No. 621,512. Patented Mar. 21, 1899.

J. C. WOOD.

NUT LOCK.

(Application filed Sept. 26, 1898.)

(No Model.)

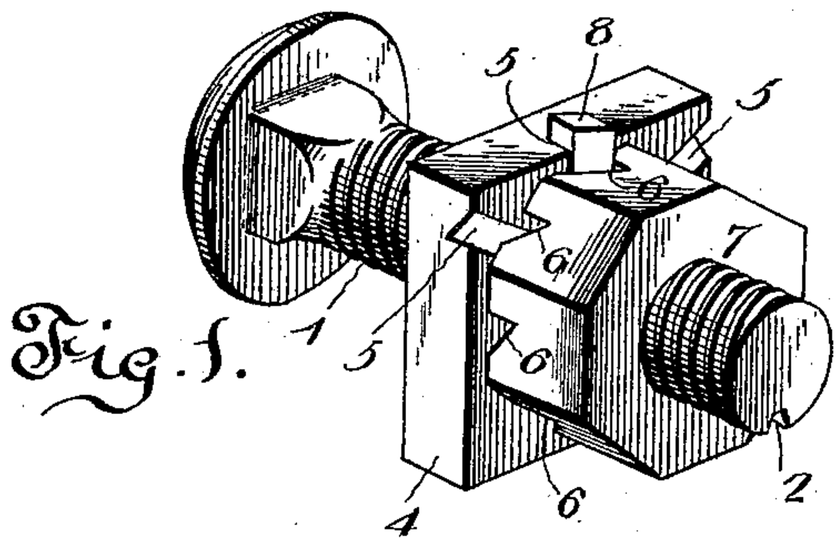


Fig. 1.

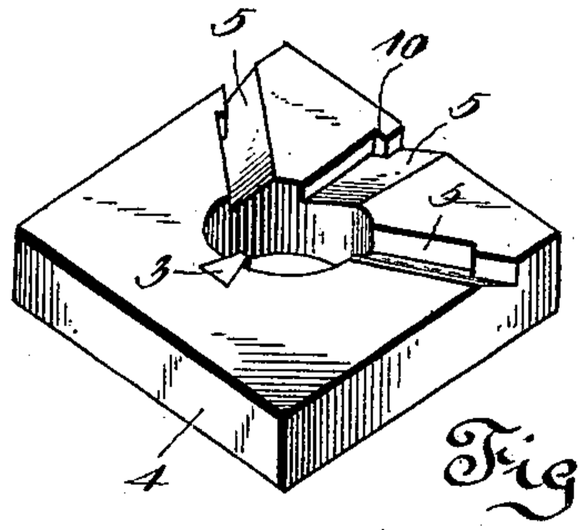
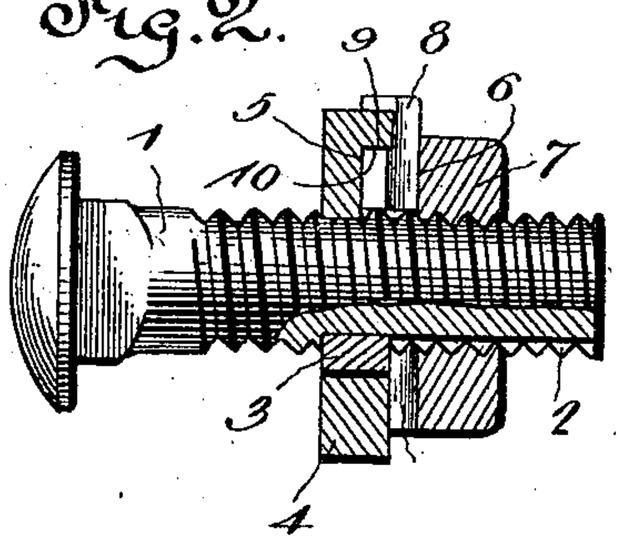


Fig. 3.

Fig. 2.



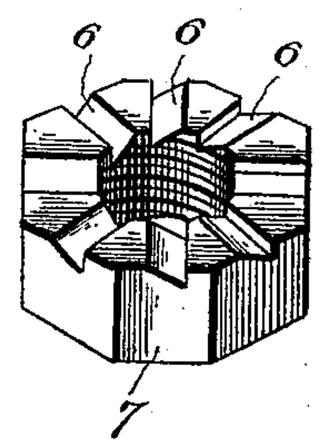


Fig. 4.

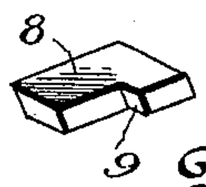


Fig. 5.

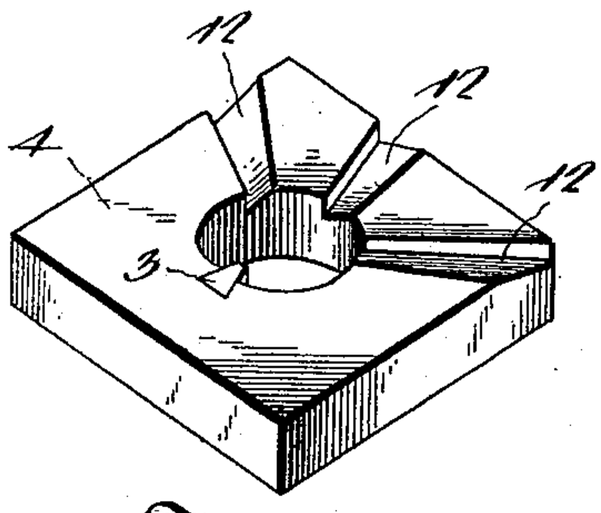


Fig. 6.

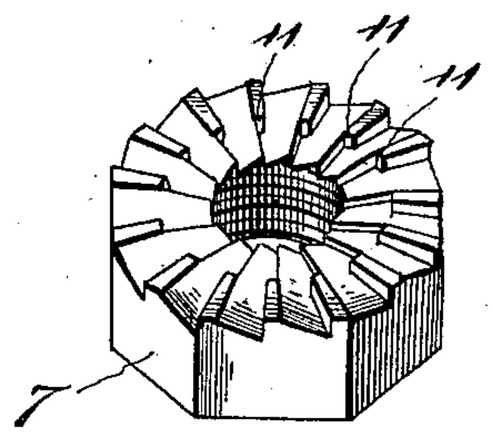


Fig. 7.

Witnesses
J. Brantley Culverwell.
H. F. J. Riley

John C. Wood. Inventor
By his Attorneys,
C. A. Snow & Co.

UNITED STATES PATENT OFFICE.

JOHN C. WOOD, OF VANCEBURG, KENTUCKY.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 621,512, dated March 21, 1899.

Application filed September 26, 1898. Serial No. 691,907. (No model.)

To all whom it may concern:

Be it known that I, JOHN C. WOOD, a citizen of the United States, residing at Vanceburg, in the county of Lewis and State of Kentucky, 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 adapted for use on rail-joints, machinery, and other constructions subject to heavy vibration and capable of effectually preventing a nut from accidentally unscrewing.

A further object of the invention is to enable a nut to be readily removed without injuring or in any wise impairing the future usefulness of the parts.

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

In the drawings, Figure 1 is a perspective view of a nut-lock constructed in accordance with this invention. Fig. 2 is a longitudinal sectional view of the same. Fig. 3 is a detail perspective view of the locking-washer. Fig. 4 is a detail perspective view of the nut. Fig. 5 is a detail perspective view of the locking-key. Figs. 6 and 7 are detail perspective views of a locking-washer and a nut, illustrating a modification of the invention.

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

1 designates a bolt provided in its threaded portion with a longitudinal groove 2, which is engaged by a lug or projection 3 of a locking-washer 4, whereby the latter is held rigid with the bolt and is prevented from rotating thereon. The bolt-opening of the locking-washer is of sufficient diameter to enable it to pass readily over the threads of the bolt, and the lug or projection 3, which may be formed integral with the washer, can consist of a key fitted in a dovetailed groove of the washer.

The locking-washer is provided at intervals with recesses 5, adapted to register with corresponding recesses 6, formed in the inner face of a nut 7 and arranged at intervals, as clearly shown in Fig. 4 of the accompanying drawings. The recesses 5 and 6 are preferably substantially V-shaped or tapering, as shown, and when two of them are brought into register they form a substantially diamond-shaped socket and are adapted to receive a key 8, which is substantially diamond-shaped in cross-section. The end edges of the key are oppositely beveled, as shown, and in order to prevent it from becoming accidentally displaced by the jar and vibration of rail-joints, machinery, and other constructions it is provided with a shoulder 9, located between its ends and adapted to engage a corresponding shoulder 10 of the locking-washer. The shoulder 10 is formed by recessing one of the walls of the recess 5, and the shoulder of the key is engaged with the shoulder of the locking-washer by rotating the nut backward slightly, and as the vibration of a rail-joint, piece of machinery, or other construction never operates to rotate a nut forward it will be clear that the key will be firmly and securely held in the socket formed by the recesses of the washer and the nut. It may be readily removed by rotating the nut forward slightly.

Instead of forming the recess of the locking-washer with the shoulder the construction may be reversed and the nut may be provided with shoulders 11, as illustrated in Fig. 7 of the accompanying drawings, and the recesses 12 of the locking-washer will then have unbroken walls.

The invention has the following advantages: The nut-lock, which is simple and comparatively inexpensive in construction, possesses great strength and durability, and it is capable of effectually preventing a nut from accidentally unscrewing and is especially adapted for rail-joints, bridges, machinery, and similar constructions subject to great vibration. It is also adapted to permit a nut to be readily removed without injuring any of the parts.

Changes in the form, proportion, and minor details of construction, such as varying the form of the recesses and the key, whereby the latter may be interlocked with either the nut or the washer by a slight backward rotation of the former, may be resorted to with-

out departing from the spirit or sacrificing any of the advantages of this invention.

What is claimed is—

1. A nut-lock comprising a bolt, a washer engaging the bolt and held against rotation, a nut arranged on the bolt, said washer and nut being provided at their adjacent faces with registering recesses having walls arranged at an angle to each other, the recesses of one of the parts being provided with shoulders, and a key fitted in registering recesses of the washer and the nut and extending from the bolt to the outer faces of the nut and washer and provided between its ends with a shoulder adapted to interlock with the said shoulder, said key having its edges oppositely beveled to fit the recesses, substantially as described.

2. A nut-lock comprising a bolt provided with a longitudinal groove, a washer arranged on the bolt and provided with a lug 3 arranged in a dovetailed recess of the washer and engaging said groove, a nut arranged on the bolt, said nut and washer being provided with registering recesses, the recesses of one of the parts being provided with shoulders, and a key extending from the bolt beyond the nut and washer and provided between its ends with a shoulder to engage the said shoulders, 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.

JOHN C. WOOD.

Witnesses:
A. F. HILL,
GEO. B. PAYNTER.