(No Model.)

C. RUKENBROD.

Nut Lock.

No. 232,369. Patented Sept. 21, 1880.

FIG. 1.

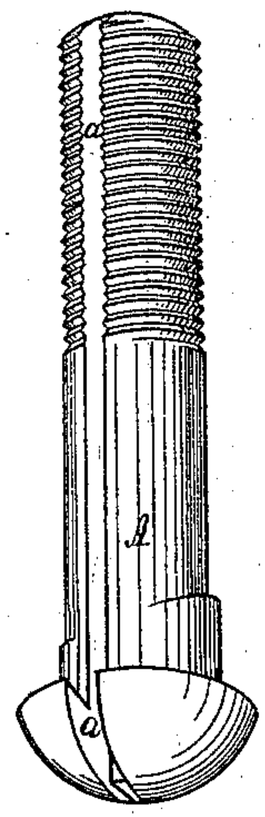


FIG. 4.

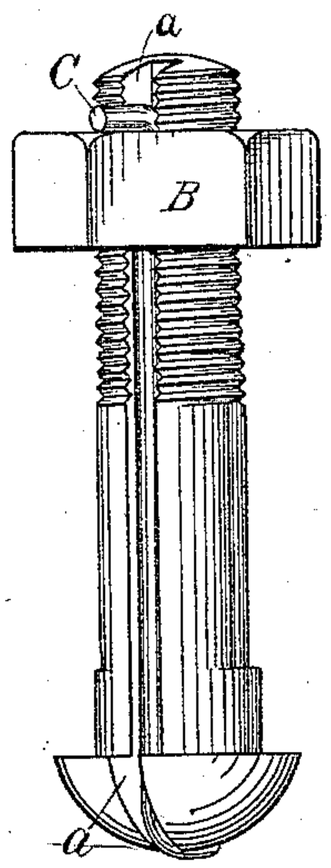


FIG. 3.

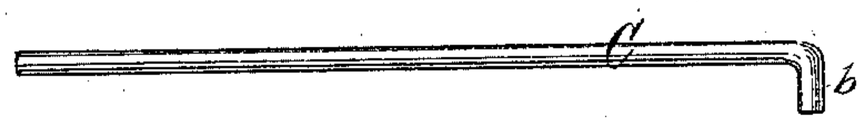
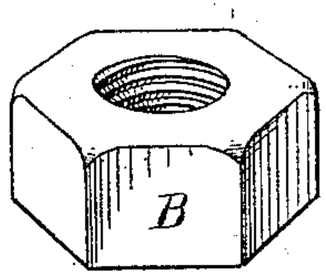


FIG. 2.



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UNITED STATES PATENT OFFICE.

CHARLES RUKENBROD, OF CARROLLTON, OHIO.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 232,369, dated September 21, 1880.

Application filed August 4, 1880. (No model.)

To all whom it may concern:

Be it known that I, CHARLES RUKENBROD, of Carrollton, in the county of Carroll and State of Ohio, have invented a certain new and useful Improvement in Nut-Locks; and I do hereby declare that the following specification, taken in connection with the drawings furnished and forming a part thereof, is a true, clear, and complete description of my invention.

My improved nut-lock pertains to that class in which a clinchable key is employed, and I employ a longitudinally-chambered bolt, a nut, and a clinchable key. Heretofore a bolt centrally bored has been employed, in combination with a clinchable key and a nut; and, as compared with such a nut-lock, one object of my invention is to obviate the great cost of thus boring a bolt, in using, instead of the central hole, a longitudinal channel on the outside of the bolt, which channel can be cheaply attained while making the bolt by the employment of properly-shaped dies in a bolt-blank machine.

Bolts have also been heretofore longitudinally channeled on the shank, and such have heretofore been employed with clinchable keys, as follows: Bolts channeled from end to end have been used with a key driven from the nut end of the bolt and clinched at the headed end; but said keys have been heretofore provided with a cutting-edge, which so mutilates the thread of the nut that the latter, when necessary so to do, cannot be turned off from the bolt; and further objects of my invention, as compared with this class of bolts, are to obviate the cost of the specially-formed key with cutting-edge, and also to obviate the mutilation of the thread of the nut.

Bolts have also heretofore been channeled longitudinally for a portion of their length—*i. e.*, throughout the whole or a part of the threaded portion—and provided with a diametrical key-hole drilled or punched partly or wholly through the bolt for the reception of a rectangularly-bent portion of a clinchable key; and other objects of my invention are to obviate the weakening of the bolt and the cost incident to such diametrical holes in the bolt. Belonging to this last-named class are bolts which are channeled longitudinally on opposite sides for a portion of their length, and are drilled diametrically from channel to channel for the reception of a clinchable key which occupies both channels and also the diametrical aperture. Such bolts and keys have been employed with nuts radially scored on their faces for the reception of the ends of the key when clinched. As compared with these bolts, further objects of my invention are also to obviate the cost of the second channel in the bolt, and also the cost of the scorings in the nut.

For the attainment of the several ends stated, my invention consists in the combination, with a bolt which is longitudinally channeled on one side throughout its length and across the head, of a nut and a clinchable key which is wholly housed in the bolt-channel beneath the nut, and engages with the nut on its front face only, and also with the head of the bolt when clinched for locking the nut.

To more particularly describe my invention, I will refer to the accompanying drawings, in which—

Figure 1 represents the bolt; Fig. 2, the nut, and Fig. 3 the clinchable key. Fig. 4 represents these parts as combined in use by me in accordance with my invention.

As before herein stated, all of these parts, *per se*, are old.

The bolt A is recessed throughout its length on one side thereof, and also preferably across the head, as shown. The recess or groove *a* is preferably formed by means of proper dies in a bolt-machine during the making of the bolt-blank. It may, however, be formed by a saw or other equally effective slotting mechanism.

I show the open recess *a* extended through the head of the bolt, and this is preferred by me, although if the recess be terminated at the head, and the latter be bored coincidently with the groove, it would serve as well in my combination as if the open groove extended through the head. The nut B is as heretofore.

The clinchable key C is also of the form and character heretofore used with the axially-bored bolts, hereinbefore referred to. It differs from the clinchable keys heretofore used with bolts longitudinally channeled throughout their length in that it has no cutting-edge near its outer end for engaging with and mutilating the thread of the nut, and in operation it differs from said keys in that my key

can be applied from either end of the bolt, while the key referred to could only be applied and driven from the threaded or nut end.

When nut and bolt are to be locked, after being placed in position the clinchable key is inserted into the channel from either end of the bolt, and one end or the other thereof clinched, according to whether the arm *b* of the key is placed in close contact with the front face of the nut or the head of the bolt. I prefer that said key-arm be first snugly forced against the face of the nut and the opposite end clinched down over the head of the bolt, as by a "drawing" blow from a hammer, to secure a more or less longitudinal draft on the key, and thereby to insure a firm abutment of the arm *b* with the outer face of the nut; and by firmly confining the nut within fixed longitudinal limits it is also secured against the loosening rotation which all nut-locks are intended to obviate.

As compared with the axially-bored or hollow bolt hereinbefore referred to, my key can engage with the face of the nut regardless of its position with relation to the threaded end of the bolt, whereas with the hollow bolt its threaded end, for good service from the key, should be wholly housed within the nut.

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

The combination of the nut, the bolt longitudinally channeled on one side throughout its length and across its head, and the clinchable key wholly housed within the bolt-channel beneath the nut, and engaging only with the front face of said nut, substantially as and for the purposes specified.

CHAS. RUKENBROD.

Witnesses:
JAMES HOLDER,
R. M. STERLING.