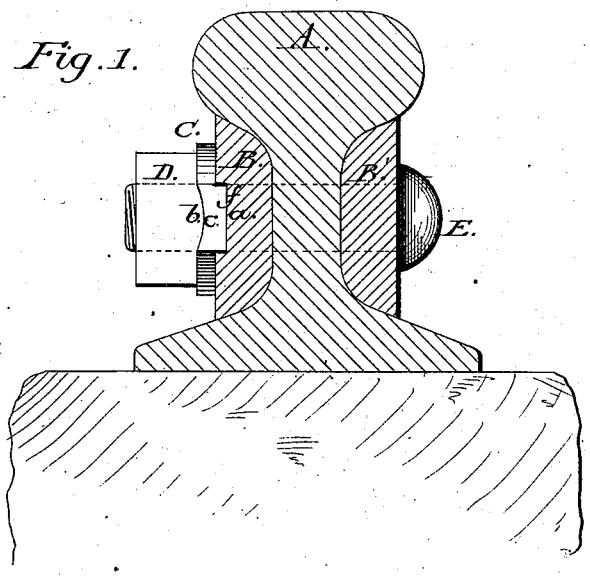
T. J. SAWYER.

RAILROAD NUT-LOCKS.

No. 194,562. Patented Aug. 28, 1877.

Fig. 1.



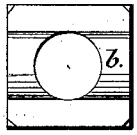


Fig. 2.

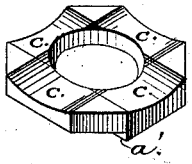


Fig. 3.

Fig. 4.

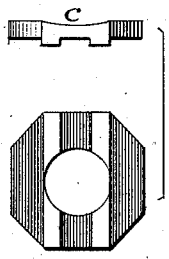


Fig. 6.

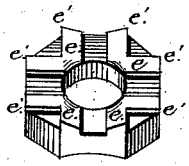
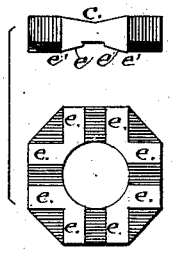


Fig. 5.



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UNITED STATES PATENT OFFICE.

THOMAS J. SAWYER, OF PACIFIC, MISSOURI.

IMPROVEMENT IN RAILROAD NUT-LOCKS.

Specification forming part of Letters Patent No. **194,562**, dated August 28, 1877; application filed July 13, 1877.

To all whom it may concern:

Be it known that I, THOMAS JEFFERSON SAWYER, of Pacific, in the county of Franklin and State of Missouri, have invented certain new and useful Improvements in Railroad Lock-Nuts; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My invention, which has for its object to prevent the loosening of railroad fish-bars, consists of an improved form of washer and nut, the former having depressions and the latter a projection, which causes them to fit closely together, while the washer is held closely in position against the outer fish-plate, as will more fully appear in the description following.

In the drawings, Figure 1 is a sectional view of a railroad-rail, showing the application of my device to same. Fig. 2 is an inner-side view of the nut. Fig. 3 is a perspective view of the washer; Fig. 4, plan and edge view of a modification.

Similar reference-letters denote like parts in all of the figures.

Referring to drawings, A is a transverse section of rail. B B′ are fish-plates, placed on either side of rail, the outside one, B, being provided with a groove, the inner one made, as in ordinary cases, flat, but fitting into the curvature, in both cases, on the sides of the rail. The opening in the fish-plate B′ is elongated horizontally, as in ordinary cases, to receive the enlarged part of the bolt-spindle next to the head of bolt, which prevents a movement of said bolt about its axis. The bolt E is of the ordinary form, and is passed from the inside of the rail through inner fish-plate B′, rail-stem, and fish-plate B.

C is a washer, octagonal in form, although it may be of any other common shape, having a tongue, *a′*, formed across its face, to fit into the groove *a* of fish-plate B. This tongue and groove is intended to keep the washer from moving about the axis of the bolt. The outer face of washer C has two curved recesses, *c*, formed across it at right angles to each other, to fit over a projection, *b*, on the nut, which comes against said washer.

D is the nut, of the usual form—rectangular preferred—provided with a convex projection, *b*, across its inner face, which projection, as before stated, is intended to fit against the concave recess *c* or depression, one at a time, in the washer C.

Having thus briefly described the peculiarities of my invention, I proceed to give the manner of its use. Two joints or lengths of railroad-rail being headed together in their places, I apply the fish-plates B B′, as seen in drawing, and place the bolt E from the inside of the rail through the opening in the fish-plates and rail. The washer C is now collared over the screw-threads of the bolt, and revolved until its tongue fits snugly into the groove of outer fish-plate B. The nut is now run on the threads of the bolt, and the convex projection is forced over the outer face of washer C until it fits snugly into the concave recess of said washer.

It is obvious that if the bolt is prevented from rotating, as described, the nut and washer—practically one piece—would also be kept in place outside of the rail. Although, in theory, it would appear that the projection in the nut, except by violent means, would not move in a segment of ninety degrees after touching the face of the washer, in practice the elasticity of the metal would cause a yielding sufficient to overcome the obstruction and allow the nut to come into its place.

I have formed in the washer two recesses, the center lines of which are at right angles with each other, although I claim the right to use more depressions if necessary.

In the modification, Fig. 4, I have formed a groove in the tongue of washer, so that by reducing the thickness of metal, to increase its elasticity, if necessary.

Fig. 5 shows a modification, in which I dispense with the tongue in the washer and groove in the fish-plate by providing said washer with a substitute device composed of projections *e*, rectangular in form on its inner face, said projections having acute-angled biting edges *e′*, to bear against the fish-plate in their application to same.

Fig. 6 is a perspective view, showing more clearly the device shown in Fig. 5 of drawings.

I claim—

1. The nut D, with curved projections *b* fitting into the curved recess *c* of washer C, in combination with one or more rigid holding-projections on the inner side of the washer, whose holding-faces are parallel to that side, and with a screw-bolt and fish-plate, as described, and for the purpose set forth.

2. The nut D, with curved projection *b* fitting into the curved recess *c* of washer C, in combination with rectangular tongue *a'* of washer C, fitting into rectangular groove *f* of fish-plate B, as described, for the purpose set forth.

In testimony that I claim the foregoing as my own invention I affix my signature in presence of two witnesses.

THOMAS JEFFERSON SAWYER.

Witnesses:

JOHN WILLIAM FERGUSON,

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