No. 695,489. Patented Mar. 18, 1902.

C. S. PRUDEN.

NUT LOCK.

(Application filed Aug. 23, 1901.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

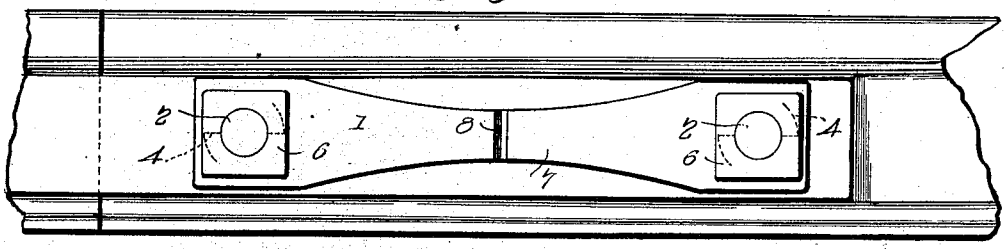


Fig. 2.

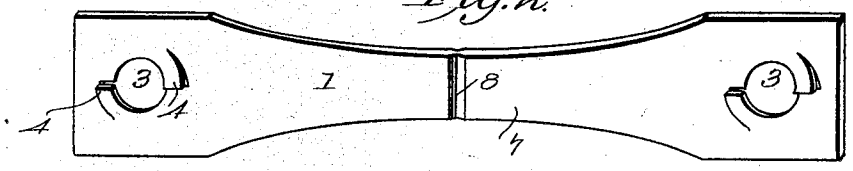
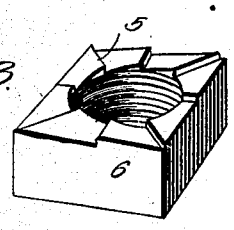


Fig. 3.



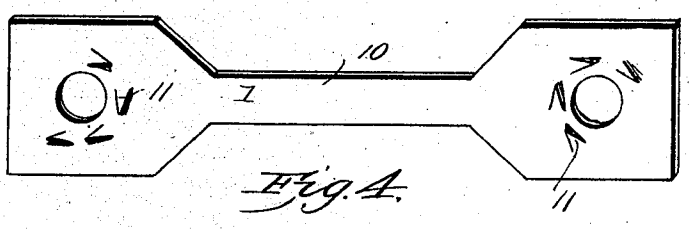


Fig. 4.

Witnesses

E. F. Stewart

T. J. Riley

C. S. Pruden, Inventor

by C. A. Snow & Co

Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 695,489. Patented Mar. 18, 1902.

C. S. PRUDEN.

NUT LOCK.

(Application filed Aug. 23, 1901.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 5.

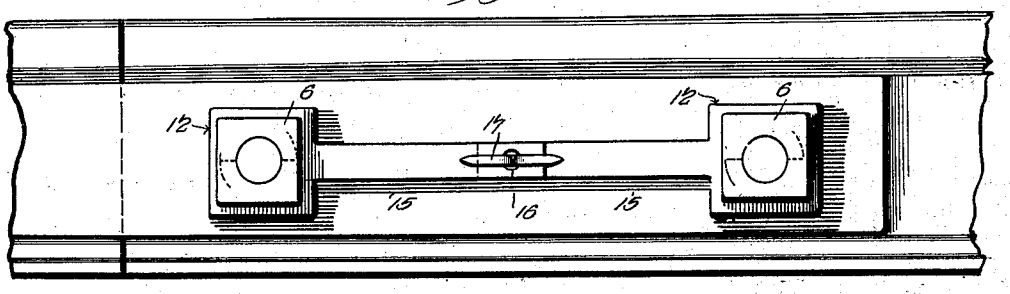


Fig. 6.

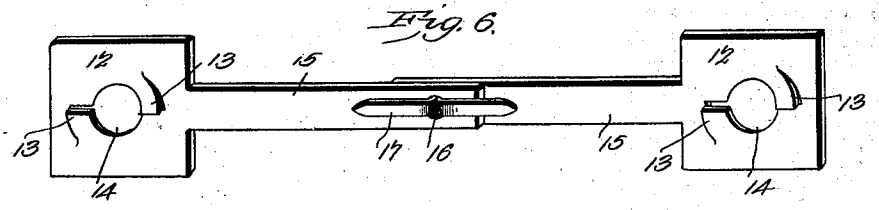


Fig. 7.

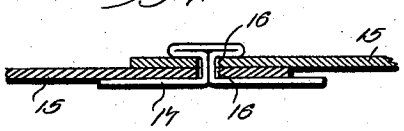
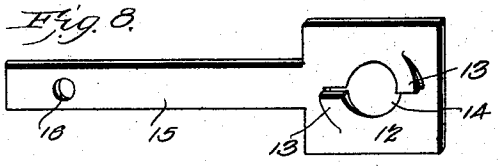


Fig. 8.



Witnesses
C. H. Stewart
T. F. Riley

Inventor
C. S. Pruden
by C. A. Snow & Co.
Attorneys

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

CHARLES S. PRUDEN, OF ROME, GEORGIA.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 695,489, dated March 18, 1902.

Application filed August 23, 1901. Serial No. 73,041. (No model.)

To all whom it may concern:

Be it known that I, CHARLES S. PRUDEN, a citizen of the United States, residing at Rome, in the county of Floyd and State of Georgia, have invented a new and useful Nut-Lock, of which the following is a specification.

The invention relates to improvements in nut-locks.

The object of the present invention is to improve the construction of nut-locks and to provide a simple, inexpensive, and efficient one, designed more particularly for use at rail-joints and adapted to lock a pair of nuts and capable of effectually preventing the nuts from accidentally unscrewing when the rails are vibrated by the wheels of the train.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a side elevation of a nut-lock constructed in accordance with this invention and shown applied to a rail-joint. Fig. 2 is a detail perspective view of the locking-plate. Fig. 3 is a similar view of the nut. Fig. 4 is a detail view of a locking-plate, showing a modification of the invention. Fig. 5 is an elevation of a portion of a rail-joint provided with a nut-lock, illustrating another modification of the invention. Fig. 6 is a perspective view of the device detached. Fig. 7 is a detail sectional view taken longitudinally of the central portion of the device. Fig. 8 is a detail view of one of the separable locking devices or members.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a locking-plate designed to be constructed of any suitable material, preferably spring metal, and extending across the space between two bolts 2 of a rail-joint and provided with openings 3 for the reception of the bolts. The locking-plate, which is adapted for use in bridge construction and various other places subject to vibration, is especially designed for use on rail-joints, as illustrated in Fig. 1 of the accompanying drawings. The locking-plate is provided at each of the bolt-openings with resilient tongues or projections 4, which are adapted to engage a ratchet-face 5 of a nut 6, which conceals the said tongues. The ratchet-face, which may be constructed in any suitable manner, is adapted to fit against the outer face of the locking-plate, and it forms a series of shoulders, which are arranged to be engaged by the resilient tongues 4. The nut is adapted to be screwed up against the locking-plate by a wrench in the usual manner, and when the nut is turned to the right the ratchet-teeth of the ratchet-face ride over and depress the resilient tongues, which are formed integral with the locking-plate. The tongues spring into engagement with the shoulders of the locking-plate and effectually prevent the nut from accidentally unscrewing. The locking-plate is provided at its ends with heads or enlarged portions, and it has a connecting-shank 7, which is reduced in size to weaken it and to enable it to be readily severed, and in order to facilitate this operation the shank may be provided at its inner and outer faces with central transverse grooves 8. The central transverse grooves 8, which are arranged vertically, as clearly illustrated in Fig. 2 of the accompanying drawings, provide a thin connecting-web, which is adapted to be readily cut by a chisel or other tool. When the shank is cut or severed, its portions are bent outward and partially rolled to form a handle, by means of which the nut may be readily screwed off its bolt. When the nuts and bolts are replaced, a new locking-plate is employed, the old one being destroyed in the act of removing the nuts. Instead of forming grooves to weaken the locking-plate a thin web 10, such as is illustrated in Fig. 4 of the accompanying drawings, may be employed. This thin web is adapted to be readily severed to separate the heads or end portions and to provide ready means for unscrewing the nut. The nuts may be turned off the bolts by the locking-plates, or a wrench or any other tool may be provided for that purpose. The tongues may be constructed as illustrated in Fig. 2, or pointed tongues 11, such as shown in Fig. 4, may be provided, and these tongues may be arranged in any suitable manner, and any form of ratchet-face may be employed.

It will be seen that the nut-lock is exceedingly simple and inexpensive in construction, that it is adapted to be advantageously em-

ployed in all places where it is desired to lock a pair of nuts, and that the tongues are concealed by the nuts and cannot be disengaged from the ratchet-faces of the nuts without severing and separating the ends of the locking-plate. It will also be apparent that the connecting portion or shank of the locking-plate may be readily cut or severed when it is desired to remove the nuts and that the portions of the shank may be easily bent outward to clear the rails or other adjacent parts and to facilitate the removal of the nuts.

The heads or enlargements of the locking-plate form twin nut-engaging devices or members, and the shank-sections thereof, which are adapted to be bent outward over the nut to enable the same to be readily unscrewed and which are separable, may be detachably secured together, as illustrated in Figs. 5, 6, 7, and 8 of the drawings. The nut-engaging devices or members 12 may be provided with resilient tongues 13 of any desired construction, and they have central bolt-openings 14, similar to those heretofore described. The shank-sections 15, which are formed integral with the nut-engaging devices or members, are preferably composed of narrow strips of metal, as shown, and are provided at their outer ends with registering openings 16, adapted to receive a fastening device 17, which may be of any desired construction. The fastening device 17 preferably consists of a head 18 and a pair of sides or legs adapted after being passed through the registering openings to be bent against the outer faces of the shank-sections. The sides or legs are spread, as clearly shown in Fig. 7, and they are adapted to be readily brought together to permit the shank-sections to be separated from each other. The shank-sections after being detached are adapted to be bent outward over their respective nuts to permit the same to be unscrewed, and after the nuts have been removed the shank-sections may be straightened to permit the parts to be again used. The fastening devices which detachably secure the ends of the shank-sections together may be again used and are not injured by the act of separating the twin nut-engaging devices or members. Also various other means may be employed for detachably connecting the shank-sections of the twin nut-engaging devices or members or for enabling the same to be readily severed or separated when it is desired to remove the nuts.

The nut-lock, which forms twin convertible nut-locking and wrench members and which has temporarily connected arms or levers, may be provided at the heads from which the arms project with any suitable means for engaging nuts to prevent the same from rotating when the arms or levers are connected and which will enable the nuts to be turned off the bolts when the arms are separated and deflected to form handles.

What I claim is—

1. A device of the class described comprising the twin locking plates or members having bolt-openings and provided with means for engaging nuts, said locking plates or members being also provided with inwardly-extending temporarily-connected arms forming handles and adapted, when separated, to be bent outward to permit the locking plates or members and the nuts to be screwed off the bolts, substantially as described.

2. A device of the class described comprising the twin locking plates or members having bolt-openings and provided with means for engaging nuts, arms extending inward from the plates or members and having their terminals arranged adjacent to each other and adapted, when separated, to be bent outward to form handles for enabling the plates or members and the nuts to be unscrewed from the bolts, and a central connecting means uniting the arms and adapted to permit the same to be readily separated, substantially as described.

3. In a nut-lock, the combination of twin convertible nut-locking and wrench members, comprising nut-engaging heads and inwardly-extending temporarily-connected arms or levers respectively projecting from said heads, and adapted when disconnected to form handles whereby the heads may be rotated to operate the nuts engaged thereby, substantially as described.

4. In a nut-lock, the combination of twin convertible nut-locking and wrench members, comprising nut-engaging heads and pliable inwardly-extending temporarily-connected arms or levers respectively projecting from said heads, and adapted when disconnected to be deflected and form handles whereby the heads may be turned to operate the nuts engaged thereby, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

CHARLES S. PRUDEN.

Witnesses:
A. S. HIGGINS,
J. A. HUME.