(No Model.)

C. W. SMART.

NUT LOCK.

No. 342,648. Patented May 25, 1886.

Fig. 1.

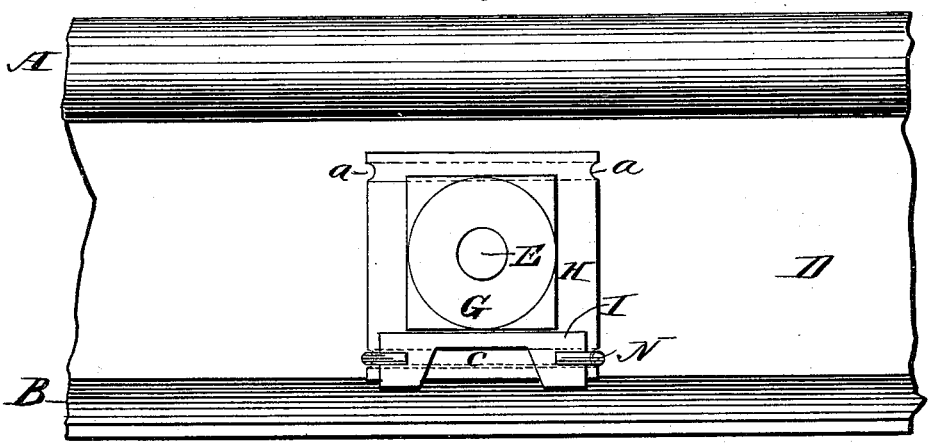


Fig. 2.

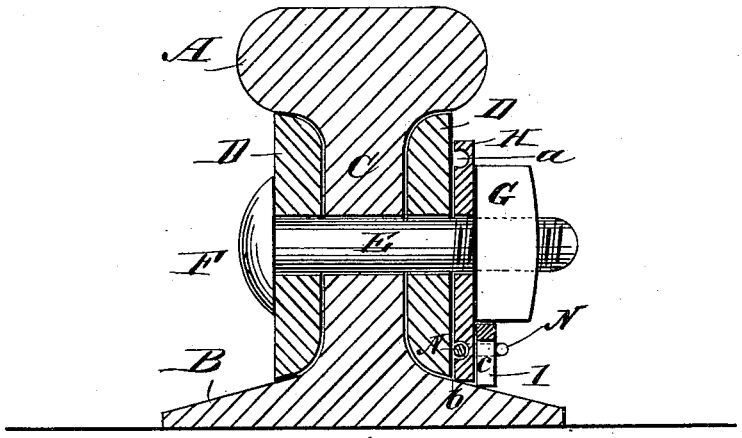
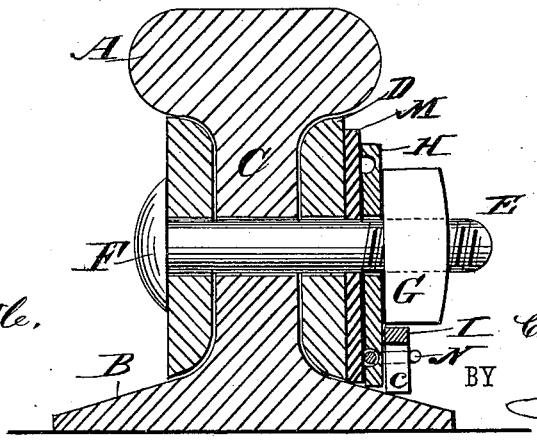


Fig 3



WITNESSES:

F. McArdle.

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UNITED STATES PATENT OFFICE.

CHARLES WILLARD SMART, OF CARBONDALE, ILLINOIS, ASSIGNOR TO HIMSELF AND WILLIAM H. HUDSON, JR., OF SAME PLACE.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 342,648, dated May 25, 1886.

Application filed December 11, 1885. Serial No. 185,390. (No model.)

To all whom it may concern:

Be it known that I, CHARLES WILLARD SMART, of Carbondale, in the county of Jackson and State of Illinois, have invented a new and Improved Nut-Lock, of which the following is a full, clear, and exact description.

My invention relates to the construction of a nut-lock; and it consists, essentially, of an improved form of washer, an improved form of bolster-block, and the combination of the two parts named with other necessary coacting devices.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a side view of the nut-lock, shown in connection with a portion of a rail-joint. Fig. 2 is a cross-sectional view of the same, taken on line *x x* of Fig. 1. Fig. 3 is a view of a modified construction.

Referring now to the general construction illustrated in the drawings, A represents the tread of a rail, B the foot or base, and C the web, while D D are fish-plates formed to fit against the web and extend from the upper side of the base to the under side of the tread of the rail. These fish-plates D are secured to the rail by a bolt, E, formed, as usual, with a head, F, and threaded to engage with a nut, G.

The construction above described is of course old and well known in the art, and I lay no claim thereto, my invention relating more particularly to the construction of the washer H and bolster-block I, said washer being formed with a central aperture, through which the bolt E passes, and with two grooves, *a* and *b*, the purpose of which will be presently explained, it being understood that the washer is placed between the fish-plate and the nut G, and that the grooves *a* and *b* are for the purpose of receiving the locking-wire N.

The bolster-block I, which is of peculiar construction, is formed so as to fit snugly between the lower face of the nut G and the base of the rail, as clearly shown, it being immaterial whether the nut is square or hexagonal, for one side of the block I is straight, while the other is formed with a recess, *c*, so shaped as to fit snugly about the face of a hexagonal nut, and reach from the lower face of such a nut to the base of the rail.

As before stated, the washer H is formed with two grooves, *a* and *b*, the groove *b* being further from the edge than the groove *a*, the idea being to adapt the washer for use either with a square or hexagonal nut, one of the grooves being so proportioned as to receive the locking-wire and hold it in position to be bent over the ends of the bolster-block I when a square nut is used, while the other groove is arranged so as to receive the wire N when the hexagonal nut is used.

In using such a lock as I have described the washer H, with the locking-wire N arranged in the proper groove, is placed upon the projecting end of the bolt E, after which the nut G is applied and turned up, care being taken that the lower face of the nut is substantially parallel with the base of the rail. The block I is then inserted and the ends of the wire N turned over to the position shown in the drawings.

In Fig. 3 I have illustrated a construction wherein a rubber washer, M, is placed between the metallic washer H and the fish-plate, and under certain circumstances I find this a desirable construction.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the bolt and its nut, of the washer having in its one side a groove, a bolster-block, and the locking-pin entering the groove of the washer, and with its ends bent over the bolster-block, substantially as and for the purpose set forth.

2. In a nut-lock, the combination, with the bolt E and its nut G, of a washer, H, formed with grooves *a* and *b*, a bolster-block formed with a recess, *c*, and a locking-wire, N, substantially as described.

CHARLES WILLARD SMART.

Witnesses:

JANS. KELLEY,

WM. J. HAGLER.