(No Model.)

W. H. WILLIS.

NUT LOCK.

No. 480,758. Patented Aug. 16, 1892.

Fig 1

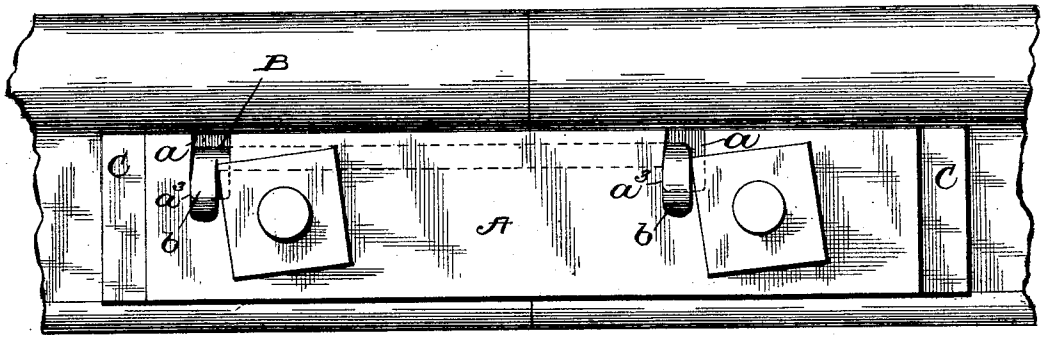


Fig 2

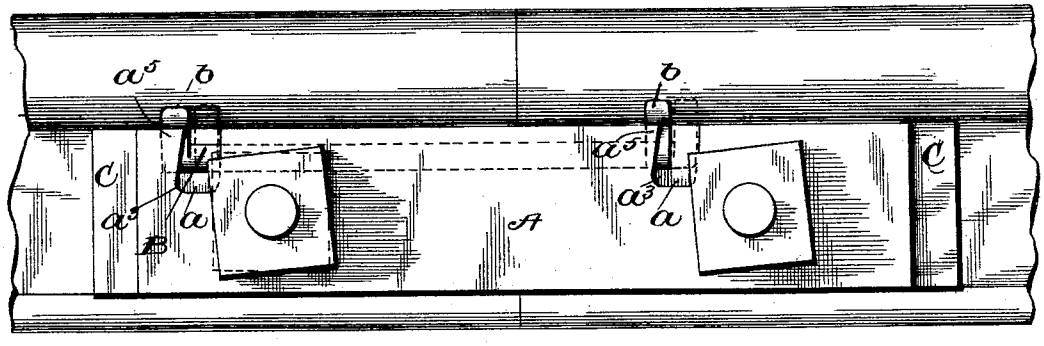
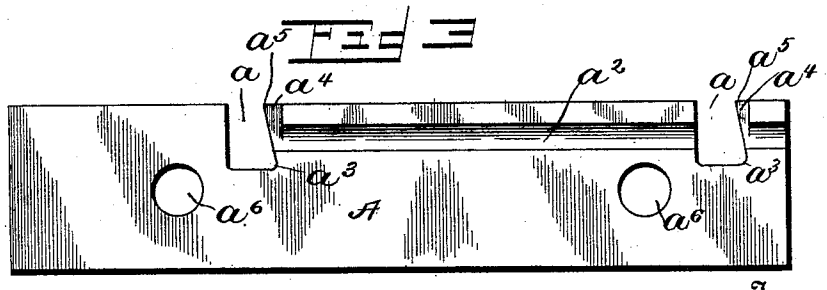


Fig 3



Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM H. WILLIS, OF BUENA VISTA, VIRGINIA, ASSIGNOR OF FOUR-FIFTHS TO A. SEDDON JONES, JULIUS GRAHAM, ROLAND F. HILL, BURNS OSBORNE, AND JESSE N. CLORE, OF SAME PLACE.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 480,758, dated August 16, 1892.

Application filed December 10, 1891. Serial No. 414,560. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM H. WILLIS, a citizen of the United States, residing at Buena Vista, in the county of Rockbridge and State of Virginia, have invented certain new and useful Improvements in Nut-Locks; and I do hereby 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.

This invention relates to nut-locks.

The object is to produce a device which will hold a nut against unscrewing in a ready, simple, and efficient manner and without having to resort to the employment of a spring.

With this object in view the invention consists in a notched plate or bar provided with a longitudinal slideway, groove, or perforation at the notched part, this groove containing a slidable rod provided with a lug or lugs on its end.

The invention consists, furthermore, in certain details of construction, all as more fully hereinafter described, and as defined by the claims.

The invention is applicable to any device or situation wherever it is desirable to keep a nut, bolt, or the like from unscrewing; but for mere sake of illustration I show the invention in two figures of the drawings as applied to a railway-rail joint against the fish-plate thereof.

In the accompanying drawings, forming part of this specification, and in which like letters of reference indicate corresponding parts, Figure 1 is a view in front elevation showing the front of the notched plate or bar, with the lugs of the rod down in the notches, holding nuts against unscrewing, the position of the slidable rod in the longitudinal groove or perforation in the plate being indicated by dotted lines. Fig. 2 is a similar view showing the lugs up out of the notches and held up in a recess or on an offset or a shoulder or keeper at the upper part of each notch, the lugs after being raised having been pushed away from their respective nuts and into the recesses or behind the shoulders or keepers by sliding the rod. Fig. 3 is a view in rear elevation showing the back of the notched plate or bar, with the longitudinal slideway for the rod in the form of a groove, showing, also, recesses at the upper part of the notches supplying shoulders or keepers.

In the drawings, A designates a plate or bar, which has cross-notches a and a longitudinal slideway a^2, which may be in the form of a groove, as here shown, or in that of a perforation. The notches are preferably somewhat wider at the bottom than at the top or are widened or undercut at one side at the bottom, presenting a recess a^3, and at the top are recessed in the direction of their width—that is to say, in the direction of the length of the plate or bar, as at a^4, leaving an offset or a shoulder a^5, presenting a keeper. Instead of the shoulder a^5 there may be a pin or any other form of keeper. The plate or bar has a bolt-hole a^6 near each notch. Placed in the slideway a^2 in the plate A and free to move lengthwise and also to rotate therein is a rod B, somewhat longer than the slideway, the rod being provided with lugs b at its ends. The plate or bar A, being turned with the groove toward the object to be fastened and securely kept so, as against the under side of a locomotive-truck or at a railway-rail joint against the fish-plate, (shown at C in Figs. 1 and 2 of the drawings,) the bolts are passed through the object to be fastened with their screw ends outward. The lugs having been raised out of the notches and the rod slid to bring them behind their keepers, as in Fig. 2, whereby they will be held up out of the way, the nuts are turned upon the screw ends of the bolts. After they have been sufficiently turned up and are in position, each with a face about parallel as regards the notch adjoining it, the rod is slid back, the lugs are turned down, as in Fig. 1, and the bolt-holes being in such relation to their respective notches and the nuts of such size as to present their faces at or a little beyond or a little short of the edge of the notch adjacent, a face of each will come flush against the adjacent lug and the nut be kept from unscrewing. By the widening of a notch at the bottom, a side thereof projecting over a lug, prevents any lateral pressure against the lug from a nut from forcing up the lug. It will be observed that by widening the bottom

of a notch or presenting a recess a^3 at the bottom for a lug to pass into the nut held by the lug may be allowed somewhat to relax, which is of great importance, as screwing a nut up tight into rigid position without any capability of yielding is often productive of over tension or strain, resulting in breakage. As a nut is never prone to tighten of itself, but rather to unscrew, there will always be proper bearing of a nut against its lug.

In order to unfasten the parts, it is only necessary to raise a lug and slide the rod in such manner that the lugs will be held up, when the nuts may be unscrewed.

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

1. In a nut-lock, a notched plate having a slideway entering the notch, the slideway having in it a rod free to slide in the direction of its length and also to turn on its axis and lugged at the end with lug in notch, substantially as described.

2. In a nut-lock, a plate provided with a cross-notch having a keeper projecting into it laterally at the top, said plate being also provided with a longitudinal slideway entering the cross-notch and containing a lugged rod with the lug in the cross-notch, substantially as and for the purpose described.

3. In a nut-lock, a plate provided with a longitudinal slideway, and a cross-notch recessed laterally above and below the slideway, in combination with a rod free to slide and also to turn in the slideway and having a lug at an end, the lug being in the cross-notch, all substantially as and for the purpose set forth.

4. The combination, with the plate A, having cross-notches a, provided with keepers a^5 in the sides and having a longitudinal slideway a^2 between the notches containing rod B, provided with lugs b, adapted to lie in said notches, of a bolt and nut, substantially as described.

5. The combination, with the plate A, having cross-notches a, provided with recesses a^3 in the sides at the bottom and having the longitudinal slideway a^2 between the notches containing the rod B, provided with lugs b, adapted to lie in the notches, of bolts and nuts, substantially as and for the purpose set forth.

6. The combination, with the plate A, having cross-notches a, provided with keepers a^5 in one side and recesses a^3 in the sides at the bottom and having a longitudinal slideway a^2 between the notches containing a rod B, provided with lugs b, of a bolt and nut, the whole operating as described.

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

WILLIAM H. WILLIS.

Witnesses:
WM. H. KELLY,
T. J. HAYMES.