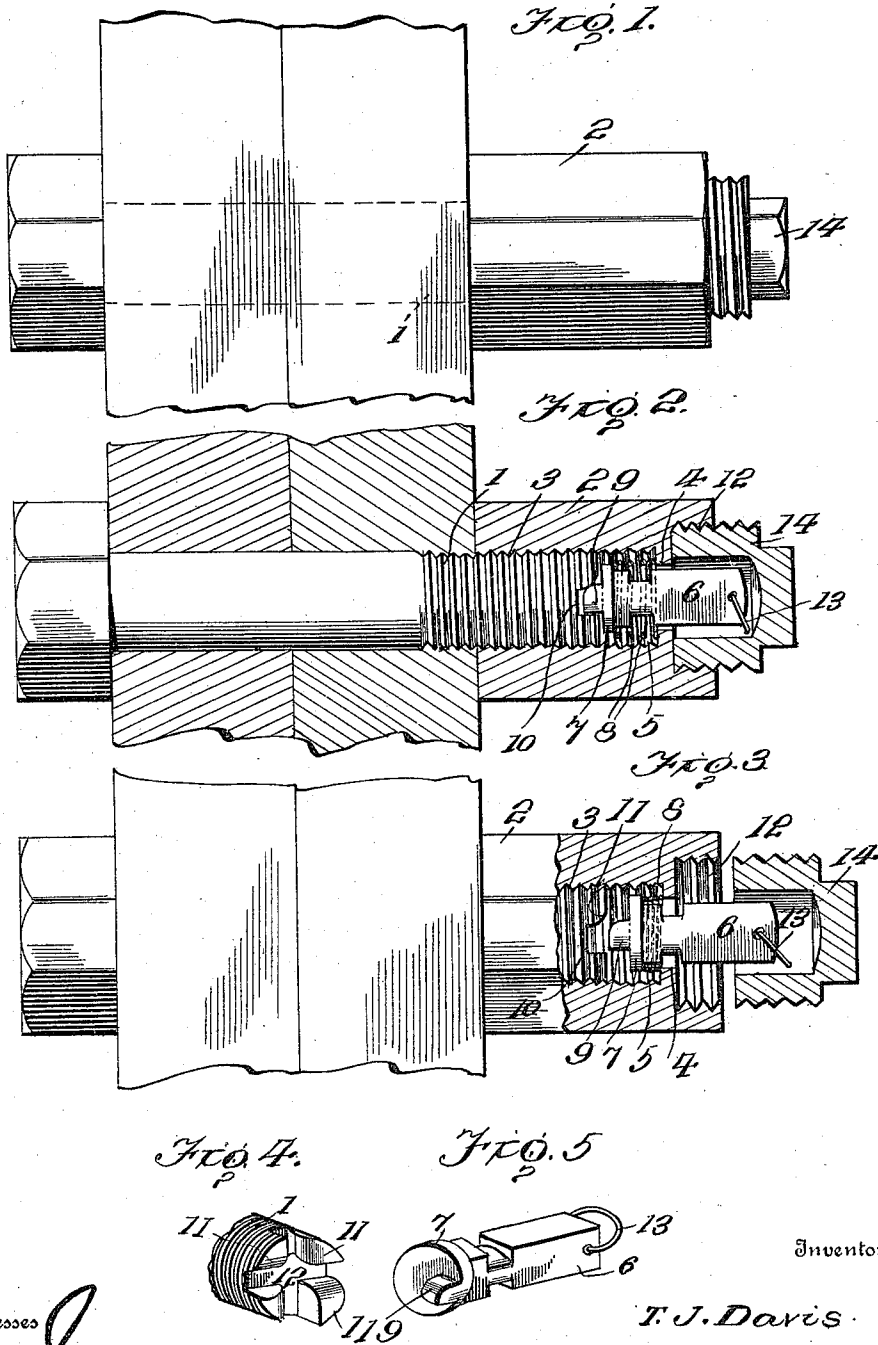


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NUT LOCK.  
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965,445.

Patented July 26, 1910.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## NUT-LOCK.

965,445.

Specification of Letters Patent.

Patented July 26, 1910.

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*To all whom it may concern:*

Be it known that I, THOMAS J. DAVIS, citizen of the United States, residing at Farmington, in the county of St. Francois and State of Missouri, have invented certain new and useful Improvements in Nut-Locks, of which the following is a specification.

This invention comprehends certain new and useful improvements in nut locks, and the invention has for its object an improved device of this character which is particularly adapted for use on rail joints and jarring machinery, and for other purposes generally; which embodies peculiar means for maintaining the nut in position upon the threaded element, against any loosening movement, although admitting of the tightening of the nut against the work, should occasion demand; and in which the locking elements are normally substantially inclosed to protect the same from dirt and moisture or the like, and prevent any tampering with the parts, the device being simple and durable in structure, and possessing certain other advantages that will be apparent as the invention is hereinafter disclosed.

With this and other objects in view that will more fully appear as the description proceeds, the invention consists in certain constructions and arrangements of the parts that I shall hereinafter fully describe and then point out the novel features thereof in the appended claims.

For a full understanding of the invention and the merits thereof, and to acquire a knowledge of the details of construction, reference is to be had to the following description and accompanying drawing, in which:

Figure 1 is a side elevation illustrating the application of my invention; Fig. 2 is a longitudinal section thereof; Fig. 3 is a similar view showing the cap removed and the key retracted; and, Figs. 4 and 5 are detail perspective views of the extremity of the threaded element and the key.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

Referring to the drawing, the numeral 1 designates a threaded element, such as a bolt, to which the invention is applied, while 2 indicates a nut designed to be mounted upon the threaded element and to be screwed up

on the same tight against the work. Leading from the inner face of the nut and extending longitudinally and centrally thereof, is a threaded opening 3 which is designed to receive and be engaged with the end portion of the threaded element, and which terminates short of the outer face of the nut, as will be observed by reference to the drawing. This opening 3 communicates with a relatively small longitudinally disposed passage 4 formed within the nut and providing an inwardly facing shoulder 5 at the end of the opening 3, said passage constituting a guideway in which is slidably mounted a longitudinal key 6. The key is designed to be held against any turning movement relative to the nut, and for this purpose, the key and guideway are preferably correspondingly polygonal in cross section, as shown. The key projects at its inner end, into the opening 3, and is formed in proximity to such end with an outstanding collar 7, an expansion spring 8 encircling the key and being interposed between the collar thereof and the inwardly facing shoulder 5, and normally exerting a tension upon the key to shoot the same longitudinally inwardly and seat a transverse tongue or lug 9 provided at the extremity thereof, in a slot 10 formed in the opposing end of the threaded element. In the present instance, two of these slots are employed, and extend diametrically of the threaded element in perpendicular relation, so as to afford four different adjustments of the nut, it being particularly noted that sundry walls of the slots and the lug are beveled, as indicated at 11, so as to admit of the lug riding out of engagement with one of the slots and into engagement with the other, upon the turning of the nut to tighten the same against the work. The tongue 9 is arranged to remain seated in its slot, however, upon any attempted turning of the nut in the opposite direction, as would result in the loosening thereof. The opposite or outer end of the key 6 projects beyond the passage 4 and extends into a threaded socket 12 formed in the outer face of the nut, to admit of access to the key, for a purpose to be presently disclosed, the key being preferably provided at such outer end, for convenience, with a finger-ring 13. In order to prevent possible tampering with the key, after the nut has been adjusted upon the bolt, and also to protect the locking ele-

ments from exposure to dirt or moisture or the like, I employ an exteriorly threaded cap 14 which is removably engaged in the threaded socket 12 to effect the closure thereof.

In the practical use of my improved nut lock, when it is desired to apply a nut to the threaded element 1, the cap 14 is disengaged from the socket 12, and the finger-ring 13 is grasped by the operator who pulls outwardly thereon to retract the key 6 against the compression of the spring 8. While the key is maintained in such retracted position, the threaded opening 2 is engaged with the end portion of the threaded element 1, the nut being turned upon the threaded element until the desired adjustment of the former against the work has been effected, whereupon the operator releases the key which is shot longitudinally inwardly to project the tongue or lug 9 thereof into the requisite slot 10, and thus locking the nut in position. The screw cap 14 is then returned to position. Should occasion require further adjustment of the nut against the work, it will be noted that the same may be conveniently effected without the necessity of removing the cap and manipulating the key, inasmuch as the tongue and slots are beveled to admit of the former riding over the latter, under such circumstances.

The removal of the nut from the threaded element may manifestly be accomplished by reversing the operation just described.

From the foregoing description, in connection with the accompanying drawing, it will be apparent that I have provided an improved nut lock which is susceptible of being advantageously employed for all purposes where a device of this character is desired; which admits of the nut being readily applied to the threaded element and quickly detached therefrom, and at the same time serves to effectually maintain the nut against any accidental loosening movement; which embodies to a marked degree the character-

istics of simplicity, durability and strength, and which consists of comparatively few parts that may be easily and cheaply manufactured and readily assembled.

Having thus described the invention, what I claim is:

1. In a nut lock, the combination of a threaded element, a nut formed with a threaded opening for engagement with and the reception of an end portion of the threaded element, the opening leading from one face of the nut and terminating short of the opposite face thereof, the nut being formed in its other face with a socket and being also formed with a longitudinal passage or guideway establishing communication between the opening and the socket, a key slidably mounted in the passage with one end disposed in the socket and its other end projecting into the opening and in engagement with the threaded element, and means for closing the socket.

2. In a nut lock, the combination of a threaded element, a nut formed with a threaded opening for engagement with and the reception of an end portion of the threaded element, the opening leading from one face of the nut and terminating short of the opposite face thereof, the nut being formed in its other face with a threaded socket and being also formed with a relatively small longitudinal passage establishing communication between the socket and the opening, a key slidably mounted in the passage with one end portion disposed in the socket and its other end projected into the opening and engaged with the threaded element, and a screw cap removably secured to the threaded socket to effect the closure thereof.

In testimony whereof I affix my signature in presence of two witnesses.

THOMAS J. DAVIS. [L. s.]

Witnesses:

O. W. BLEECK,

C. A. TETLEY.