J. B. WORD.

NUT LOCK.

APPLICATION FILED OCT. 7, 1919.

1,337,424. Patented Apr. 20, 1920.

FIG. 1.

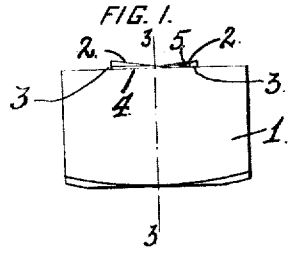



FIG. 2.

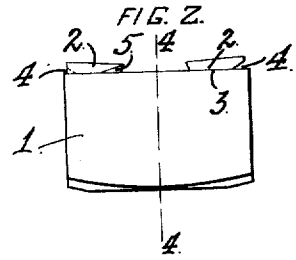



FIG. 3.

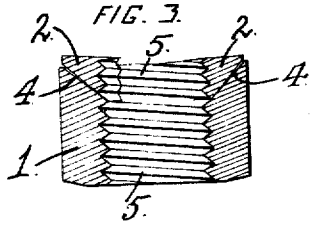



FIG. 4.

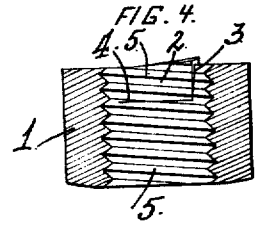



FIG. 5.

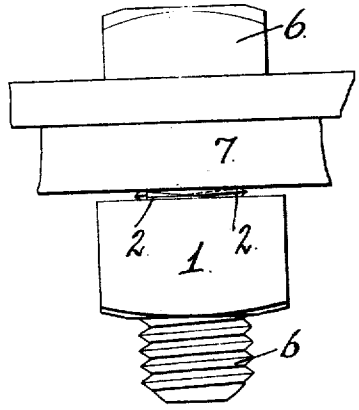
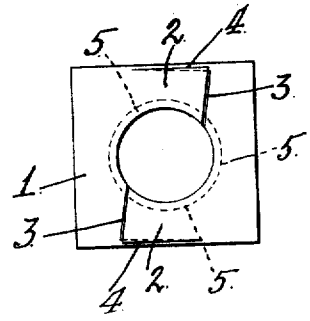



FIG. 6.




INVENTOR

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BY Boott & Boott

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# UNITED STATES PATENT OFFICE.

JOHN B. WORD, OF LATROBE, CALIFORNIA, ASSIGNOR OF ONE-THIRD TO WILLIAM A. RECKERS AND ONE-THIRD TO CHARLES M. SUMNER, BOTH OF PLACERVILLE, CALIFORNIA.

## NUT-LOCK.

1,337,424. Specification of Letters Patent. Patented Apr. 20, 1920.

Application filed October 7, 1919. Serial No. 329,009.

*To all whom it may concern:*

Be it known that I, JOHN B. WORD, a citizen of the United States, residing at Latrobe, in the county of Eldorado and State of California, have invented certain new and useful Improvements in Nut-Locks, of which the following is a specification.

My invention relates to that class of nut-locks in which a cramping or binding pressure is brought upon the bolt-threads by means of a movable section of the nut threads, which section, due to a slight initial projection from the face of the nut is forced inwardly by contact with a fixed abutment against which the nut is set up, so that the threads of said section are thrown out of coincidence or register with the threads of the nut, and thereby bind on the bolt.

The common form of this type of nut-lock comprises an independent segment, section or gib, slidably seated in a groove in the nut, and initially set to project from the nut-face. This construction requires rather accurate and relatively expensive machining, and has not found favor, for this and other reasons, as for example the chance of the independent movable section or gib being misplaced or lost.

The object of my invention is to provide a simple, effective and inexpensive nut-lock, in which the cramping or binding section of the nut is integral therewith and bears such relation thereto that the contact of the fixed abutment against which it bears will force said section to a binding pressure upon the bolt threads both in a direction parallel with the bolt axis and at right angles thereto, said section being also adapted to release by its inherent resilience its cramping effect on the bolt threads, when relieved of the contact pressure of the fixed abutment. To this end my invention consists in the novel nut-lock which I shall now fully describe, by reference to the accompanying drawings in which,

Figure 1 is an elevation of a nut formed with my novel lock.

Fig. 2 is an elevation of the same at right angles to Fig. 1.

Fig. 3 is a section on the line 3—3 of Fig. 1.

Fig. 4 is a section on the line 4—4 of Fig. 2.

Fig. 5 is a view of the nut fitted to a bolt and about to be set up against the fixed abutment.

Fig. 6 is a top plan view of the nut.

The nut 1 has a section 2 which, at one extremity, is integral with the nut, as seen in Figs. 4 and 6. At its other extremity it is severed from the nut by a cut 3 perpendicular to the face of the nut, and at its back it is severed from the nut by a cut 4 at an angle to the face of the nut and sloping inwardly to the tapped or threaded bore, a distance of a few threads, say three or four, as seen in Figs. 3 and 4 of the drawings. The cuts 3 and 4 join, so that the section 2 is severed except at a triangular portion at one extremity where it is still integral with the nut. From this unsevered portion the surface of the section 2 rises from the face of the nut on an incline, and at its severed extremity it lies appreciably above the nut face. There may be one or more of these sections 2 in each nut. For illustration I have here shown two, symmetrical and opposite. In a hexagonal nut three would present a good distribution; and even four might be used in a square nut. The internal threads 5 of the nut bore are continuous and uniform in both nut body and raised sections, that is to say they are coincident and register. In practice the nut-blank after it is stamped out and is still hot is fitted to a tool in which it is securely clamped while angular chisels or knives are pressed into the red hot blank to form the cuts 3 and 4, during and by which operation the sections 2 are elevated or pressed up from the nut face. Then with the blank thus treated and the partially severed sections 2 inclining from its face, said blank is tapped to form the interior threads continuously and coinciding in both the nut proper and the sections 2.

It will now be seen that if pressure be applied to the face of the sections 2, said sections will yield about their integral extremity acting as a spring hinge. The yielding of the sections will be the component of two directions namely, one parallel with the nut-axis and the other at an angle thereto, due to the sloping cut 4. It follows that the sections 2 moving on their inwardly sloping back walls at 4 cause their threads to move out of register or coincidence with the

threads in the nut body. Therefore, when the nut 1 is fitted on the bolt 6, as in Fig. 5, and is set up to a fixed abutment, such for example, as the plate 7 on said bolt, the contact of the inclined faces of the nut sections 2 with said plate 7, will force said sections in, thereby causing their threads to cramp in the threads of the bolt both longitudinally and laterally, and this pressure finds resistance both from the plate 7 and from the wall of the nut at 4 in which the partially severed section lies. As the pressure of the plate 7 is relieved by turning back the nut, the spring of the integral joint of the section 2 tends to throw said section out again and relieve the cramping pressure of its threads on the bolt threads.

I claim:

1. In a nut-lock, a nut a section of the threaded bore of which is raised from the nut face on an incline, said section being severed from the nut at one extremity by a cut perpendicular to the nut face and at its back by a cut inclining inwardly to the bore, and said section being integral with the nut at its other extremity, whereby the section by pressure contact with a fixed abutment on a bolt will be turned on its integral extremity downwardly and inwardly to bind its threads in the threads of the bolt.

2. In a nut-lock a nut formed with a threaded section of its bore partially severed from its face by an end cut perpendicular to the nut face and a back cut joining the end cut and inclining inwardly into the nut-bore, and at its other end being integral with the nut, said section being elevated from the nut face on an incline from its integral to its cut end, the threads in said nut and its raised section normally coinciding.

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

JOHN B. WORD.

Witnesses:
WM. F. BOOTH,
D. B. RICHARDS.