No. 609,241. Patented Aug. 16, 1898.

# J. A. RAUSCH.

## NUT LOCK.

(Application filed Dec. 18, 1897.)

(No Model.)

Fig. 1.

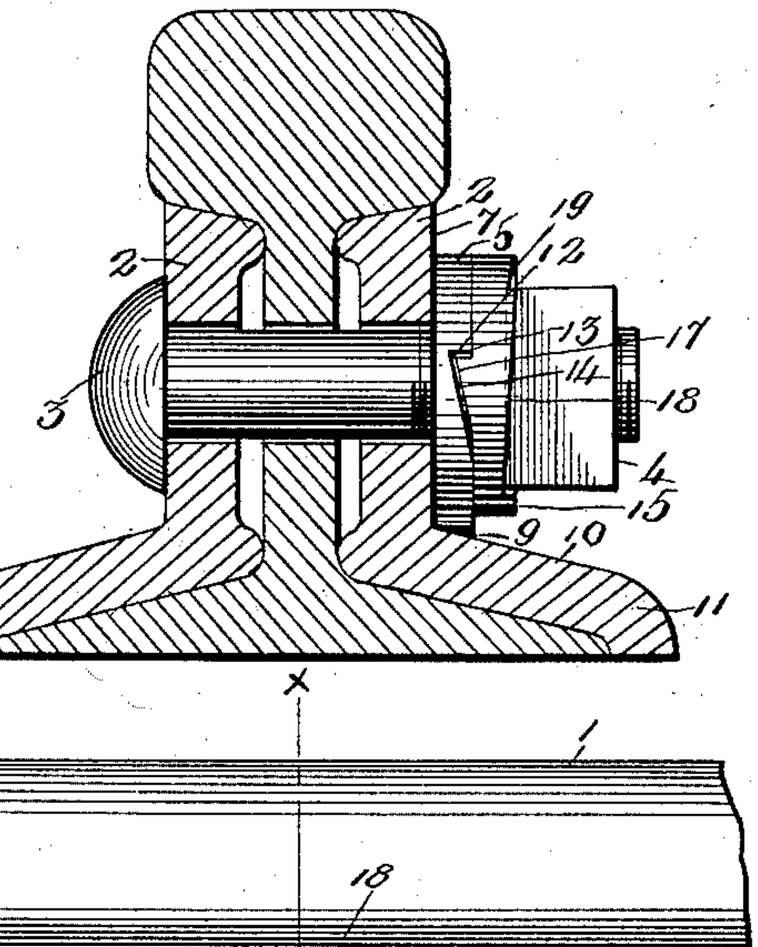



Fig. 2.

Fig. 3.

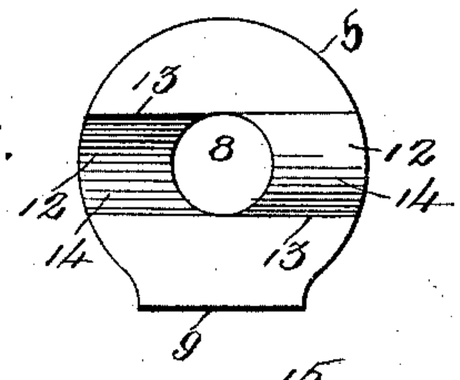



Fig. 5.

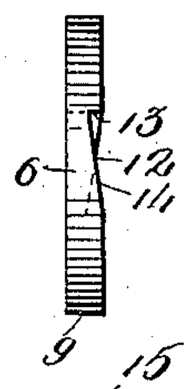



Fig. 4.

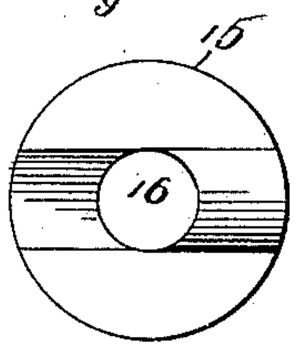
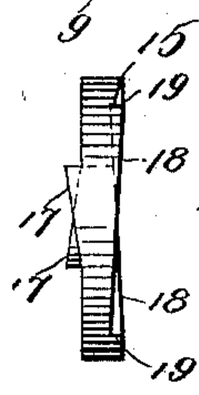



Fig. 6.




Witnesses
Alfred A. Maltby
E. Elliott.

Inventor
John A. Rausch.
By his Attorneys
Keller & Keller

# UNITED STATES PATENT OFFICE.

JOHN A. RAUSCH, OF ST. LOUIS, MISSOURI.

## NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 609,241, dated August 16, 1898.

Application filed December 18, 1897. Serial No. 662,462. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN A. RAUSCH, a citizen of the United States, residing at St. Louis, in the State of Missouri, have invented certain new and useful Improvements in Nut-Locks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention has relation to improvements in nut-locks; and it consists in the novel arrangement and combination of parts more fully set forth in the specification and pointed out in the claim.

In the drawings, Figure 1 is a vertical transverse section taken on the line *x x* of Fig. 2, showing my invention applied to an ordinary rail and fish-plates. Fig. 2 is a side elevation of the same. Fig. 3 is a detail plan view of the plate which forms a part of the nut-lock. Fig. 4 is a plan view of the washer which forms the other part of the nut-lock. Fig. 5 is a side elevation of the plate, and Fig. 6 is a side elevation of the washer.

The object of my invention is to construct a simple, durable, and positive nut-lock wherein the ordinary bolt and nut is employed, the lock consisting of a plate and washer coöperating in such a manner that the nut is securely locked; but the latter can at any time be removed from the bolt without destroying the bolt, nut, or lock.

In detail the invention may be described as follows:

In the drawings, 1 represents a rail, 2 2 the fish-plates, 3 the bolt, and 4 the nut for said bolt, all of which are of the usual construction.

The nut-lock proper consists of a circular plate 5, the plane surface 6 of which is adapted to be placed against the vertical plane surface 7 of one of the fish-plates 2, a circular hole 8 being formed in the plate for the free passage of the bolt 3. The plate 5 has a flat lower edge 9, which rests on or against the upper surface 10 of the base 11 of the fish-plate, which operates to hold the plate 5 in a fixed position after the latter has been passed on the bolt 3. The opposite surface of the plate 5 is provided with two angular depressions 12, which are oppositely located, each depression having a shoulder 13 and an inclined flat surface 14, the said shoulders facing one another, and the opposite inclined surfaces consequently formed in the opposite directions.

15 represents a circular washer having a central opening 16, whereby it may be easily placed over the bolt 3 and against the plate 5 in a manner hereinafter described. The inner or that surface that comes in contact with the plate 5 is provided with two inclined projecting lugs 17, which are oppositely located and are adapted to be received by the angular depressions 12 of the plate 5, as best shown in Fig. 1, the shape of said lugs corresponding to the shape of the depressions. The opposite surface of the washer 15 is provided with four inclined projecting lugs 18, having each shoulders 19, between which the nut 4 is located when the latter is screwed upon the bolt 3. After the bolt 3 has been passed through the parts to be fastened together the plate 5 is first passed over the projecting screw-threaded end of the bolt, with its flat side next to the fish-plate, after which the washer 15 is also passed over the end of the bolt, the inclined projecting lugs 17 being received snugly by the inclined depressions 12, as best shown in Fig. 1. When the plate and washer are in the position stated—that is, the plate 5 is locked against rotation in either direction and the washer 15 locked against rotation in one direction, (to the right)—the ordinary nut 4 is screwed on the bolt in the usual manner, the inner flat surface of said nut riding over the inclined surfaces of the four lugs 18 until is is impossible to turn the nut farther, when the shoulders 19 of said lugs will prevent the nut from turning in the opposite direction, or to the left. To remove the nut, however, the nut is turned to the left by the employment of an ordinary nut-wrench, which also turns the washer 15 in the same direction, and the plate 5 being locked in either direction, as before stated, the inclined lugs 17 will ride out of the inclined depressions 12, and after a few turns of the nut in the same direction the latter can be easily removed. It may be well to state that there is a sufficient amount of elasticity between the parts to be fastened together to permit the plate and washer to operate in the manner stated.

Under all circumstances the plate must be

locked against rotation, and I do not limit myself to the manner shown, as various other ways might be employed without departing from the spirit of my invention.

Having fully described my invention, what I claim is—

A nut-lock, comprising an ordinary bolt and nut, a circular plate 5 having a plane surface 6, which is adapted to come in contact with the fish-plate, means for holding said plate against rotation, two angular depressions 12, formed on the opposite side of said plate and oppositely located, shoulders 13, formed by said depression and having inclined flat surfaces 14, the said shoulders facing one another and the opposite inclined flat surfaces formed in the opposite direction, a circular washer 15, adapted to be passed over the bolt and brought in contact with said plate, two inclined projecting lugs 17, formed on the inner surface of said washer and oppositely located and coöperating with depressions 12, of plate 5, projecting lugs 18, formed on the opposite side of said washer and having outwardly-inclined faces, shoulders 19, forming a part of said lugs and facing one another and coöperating with the sides of the nut whereby when the nut is unscrewed the inclined projecting lugs will be forced out of the inclined depressions formed in the plate, but said plate and washer locked against rotation independent of one another when the nut is turned in the opposite direction or brought in contact with the inclined projecting lugs formed on the outer face of said washer, substantially as described.

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

JOHN A. RAUSCH.

Witnesses:

ALFRED A. MATHEY,

C. F. KELLER.