(No Model.)

W. B. REYNOLDS.

NUT LOCK.

No. 458,492. Patented Aug. 25, 1891.

Fig. 1.

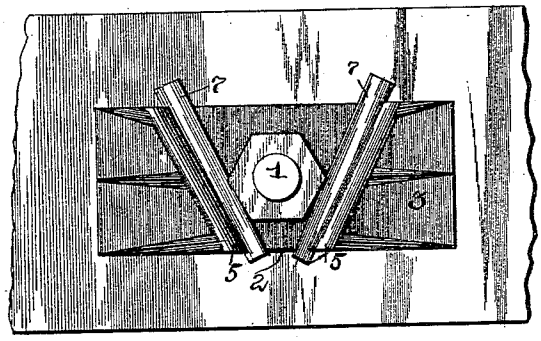


Fig. 2.

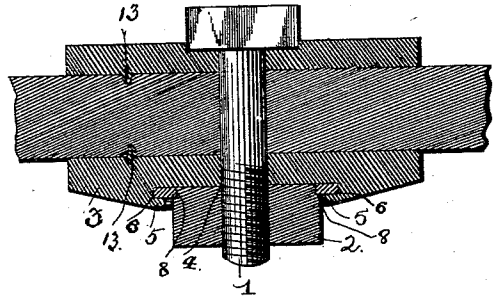


Fig. 3.

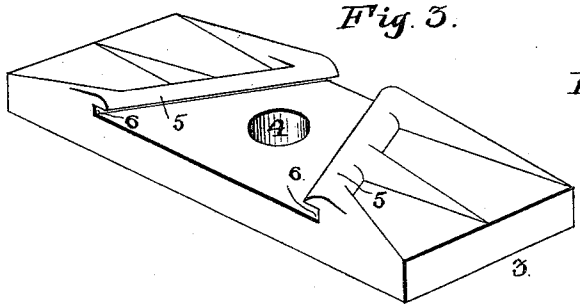


Fig. 4.

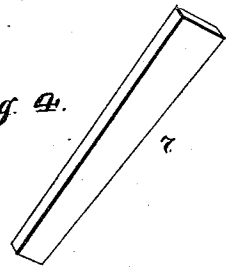


Fig. 5

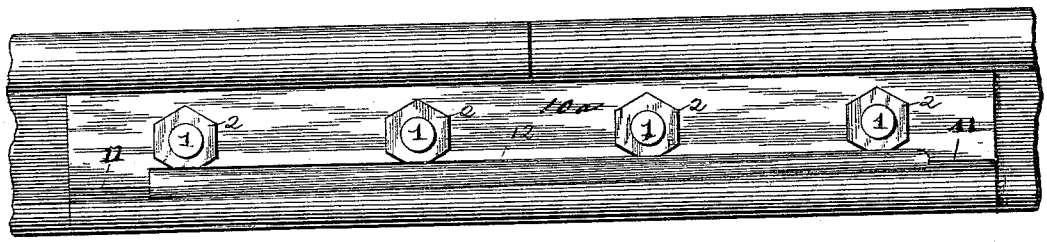
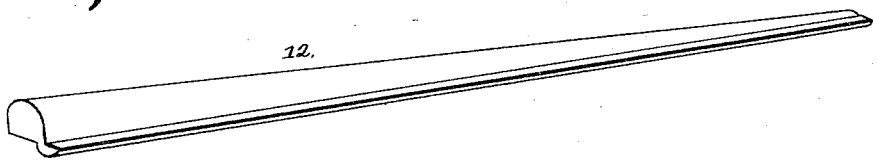


Fig. 6.



Witnesses:
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By his Attorneys,
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UNITED STATES PATENT OFFICE.

WALKER B. REYNOLDS, OF MAYBEURY, WEST VIRGINIA.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 458,492, dated August 25, 1891.

Application filed August 1, 1890. Serial No. 360,636. (No model.)

To all whom it may concern:

Be it known that I, WALKER B. REYNOLDS, a citizen of the United States, residing at Maybeury, in the county of McDowell and State of West Virginia, have invented a new and useful Nut-Lock, of which the following is a specification.

This invention has relation to improvements in nut-locks either for railroads, machinery, or other structures in which the locking of nuts is essential.

The objects of the invention are to provide a neat and convenient means for locking the nuts, which means shall be simple of construction, durable, and efficient.

Other objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a side elevation of a nut-lock constructed in accordance with my invention, the same being in position. Fig. 2 is a longitudinal section of the same. Fig. 3 is a perspective of a locking plate or washer. Fig. 4 is a detail of the key. Fig. 5 is a modification. Fig. 6 is a detail of the key employed in such modification.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 designates a bolt, and 2 the usual nut mounted thereon, except in Fig. 2, in which the base of the nut is provided with a groove.

3 designates the washer or locking plate, which takes the place of the usual washer, and is provided with one, or it may be a series of bolt-openings 4. At each side of the bolt-opening there is cast upon the plate an inclined rib 5, said ribs converging toward each other toward the lower edge of the plate. The ribs are undercut or provided with grooves 6, and in the same are mounted the wedge-shaped keys 7, preferably formed of malleable iron.

In forming the lock the washer or locking plate is first placed in position over the bolt and the nut screwed home by means of a wrench, the application of which is not at all obstructed or interfered with by the ribs, which extend from the plate about one-third the depth of the nut. The wedge-shaped keys 7 are then inserted into the spaces between the ribs and the nut, the outer edge of the key riding in the undercut groove 6, and the inner edge either against the face of the nut, or, what is better, in a specially-formed groove 8, formed in the base of the nut. The nut is now tightly wedged in position and cannot possibly be turned in either direction without first removing the keys. If desired, but one key may be employed and but one rib provided. The key is preferably formed longer than the width of the washer-plate, and the overlapped end, when used upon railway-rails, may be bent over the edge of the plate, whereby a withdrawal of the key is impossible without first rebending the bent portion of the same.

Referring to Fig. 5 I have illustrated my invention as especially adapted for railroads in forming the joints between the rails and in such a manner as to avoid as much as possible any radical change of construction of the form of fish-plate now in use. In this instance, in lieu of employing the plates 3, I employ the usual fish-plate 10^a, and parallel with the bolt-openings therein form a longitudinal groove 11, extending throughout the length of said plate. In this modification I employ what might be termed a "double-ribbed key" 12, one rib taking in the groove aforesaid and the opposite rib resting against the lower faces of the line of nuts, said nuts being ungrooved.

Although the form just described will be found efficient and durable, yet I prefer the employment of the locking-plate, as described in connection with Figs. 1, 2, and 3 of the drawings.

The inner side of the washer or locking plate is provided with a series of anchoring-spurs 13, which take into whatever object it is bolted to. Where bolted to metal, however, I may bend the ends or edges of the locking-plate to prevent its turning.

Having thus described my invention, what I claim is—

1. The combination, with a bolt and its nut, the latter provided upon each of its side faces at their bases with a groove, of a plate having an opening for the bolt and provided with a groove adjacent to said opening, and a wedge-shaped key driven in the groove of the plate

and one of the grooves of the nut and between it and the nut, substantially as specified.

2. The combination, with a bolt and its nut, of a plate having an opening for the nut, and an adjacent groove and a wedge-shaped key longer than the width of the plate mounted in the groove and driven to position between the groove and the face of the nut and having one end bent over the edge of the plate, substantially as specified.

3. The combination, with a bolt and its nut, the latter having its base provided with grooves at its edges, of a plate having opposite inclined grooves and opposite wedge-shaped keys driven between the grooves of the nut and the plate, substantially as specified.

4. The combination, with a bolt and its nut, of a washer-plate provided with opposite inclined superficial ribs re-enforced by strengthening-ribs, said inclined ribs being undercut to form a groove, and opposite wedge-shaped keys driven between the inclined ribs and the facing of the nuts, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

WALKER B. REYNOLDS.

Witnesses:
J. F. FOY,
A. F. MALONE.