S. PALMATEER.

NUT LOCK.

APPLICATION FILED JAN. 20, 1910.

981,678. Patented Jan. 17, 1911.

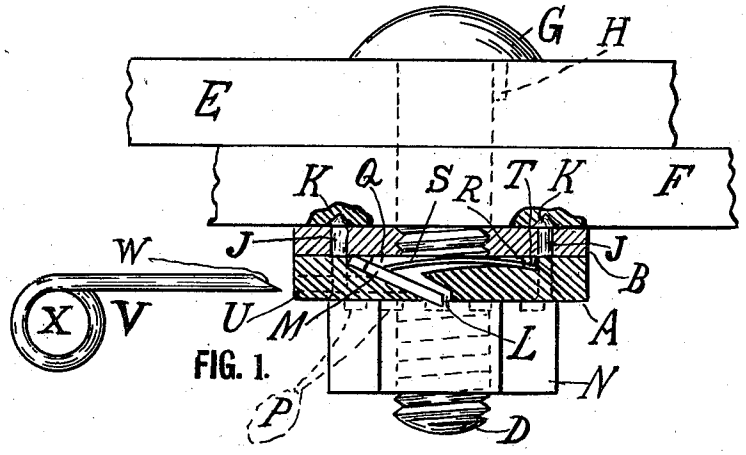

FIG. 1.

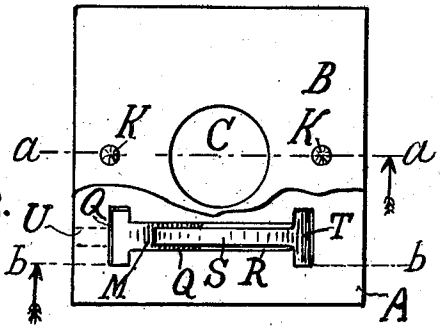

FIG. 2.

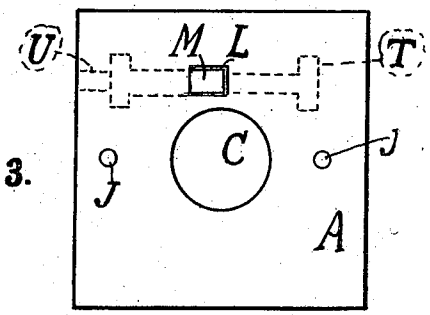

FIG. 3.

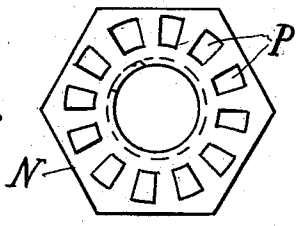

FIG. 4.

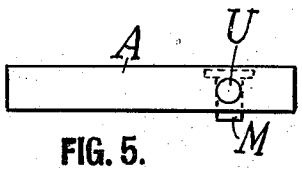

FIG. 5.

WITNESSES:

M. M. Carlsen

A. E. Carlsen.

INVENTOR:

Sylvanus Palmateer.

BY his ATTORNEY:

A. M. Carlsen.

UNITED STATES PATENT OFFICE.

SYLVANUS PALMATEER, OF STAPLES, MINNESOTA, ASSIGNOR OF ONE-SIXTH TO EARL JENKINS AND ONE-SIXTH TO OLIVER MORROW, OF STAPLES, MINNESOTA.

NUT-LOCK.

981,678. Specification of Letters Patent. Patented Jan. 17, 1911.

Application filed January 20, 1910. Serial No. 539,194.

To all whom it may concern:

Be it known that I, SYLVANUS PALMATEER, a citizen of the United States, residing at Staples, in the county of Todd and State of Minnesota, have invented a new and useful Nut-Lock, of which the following is a specification.

My invention relates to nut-locks; and the object is to provide an improved, efficient and comparatively cheap means by which a nut will be prevented from accidental loosening and separation from the bolt, and yet the nut may be removed when so desired.

In the accompanying drawing;—Figure 1 is an edge view of two flat pieces of either wood or metal with a bolt passed through them and provided with a nut and my novel locking means applied thereto and shown partly in section as on the lines *a*—*a* and *b*—*b* in Fig. 2; also a key for the device is shown to the left in Fig. 1. Fig. 2 is a rear view of the locking device, which involves two plates A and B, of which plate B is partly broken away in Fig. 2. Fig. 3 is a face view of the side of plate A against which the nut is placed, showing the locking catch projecting through it. Fig. 4 is a rear side view of the nut, showing the face of it that goes against the locking device. Fig. 5 is a left hand edge view of the plate A in Fig. 1.

Referring to the drawing by letters of reference, A and B designate two preferably square plates, each provided with a central hole C for a bolt D to pass through after it is passed through the parts that are to be bolted together, which in Fig. 1 are represented as two flat iron bars E and F. The bolt is in said view shown as having a round head G and a key rib H to engage a suitable notch in the bar E and thus prevent turning of the bolt when it is inserted, and the threaded portion is provided with a nut N having in its clamping face a circular row of indentures P. The plates A and B of the complete locking device are secured together by two rivets J, J, whose heads K are pointed and hardened and project slightly beyond the face of the rear plate. Before the plates are riveted together plate A is provided with an aperture L through which project forwardly on a slant the longest member of a T-shaped dog M, which is placed in a T-shaped groove Q in the rear side of the plate, where it is pressed into engagement with the indentures of the nut by a flat curved spring S, which is retained in a groove R in the plate and has a T-shaped end resting in the T-shaped end portion of the groove R. When the plates are assembled the rear plate B presses upon the arched middle portion of the spring and thus give tension to the latter against the dog, so that the latter will normally project through aperture L and engage the indentures or cavities P in the nut when the latter is screwed into operative closeness to the plate A. Said plate A is provided in one edge with a duct or hole U, which extends into the groove Q at the front side of the dog M. In Fig. 1, V designates a pointed tool or key, which may be inserted in said hole U and by pushing it against the dog the latter may be disengaged from the nut when it is desired to remove the nut, and until the key is thus applied the nut is safely locked by the dog.

In applying the device upon wood work the nut N will readily force the heads K into the wood and thus prevent turning of the locking device, but if applied to iron a light blow should be given either on the outer plate A or on the nut N to cause the heads K to sink sufficiently into the metal to prevent turning of the device on the bolt. Where these heads K are employed the plates may be round or of any other desired form; and if the device is applied to rail joints or other structure where flanges or other obstruction to rotation of the plates is present, the rear plate is made square or oblong and of a size to engage such obstructions, and the pointed heads K may in such cases be dispensed with.

To facilitate the opening of the lock by the key V, the latter has its front end beveled at W on one side and its other end formed with a ring X, so that even if the dog M is stuck, a turning movement of the key after its bevel W is pushed against the dog, will cause the unbeveled side of the key end to act as a cam and force the dog out of engagement.

What I claim is:—

1. In a nut-lock, the combination with the threaded end of a bolt, of a nut having a circular row of indentures in its rear side, a primary washer plate on the bolt near the rear side of the nut and having in its front side an aperture and in its rear side loosely embedded a dog and a spring pressing on

the dog to hold it normally projected through the aperture and engaged with the indentures in the nut, a secondary plate secured to the rear side of the primary plate to retain the dog and its spring in place and give tension to the spring; said primary plate having in one edge a hole extending to the front side of the dog, and a key insertible into said hole for disengaging the dog from the nut.

2. In a nut-lock, the combination with the threaded end of a bolt, of a nut having a circular row of indentures in its rear side, a primary washer plate on the bolt near the rear side of the nut and having in its front side an aperture and in its rear side loosely embedded a dog and a spring pressing on the dog to hold it normally projected through the aperture and engaged with the indentures in the nut, a secondary plate secured to the rear side of the primary plate to retain the dog and its spring in place and give tension to the spring, said primary plate having in one edge a hole extending to the front side of the dog, and a key insertible into said hole for disengaging the dog from the nut; said secondary or rear plate having at its rear side sharp studs adapted for engagement with the structure to which the bolt is applied to prevent accidental turning of the plates.

3. In a nut-lock, the combination with the threaded end of a bolt, of a nut having a circular row of indentures in its rear side, a primary washer plate on the bolt near the rear side of the nut and having in its front side an aperture and in its rear side loosely embedded a dog and a spring pressing on the dog to hold it normally projected through the aperture and engaged with the indentures in the nut, a secondary plate secured to the rear side of the primary plate to retain the dog and its spring in place and give tension to the spring, said primary plate having in one edge a hole extending to the front side of the dog, and a key insertible into said hole for disengaging the dog from the nut; said plates being secured together by rivets, the heads of which are at the rear side of the rear plate and are formed into sharp studs adapted to take hold of the structure to which the bolt is applied, and thus prevent accidental turning of the plate.

4. In a nut-lock, the combination with the threaded end of a bolt, of a nut having a circular row of indentures in its rear side, a primary washer plate on the bolt near the rear side of the nut and having in its front side an aperture and in its rear side loosely embedded a dog and a spring pressing on the dog to hold it normally projected through the aperture and engaged with the indentures in the nut, a secondary plate secured to the rear side of the primary plate to retain the dog and its spring in place and give tension to the spring, said primary plate having in one edge a hole extending to the front side of the dog, and a key insertible into said hole for disengaging the dog from the nut; said plates being secured together by rivets, the heads of which are at the rear side of the rear plate and are formed into sharp studs adapted to take hold of the structure to which the bolt is applied, and thus prevent accidental turning of the plate; said bolt having a head and means adjacent the head to prevent rotation of the bolt when it is inserted for use.

5. In a nut-lock, the combination with the threaded end of a bolt, of a nut having a circular row of indentures in its rear side, a primary washer plate on the bolt near the rear side of the nut and having in its front side an aperture and in its rear side loosely embedded a dog and a spring pressing on the dog to hold it normally projected through the aperture and engaged with the indentures in the nut, a secondary plate secured to the rear side of the primary plate to retain the dog and its spring in place and give tension to the spring, said primary plate having in one edge a hole extending to the front side of the dog, and a key insertible into said hole for disengaging the dog from the nut; said dog and spring having each a T-shaped end and the primary plate having cavities fitting said ends to hold them in normal position.

6. In a nut-lock, the combination with the threaded end of a bolt, of a nut having a circular row of indentures in its rear side, a primary washer plate on the bolt near the rear side of the nut and having in its front side an aperture and in its rear side loosely embedded a dog and a spring pressing on the dog to hold it normally projected through the aperture and engaged with the indentures in the nut, a secondary plate secured to the rear side of the primary plate to retain the dog and its spring in place and give tension to the spring, said primary plate having in one edge a hole extending to the front of the dog, and a key insertible into said hole for disengaging the dog from the nut; said key comprising a rod with finger hold at one end, the other end being beveled at one side to a point and straight at the other side, for the purposes set forth.

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

SYLVANUS PALMATEER.

Witnesses:
A. M. CARLSEN,
M. M. CARLSEN.