W. Morehouse,

Lock Nut.

No. 90,377. Patented May 25. 1869.

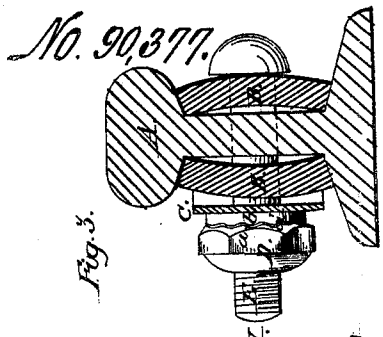

Fig. 3.

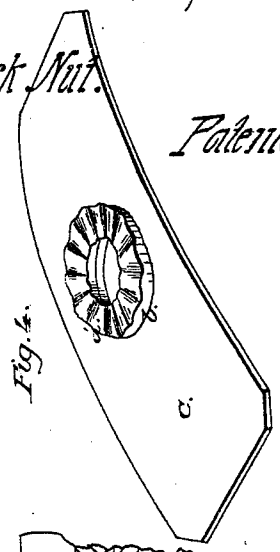

Fig. 4.

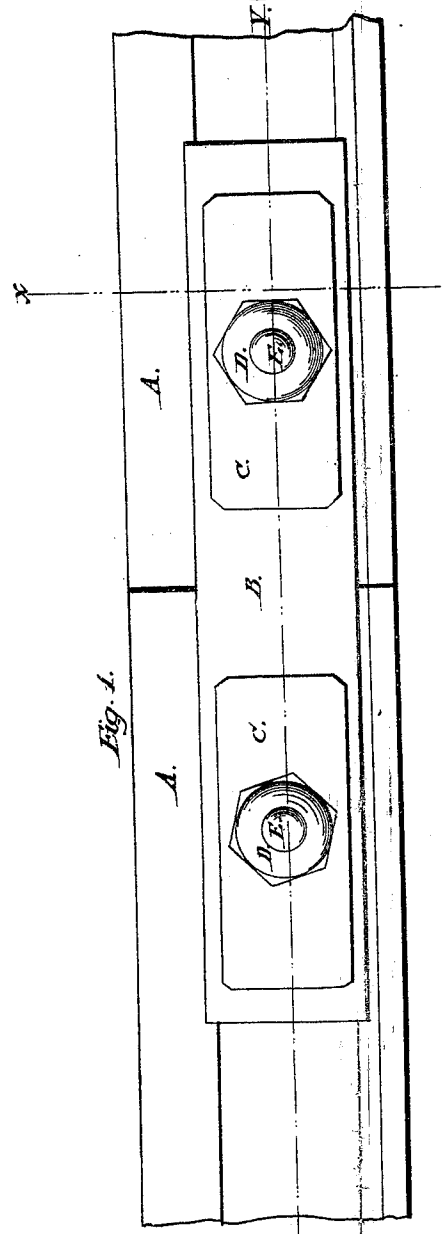

Fig. 1.

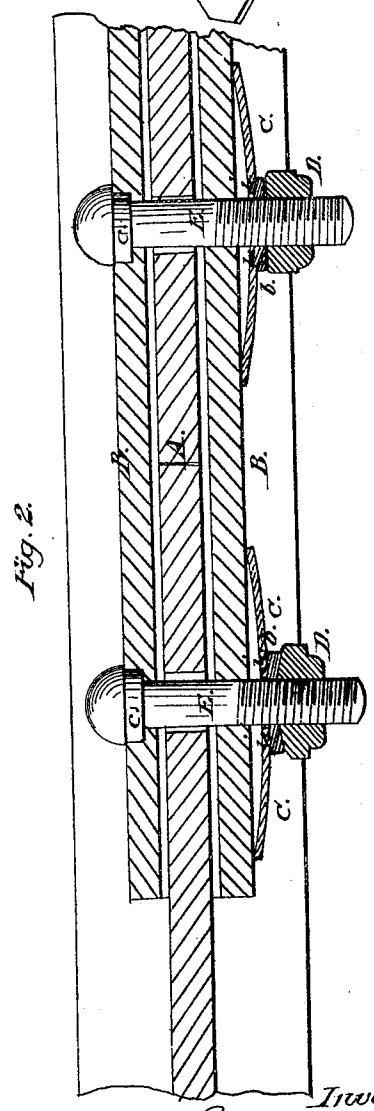

Fig. 2.

Witnesses:

P. T. Campbell

J. K. Campbell

Inventor:

Wm Morehouse

per

David Hemrick Laurence

attorneys

United States Patent Office.

WILLIAM MOREHOUSE, OF BUFFALO, NEW YORK.

Letters Patent No. 90,377, *dated May* 25, 1869.

IMPROVEMENT IN LOCKING NUT.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, WILLIAM MOREHOUSE, of Buffalo, in the county of Erie, and State of New York, have invented a new and improved Device for Locking Nuts on Bolts; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a view of portions of two railroad-sections united by fish-bars, and having my locking-devices applied to nuts on the bolts which hold said parts together.

Figure 2 is a section taken through fig. 1, in the plane indicated by line *y*.

Figure 3 is a cross-section taken through fig. 1, in the plane indicated by line *x*.

Figure 4 is a perspective view of the locking-device enlarged.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to a new and useful improvement on devices for preventing nuts from casually working loose on their bolts, which is applicable to the railroad-rail bolts, as well as to bolts for other purposes.

The nature of my invention consists in a curved spring-plate, which is perforated to receive through it a bolt, and which is provided at such perforation with a fixed ring-washer, having an external radially-waved surface, adapted for receiving against it a corresponding surface that should be formed on the nut intended for said bolt, as will be hereinafter explained.

I am aware that washers having radially-waved surfaces have been used in conjunction with nuts, whose bearing-surfaces were correspondingly waved; and I am also aware that spring-washers, or plates, have been interposed between nuts and the object against which they pressed, but I am not aware that a spring-locking plate, constructed as will be hereinafter explained, has ever been known or used prior to my invention.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

The rail-sections A A and fish-bars B B are constructed and fitted together in the usual well-known manner.

The bolts E E have square or oblong shoulders *c c* formed on them next their heads, which enlargements *c c* fit into corresponding recesses formed in one of the bars, B, as shown in fig. 2. This prevents the bolts from turning when in their places.

C represents a plate of steel, which is made of suitable width and length as not to turn when applied as shown in figs. 1 and 2, and which is curved or bowed, so that its extremities only will bear against the fish-bar B, when set up.

At the middle of the length and width of this spring-plate, a hole is made of sufficient size to receive loosely through it the bolt E, and surrounding this hole on the outer side of the plate, a ring-washer, *b*, is secured fast by means of rivets *i i*, formed on its flat side, which pass through holes made through the plate, as shown in fig. 2.

The outer surface *a'* of the washer is corrugated, or waved radially.

The washer *b* may be made of brass, or other suitable metal, cast or pressed into shape by suitable dies.

The nut D has its inner surface *a* corrugated radially, to correspond with the surface *a'* of the washer, and to engage with this latter surface when set up tightly on its bolt, as shown in figs. 2 and 3.

The spring-plate C, with its corrugated washer *b*, when used in conjunction with a nut having a corrugated face, serves two purposes, which I will now explain.

When the parts A and B B are secured together by the bolt E, and its nut D, with the spring-plate C, between the nut and a fish-bar, as shown, the spring will yield sufficiently to accommodate itself to the expansion and contraction of said parts, and will keep the washer *b* hard pressed against the nut D.

By the strong pressure which is applied to the spring-plate C, it is prevented from turning about the bolt E, although it is not recessed into the fish-bar, nor caused to abut against the base of the rail.

The corrugations on the washer and nut meshing into one another, will prevent the nut from casually working loose upon its bolt, although, by the use of a nut-wrench, the spring C can be caused to yield sufficiently to allow the unscrewing of the nut when required.

While my improvement is especially applicable and useful for railroad-rails, it is also useful for all purposes where it is required to prevent nuts from casually turning loose.

If desirable, the spring C may be made short enough to extend between the lip and base of the rail, or crosswise of the fish-bar, instead of lengthwise of this bar, as above described.

What I claim as my invention, and desire to secure by Letters Patent, is—

The within-described spring-plate C, of bowing form, and with corrugated, or serrated projections *b a'*, on its surface, the said spring and projection being united together, and used in connection with a screw-nut and bolt, all in the manner and for the purpose herein shown and described,

Witness my hand, in matter of my application for a patent for improvement in locking nuts.

WM. MOREHOUSE.

Witnesses:

W. C. FRANCIS,

E. C. DANFORTH.