

No. 759,039.

PATENTED MAY 3, 1904.

W. M. SMITH.
NUT LOCK.

APPLICATION FILED OCT. 15, 1903.

NO MODEL.

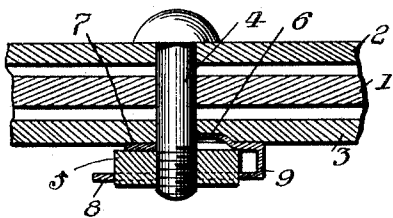


Fig. 1.

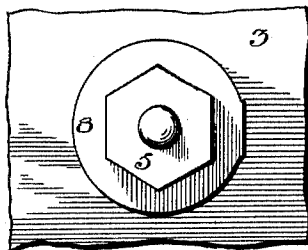


Fig. 2.

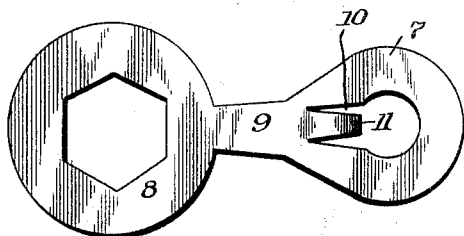


Fig. 3.

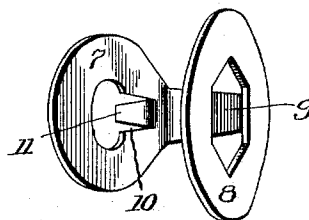


Fig. 4.

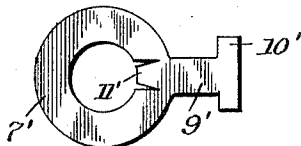


Fig. 5.

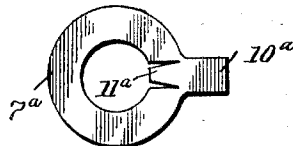


Fig. 6.

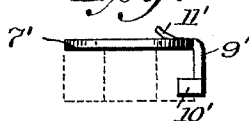


Fig. 7.



Fig. 8.

Witnesses:
A. H. Butler
E. E. Potter

Inventor:
Wm. M. Smith,
By A. E. Smith
Attorneys.

UNITED STATES PATENT OFFICE.

WILLIAM M. SMITH, OF TURTLECREEK, PENNSYLVANIA.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 759,039, dated May 3, 1904.

Application filed October 15, 1903. Serial No. 177,155. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. SMITH, a citizen of the United States of America, residing at Turtlecreek, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Nut-Locks, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvements in nut-locks; and the primary object of the invention is to provide novel, inexpensive, and effective means for the secure locking of a nut on its bolt.

A further object of my invention is to provide a device for this purpose that may be advantageously used in almost any connection where it may be desired to securely hold the nut in the locked position, the device being applicable as well for the locking of a nut that is adjacent to wood as one adjacent to a metal piece through which the bolt is passed.

Briefly described, my invention comprises a nut-holding device made from a single piece of sheet metal, preferably stamped from the sheet in order to reduce the cost of manufacture to a minimum. This nut-holding device comprises two integral members, one of which is apertured to receive the bolt and the other of which is adapted to engage with and hold the nut. The apertured member is provided with a tongue formed by making two slits in the member extending from the wall of the aperture into the member toward the nut-engaging member, and this tongue is adapted to be bent out, so that the major portion thereof will lie on a plane beyond the face of the member and which is adapted to engage in a notch or recess provided therefor in the member through which the bolt is passed.

The invention will be hereinafter more fully described and then particularly claimed, and in describing the invention in detail reference will be had to the accompanying drawings, forming a part of this application, and wherein like numerals of reference will be employed for designating like parts throughout the different views of the drawings, in which—

Figure 1 is a horizontal sectional view showing the application of one form of my im-

proved nut-lock to railroad use. Fig. 2 is an end view of the nut-lock in position. Fig. 3 is a plan view of one form of blank before being bent into shape for locking the nut. Fig. 4 is a perspective view of the same form of blank bent into shape for locking the nut. Fig. 5 is a plan view of a modified form of construction. Fig. 6 is a like view of another modification. Fig. 7 is a side or edge view of the form of lock shown in Fig. 5 in position on the nut, the latter being shown in dotted lines. Fig. 8 is a like view of the form of lock shown in Fig. 6, the nut being shown in dotted lines.

In Figs. 1 and 2 of the drawings I illustrate the application of my improved nut-lock in connection with forming a rail-joint, 1 indicating the web of the rail, and 2 3 the fish-plates. The bolt 4 with which my improved nut-lock is employed and also the nut 5 may be of the usual form of construction, requiring no alteration whatever to effect the lock of the nut on the bolt. When used in connection with a rail-joint, I form a notch or recess 6 in the face of the fish-plate 3, said notch or recess registering with the aperture in said plate through which the bolt 4 is passed. This notch or recess is adapted to receive a tongue member carried by the locking device, as will be more fully explained hereinafter.

The locking device embodies an integral bolt-receiving member and a nut-engaging member. As shown in Figs. 1 to 4, inclusive, the locking device is cut from a single piece of material, preferably stamped therefrom, the bolt-receiving member 7 being connected to the nut-engaging member 8 by means of a short shank 9. In this form of construction the member 8 is provided with an aperture corresponding in contour to the nut which it is to receive, the said member 8 surrounding the nut when in the locked position, though I may, as will hereinafter more fully appear, engage the one member with the side of the nut instead of providing said member with an opening to receive the nut therein. The member 7 is provided, substantially in alinement with the shank 9, with a pair of slits 10, and the material between these slits is bent or struck out beyond the plane of the remainder

of the blank to form a tongue 11, extending in alinement with the member 7 and is adapted to engage in a notch or recess provided therefor in the outer face of the object through which the bolt is passed, as in the notch or recess 6. (Shown in Fig. 1.) This tongue is preferably slightly tapered, as best seen in Fig. 3, easily accomplished by making the slits 10 somewhat V-shaped—that is, cutting away more of the material at the outer than at the inner end of the slits, said outer or free end extending in a plane transverse to the longitudinal plane of the bolt. In using the form of device shown in detail in Figs. 3 and 4 the blank, as seen in Fig. 3, has the bolt 4 passed through the receiving-opening in member 7 and the tongue 11 is engaged in the recess 6. After the nut 5 has been screwed home the member 8 is bent over so as to surround the nut, as seen in Figs. 1 and 2, securely preventing the nut from turning by reason of the engagement of the longitudinal edges of tongue 11 with the longitudinal walls formed by recess 6.

As shown in Figs. 5 and 7, the bolt-receiving member 7' is provided with a tongue 11' and is made integral with a nut-engaging member of substantially T-shape, embracing the shank 9' and right-angular lugs or ears 10', while in Figs. 6 and 8 the bolt-receiving member 7^a has a tongue 11^a and an extending shank or lug 10^a. In the construction shown in Figs. 5 and 7 the shank 9' is bent up along the side of the nut 5 and the lugs or ears 10' bent over thereagainst, as seen in Fig. 7, while with the construction shown in Figs. 6 and 8 the extension or shank 10^a is bent up alongside the nut at right angles to the body of the washer-blank, the tongue engaging in a recess in the object through which the bolt is passed to prevent turning of the nut.

The bolt-receiving member acts as the washer between the nut and the object through

which the bolt is passed, and the nut engaging the outer face of this washer securely holds the tongue in engagement in the recess in said object, the nut being prevented from loosening by the engagement therewith of the other member of the blank. With either of the forms of construction shown and described it will be observed that I am enabled to stamp the same out of sheet metal, making the same extremely inexpensive, and therefore adapted for use in various different connections. When the form shown in Figs. 3 and 4 is employed, it is preferable to make the shank 9 widest at the end adjacent to the receiving member 7 in order not to weaken the device by the slitting thereof to form the tongue.

In the practice of the invention it will be observed that various slight changes may be made in the details of construction without departing from the spirit of my invention.

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

A nut-lock formed from a single piece of material, and comprising an apertured bolt-receiving member, a nut-receiving member, and a tapering shank joining the members, the shank at its widest end joining with the bolt-receiving member, the said two members adapted to be bent to lie at a right angle to the shank, and a tongue formed by providing the bolt-receiving member with a pair of slits in the perforation thereof in the side adjacent the shank and nut-receiving member, said tongue adapted to be bent outward to lie in a plane beyond the bolt-receiving member, substantially as described.

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

WILLIAM M. SMITH.

Witnesses:

A. M. WILSON,
E. E. POTTER.