(No Model.)

J. C. GENTRY.

NUT LOCK.

No. 561,259. Patented June 2, 1896.

Fig. 1.

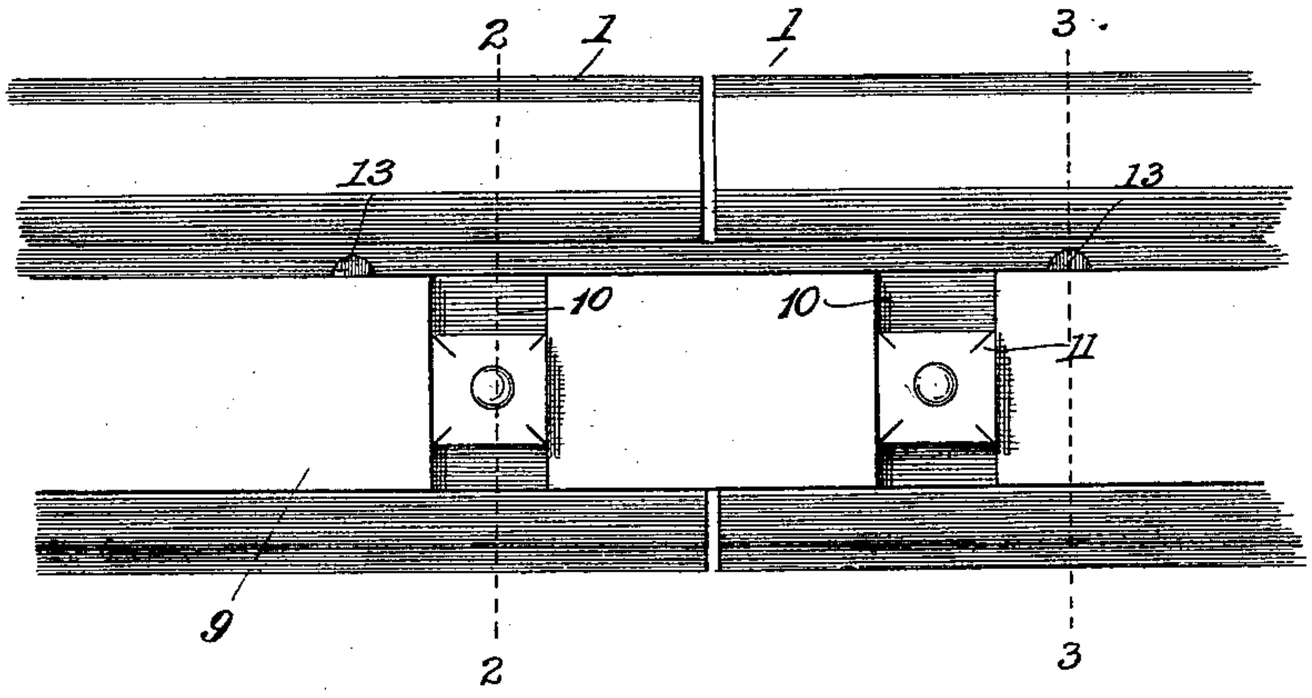

Fig. 2.

Fig. 3.

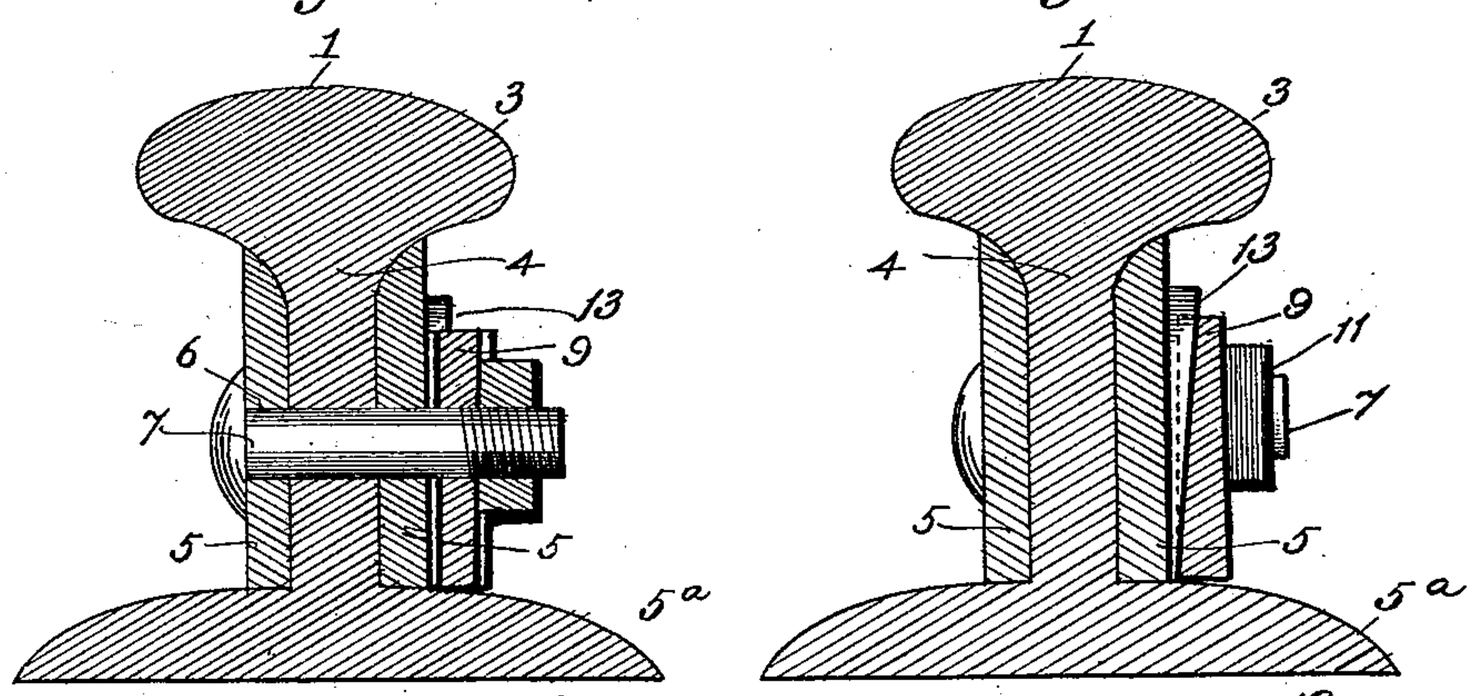

Fig. 4.

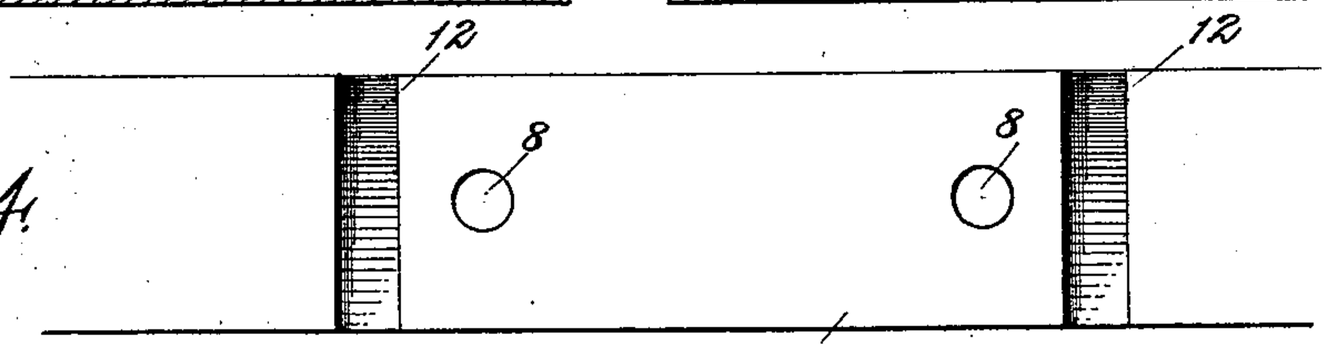

Fig. 5.

WITNESSES

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UNITED STATES PATENT OFFICE.

JAMES C. GENTRY, OF MONROE CITY, MISSOURI.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 561,259, dated June 2, 1896.

Application filed June 18, 1895. Serial No. 553,204. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. GENTRY, a citizen of the United States, residing at Monroe City, in the county of Monroe and State of Missouri, 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.

My invention relates to improvements in nut-locks, the objects in view being to produce a simple construction of a lock applicable alike to joints of railways, angle-irons in bridge-building, or other iron structures subject to constant vibrations, and designed to securely and in a removable manner lock the nuts against retrogression.

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

Referring to the drawings, Figure 1 is a side elevation of an upper portion of a rail-joint the nuts of which are locked in accordance with my invention. Fig. 2 is a vertical transverse sectional view on the line 2 2 of Fig. 1. Fig. 3 is a similar view on the line 3 3 of Fig. 1. Fig. 4 is a rear elevation of the locking-plate. Fig. 5 is a detail of one of the locking keys or wedges.

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

1 1 designate the meeting ends of two rail-sections, said rails comprising the usual heads 3, webs 4, and bases 5^a.

The webs 4 are at their opposite sides embraced by the fish-bars 5, the same, in conjunction with the webs, being provided with transverse alining holes 6, arranged at opposite sides of the meeting ends and receiving the bolts 7.

The heads of the bolts rest against the fish-bar at one side of the joint, while the opposite or threaded ends of said bolt extend through the holes 8, formed in a locking bar or plate 9. The locking bar or plate 9 is located between the heads 3 and bases 5^a of the rail-sections and against the face of the fish-bar at that side of the joint. It will be understood that this locking bar or plate 9 may be of any desired length, as its length is according to the number of bolts to be employed in the make-up of the joint. In the present instance two bolts are shown, such being deemed sufficient to illustrate the invention. The outer face of the locking bar or plate 9 is provided, coincident with the holes 8, with vertical shallow recesses or channels 10, extending from the upper to the lower edges of said bar or plate. Ordinary taps or nuts 11 are located upon the threaded ends of the bolts 7 and correspond in width with the recesses or channels 10 just mentioned.

The rear face of the locking bar or plate is provided beyond the holes 8 with recesses 12, whose bottoms are tapered; or, in other words, said recesses gradually diminish in depth from their upper to their lower ends. Designed to fit within the recesses 12 are the two, or it may be more, tapered or wedge-shaped locking-keys 13, which are interposed between the bottoms of the recesses and the face of the adjacent fish plate or bar 5.

It will be understood that when one bolt and nut are to be employed the recesses 12 and the locking-keys are to be located at opposite sides of the same.

The operation of locking the nuts in series is as follows: The bolts and fish-bars being placed in position, the locking-plate 9, with the keys 13 seated therein and raised to their fullest extent, are applied, the threaded ends of the bolts passing through the opening 8. The nuts are then placed on the ends of the bolts and run down thereupon, so as to fit snugly against the locking-bar. It is then simply necessary in order to take up all slack between the locking-plate and fish-bar to force the keys downwardly, so that their inclined faces or sides operate upon the inclined bottoms of the recesses or channels 12, and this forces the locking-bar outward, so that the nuts are received by the recesses 10 in the outer face of the locking-bar and the sides of the nut are embraced by the edges of the recesses 10, whereby, as will be evident, the aforesaid nuts are prevented from turning in either direction and an efficient lasting locking device for said nuts is produced, and one which cannot be destroyed nor its efficiency in any way impaired by constant vibrations to which rails, bridge-irons, or other like structures are subjected.

If at any time it is desirable to remove the nuts, it is only necessary to withdraw the keys, which will permit of the locking-bar being pushed backward away from the nuts, so as to relieve them of their engagement with the locking-bar and permit of them being rotated from off the bolts.

Of course where this form of lock is employed in iron structures where the heads like those in rails are not present the keys need not be placed in position in their recesses 12 at the time that the locking-plate is positioned, but may be subsequently driven to their seats.

Having described my invention, what I claim is—

1. The combination with the rail-sections and opposite fish-bars, of the bolts, the locking-bar perforated to receive the bolts and having such perforations formed in the bottoms of recesses located in the outer face of the locking-bar, the nuts arranged on the ends of the bolts in line with the recesses, the inclined recesses formed in the rear face of the locking-bar and the tapered wedges arranged therein and adapted to force the locking-bar outward, whereby the walls of its recesses embrace the opposite sides of the nuts, substantially as specified.

2. The combination with the rail-sections, the overlapping fish-bars and the bolts passing through the bars and sections and provided with nuts, of the locking-bar having holes to receive the bolts and coincident therewith provided on their outer faces with recesses to embrace the nuts, the recesses formed in the rear side of the locking-bar and wedge-shaped keys seated therein and adapted to force the locking-bar outward, whereby the walls of its recesses embrace the opposite sides of the nuts, substantially as specified.

3. In combination with the objects to be secured, and the bolt and nut, the herein-described nut-lock, the same consisting of the locking-bar having a hole to receive the bolt and coincident therewith provided in its outer face with a shallow recess adapted to receive the nut, a device adapted to be interposed between the rear face of the locking-bar and the objects secured, and to force the locking-bar outward, whereby its recess engages the walls of the nut, substantially as specified.

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

JAMES C. GENTRY.

Witnesses:

M. M. BERRY,

J. S. CHADWICK.