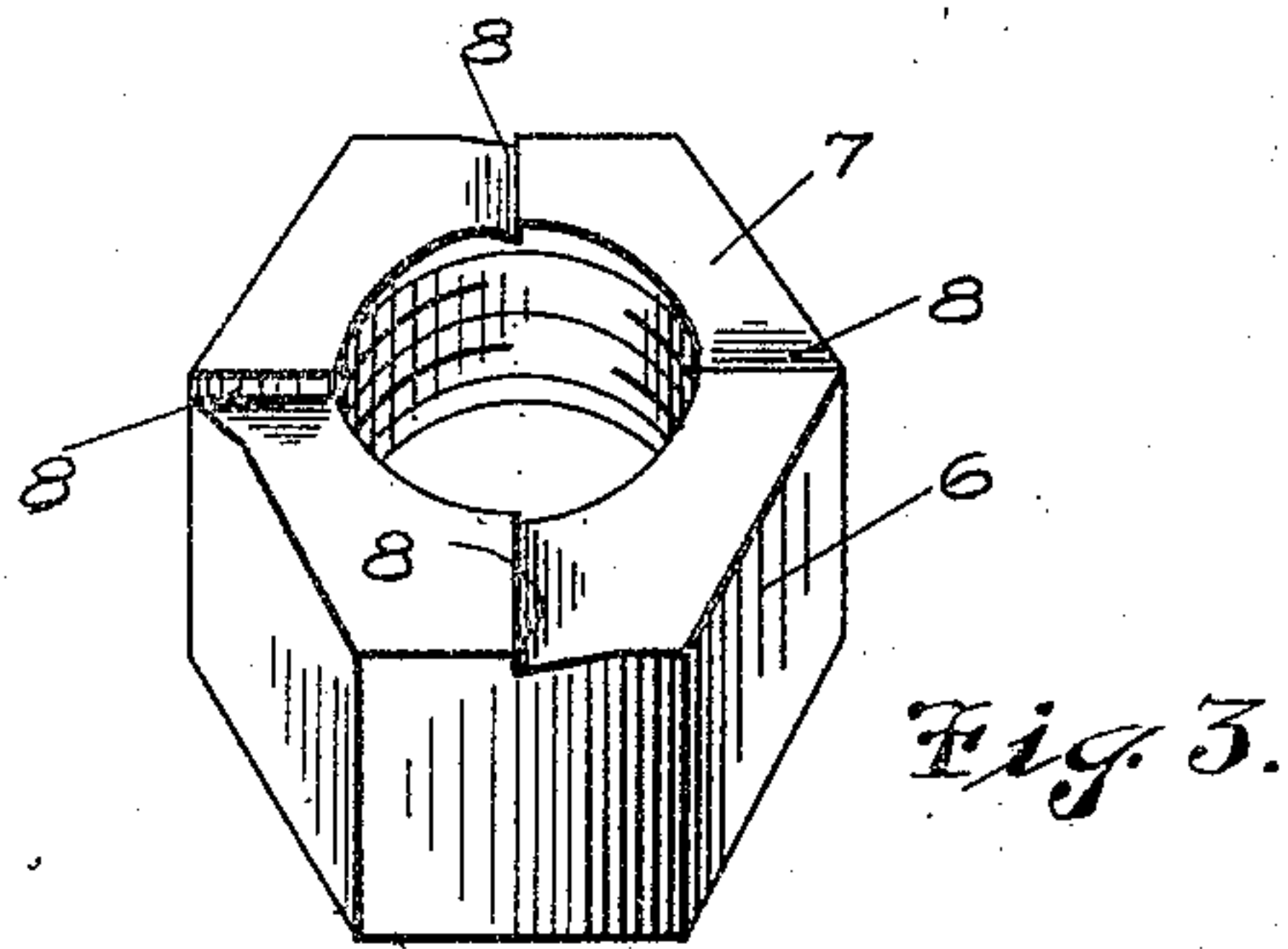


Fig. 5.

Witnesses:
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UNITED STATES PATENT OFFICE.

JOSEPH GRIMMER, OF GRIFFITH, INDIANA.

NUT-LOCK.

934,522.

Specification of Letters Patent.

Patented Sept. 21, 1909.

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To all whom it may concern:

Be it known that I, JOSEPH GRIMMER, a citizen of the United States, residing at Griffith, in the county of Lake and State of Indiana, have invented certain new and useful Improvements in Nut-Locks, of which the following is a specification.

My invention relates to nut locks and the object of my invention is to provide a device of the character mentioned which will be adapted to effectually and positively lock a nut upon a bolt against all possible reverse movement thereon.

A further object is to provide a device of such character which will be of simple construction, hence of low cost to manufacture.

Other objects will appear hereinafter.

With these objects in view my invention consists generally in a bolt provided with right and left-hand threads, the right-hand threaded portion being adapted to receive a main nut the outer end surface of which is provided with a plurality of radial notches.

My invention further consists in a lock nut adapted to be threaded upon the left-hand threaded portion of said bolt, said lock nut being provided with detachable means projecting from the inner end surface thereof adapted to engage the notches provided in said main nut, thereby preventing relative movement of the latter.

My invention further consists in certain details of construction and arrangement of parts all as will be hereinafter fully described and particularly pointed out in the claim.

My invention will be more readily understood by reference to the accompanying drawings forming a part of this specification, and in which,

Figure 1 is a side elevation of my improved nut lock showing the application thereof, Fig. 2 is a bottom plan view thereof, Fig. 3 is a perspective view of the main nut employed in conjunction with my locking device, Fig. 4 is an end elevation of the lock nut embodied in my invention, and Fig. 5 is a transverse section thereof taken on the line $x-x$ of Fig. 4.

Referring now to the drawings 1 indicates a bolt comprising the head 2 and the shank 3. The rearward portion 4 of the latter is provided with right-hand threads, the forward portion 5 thereof, which is of reduced diameter, being provided with left-hand threads.

Threaded upon the bolt portion 4 is a main nut 6 in the outer end portion 7 of which is provided a plurality of radially extending notches 8, preferably, as shown in the drawings, four in number. Threaded upon the bolt portion 5 is the locking nut 9 rearwardly obliquely projecting from the inner end surface 10 of which is a leaf spring member 11 detachably secured in said nut. In order to effect such attachment of said spring member to said nut I provide the inner threaded surface of the latter with an angular slot 12 in which is adapted to be snugly received the angularly formed rearward end portion of said spring member 11, such construction obviously permitting of the ready attachment or detachment from said nut of said spring member. The notch 12 is tortuous in form, as shown in Fig. 5, and so that the spring 11 cannot drop from the notch outwardly from face 10, but may only be inserted or removed through the central opening of the nut. It will be noted that by this arrangement the spring 11 may be readily inserted in its holding notch 12 when the lock nut is free from its bolt but that when said lock nut is in engagement with its bolt the threads of the bolt form a wall to prevent removal of the spring. This furnishes a simple, economical, and safe means for securing the spring 11 in position. Said spring member is of such a form that the outer or exteriorly projecting extremity 13 thereof is adapted when the nut 9 is threaded upon the bolt portion 5, the main nut 6 being in position upon the bolt portion 4, to engage the notches 8 provided in the outer end surface of the last named nut, as clearly shown in Fig. 1, thereby obviously locking the same against reverse movement. Said spring member so locks the nuts 6 and 9 that the same cannot turn in opposite directions, and as one is held by right-hand threads and the other is held by left-hand threads it is evidently impossible for either to be unscrewed or removed from the bolt until the spring member is released from engagement with the notches provided in the main nut. In order to remove either nut, a pointed tool or other instrument may be employed, the extremity thereof being inserted between the adjacent surfaces of the nut 6 and the spring member 11, in which event the latter may be forced out of engagement with the notches provided in said nut, there-

by obviously permitting of the removal of the lock nut, and subsequently of the removal of the main nut

While I have shown what I deem to be the preferable form of my invention, I do not wish to be limited thereto, as there might be various changes made in the details of construction and arrangement of parts without departing from the spirit of my invention comprehended within the appended claim.

Having described my invention what I claim as new and desire to secure by Letters Patent is:

15 In a nut lock the combination with a bolt having an inner larger and outer smaller portion oppositely threaded, of a threaded nut adapted to engage the inner threaded

portion of the bolt; a threaded nut adapted to engage the outer threaded portion of the bolt and locking means for said nuts comprising a notch in one of said nuts opening into the threaded opening in the nut and extending but part way through the nut, an engaging spring inserted in said notch and notches on the meeting face of the other nut adapted to engage said spring, substantially as specified. 20 25

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses. 30

JOSEPH GRIMMER.

Witnesses:

JOSHUA R. H. POTTS,
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