(No Model.)

F. REYNARD.

NUT LOCK.

No. 453,660. Patented June 9, 1891.

Fig. 1.

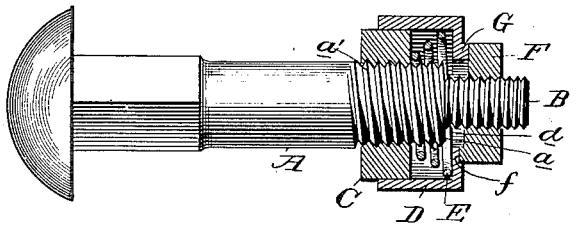


Fig. 2

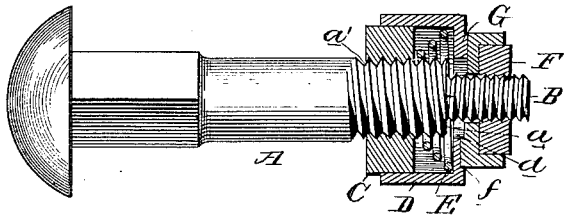
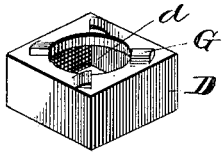


Fig. 3



Witnesses:
F. P. Cornwall
M. E. Perry.

Fremont Reynard Inventor
by
Crosby and Gorian,
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UNITED STATES PATENT OFFICE.

FREMONT REYNARD, OF AMHERST, NEBRASKA.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 453,660, dated June 9, 1891.

Application filed February 19, 1891. Serial No. 382,033. (No model.)

To all whom it may concern:

Be it known that I, FREMONT REYNARD, a citizen of the United States, residing at Amherst, in the county of Buffalo and State of Nebraska, have invented certain new and useful Improvements in Nut-Locks; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention relates to an improvement in nut-locks; and it consists in the construction and arrangement of parts fully hereinafter described, and definitely pointed out in the claim.

The object of my invention is to provide and construct a lock for nuts which may be readily applied, quickly adjusted, and cheaply manufactured. I obtain this object by the construction illustrated in the accompanying drawings, wherein like letters of reference indicate like parts in the several views, and in which—

Figure 1 is an elevation of a bolt, with my locking device, together with the nuts, shown in vertical section. Fig. 2 is a similar view of a modified form. Fig. 3 is a detail perspective view of a cap.

A represents a bolt having its shank at the outer end reduced, as at B, which portion has a left-hand screw-thread formed thereon. By this reduction a shoulder *a* is formed on the bolt, the end of the bolt back from the shoulder being screw-threaded with right-hand thread, as shown at *a'*.

C represents the nut formed with female threads corresponding with the threads *a'*, on which the same is screwed to a point some distance back of the shoulder.

D is a rectangular cap having a hollow center, the circumference of which is greater than that of the nut C, over which the cap is adapted to slide. The vertical outer face of the cap is provided with a central aperture *d* of a circumference equal to or greater than the circumference of the large threaded end of the bolt, so that the same may pass over said end.

Interposed between the outer face of the nut C and the inner face of the vertical portion of the cap is a conical spiral spring E, the smaller coil of which surrounds the threaded portion *a'*, while the remaining coils are arranged so that when compressed they will assume a position one directly over the other.

F is a small nut having a left-handed female thread fitted on the reduced portion B of the bolt. The size of this nut F is greater than the diameter of the bolt, and its rear or inner face is provided with a series of inclined teeth *f*, inclined in the direction of the movement of the nut when being screwed down, their rear edges being at right angles. These teeth engage with similar inclined teeth G, formed on the outer face of the cap, the inclination of which are, however, in a direction opposite to those on the nut, so that the teeth may pass each other as the outer nut is being screwed down.

In Fig. 2 I have shown a modification of my invention. In this form of construction the parts are identical with those above described, with the exception of the nut F, which is of the ordinary make and is constructed without the teeth. To prevent the same from turning I place it in a cap, and on the outer face of this cap I form the teeth, which engage with the teeth on the inner cap.

It will be seen by the above-described construction that in operation my nut-lock works as follows: When the bolt has been passed through the suitable material designed to be united, the large nut is screwed down to the proper point of contact. The cap is then placed on the nut, having the spring interposed between the same, the normal tendency of which is to force the cap out. As the small nut is screwed down in the opposite direction or toward the left, the cap is forced back by the hand of the operator and the nut is forced down flush with the shoulder *a*. While in this position the cap is released and the teeth thereon engage back of the teeth on the outer nut, and owing to the difference in the inclination of the teeth the outer nut is prevented from unscrewing, and owing to the different angle of the threads on the bolt the nuts cannot move in the same direction and

being united by the engaging teeth are prevented from becoming loose.

I am aware that many minor changes in the construction and arrangement of the parts of my device can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

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

In a nut-lock, the combination, with a bolt having a reduced outer end, a right-hand thread formed on said bolt, and a left-hand thread formed on the outer end, of a nut on said bolt and a nut on the reduced end thereof, a cap surrounding the inner nut having a circular aperture in its center of a diameter greater than the diameter of the bolt, a conical spiral spring interposed between the inner nut and cap, and oppositely-inclined teeth on the cap and outer nut, substantially as described.

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

FREMONT REYNARD.

Witnesses:
GUSTAV T. ROWENDERWALD,
G. A. MUNROE.