W. S. GILMAN.

Nut-Lock.

No. 206,311. Patented July 23, 1878.

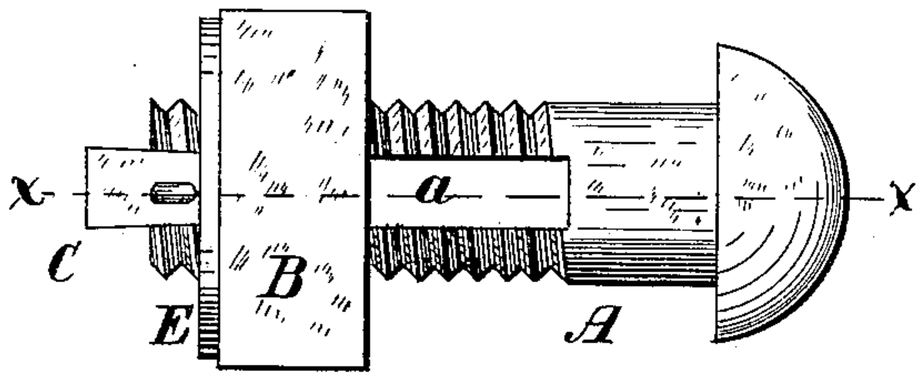


Fig. 1.

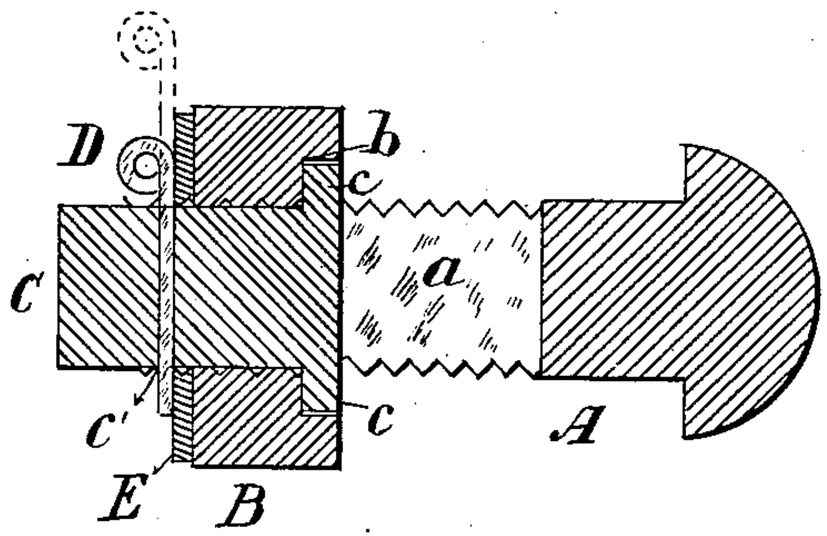


Fig 2

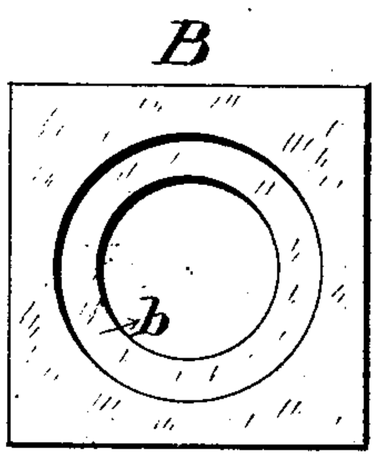
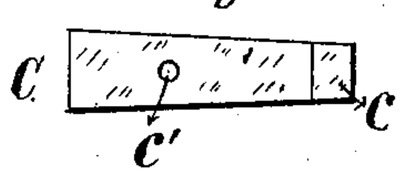


Fig. 3.

Fig. 4.



Witnesses

W. C. Curtis

S. A. Bunting.

Inventor

Walter S Gilman

By Coburn T Thacher

Attorneys

UNITED STATES PATENT OFFICE.

WALTER S. GILMAN, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN NUT-LOCKS.

Specification forming part of Letters Patent No. **206,311**, dated July 23, 1878; application filed January 15, 1878.

To all whom it may concern:

Be it known that I, WALTER S. GILMAN, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Nut-Locks, which is fully set forth in the following specification, reference being had to the accompanying drawings, in which—

Figure 1 represents a side elevation of my improved lock; Fig. 2, a longitudinal section, taken on the line X X, Fig. 1; Fig. 3, a plan view of the inner face of the nut; and Fig. 4, an edge view of the locking-wedge.

The object of my invention is to provide a locking device, which is adjusted by turning up the nut, and at the same time securely holds the latter from turning back.

The invention consists in splitting the end of the bolt, and combining therewith a wedge, provided with a T-head, arranged in a recess in the inner face of the nut, whereby the wedge is drawn up into the slit in the bolt by turning up the nut, thus spreading the end of the bolt behind the nut, and preventing its being turned back.

It also consists in combining a key with the nut and wedge, by means of which the latter is withdrawn when the key is inserted in the wedge, and the nut turned back.

In the drawings, A represents a bolt of ordinary construction, except that it is split at its threaded end by means of a longitudinal slit, *a*. A nut, B, of ordinary construction, except in the particular hereinafter named, is fitted to be turned upon the threaded end of the bolt. The inner face of this nut is cut out around the aperture therein, so as to form a seat, *b*, somewhat below the face of the nut, as shown in Figs. 2 and 3 of the drawings. A wedge, C, is made of suitable size and form to be drawn into the slit in the end of the bolt, and is provided at its thin end with a T-head, *c*. This T-head is somewhat longer than the diameter of the aperture in the nut, and is of a thickness about equal to the depth of the cut in the inner face of the nut, so that when the wedge-key is put through the nut from the inside the projecting ends of the T-head will rest upon the seat *b* in the inner face of the nut, and will be about flush with this face, as shown in Fig. 2 of the drawings. The wedging-key is also provided with an aperture, *c'*, arranged so as to be just outside of the nut when the parts are in the position shown in Fig. 2 of the drawings.

In applying this device, the bolt is, of course, first inserted in its proper place. The wedging-key is then inserted in the split end thereof, the thin end or T-head first, and the nut is turned on, its cut-away face being arranged toward the T-head of the wedge.

Now it is evident that as the nut is turned up it will draw the wedge into the slit in the bolt, thereby spreading the split end of the latter behind the nut, and thus preventing any backward turning of the nut; for as soon as the nut is turned back it is released from the T-head on the wedge, and has no effect on the latter. The wedge will therefore hold firmly in place, and the greater the strain upon the nut to turn it back the greater will be the resistance produced by the key. At the same time the fastening-wedge is easily drawn up into the slit by means of the nut working against the T-head of the former, the friction between them being comparatively slight.

If found desirable, a washer may be arranged within the recess in the inner face of the nut, between the T-head of the wedge and its seat.

It is not absolutely necessary to provide a recess in the nut, for the head of the wedge may be arranged to work directly against the face of the nut.

As stated above, after the wedge has been drawn up into the split end of the bolt it is impossible to remove it by simply turning back the nut, and it is therefore necessary to provide some means for taking off the nut when desired. For this purpose an aperture, *c*, is provided in the wedge, and a key, D, is made to fit this aperture, so that when inserted therein it will rest against the outer face of the nut.

It is evident that, when this is done, upon turning back the nut the key will also be forced back with it, the outer face of the nut turning against the key; and, if desired, a washer, E, may be arranged between the key and the face of the nut. This key may be an ordinary nail, the aperture in the wedge being adapted to receive it; or the key may be of peculiar construction, the aperture in the

wedge being similarly constructed, so that the one will fit the other.

With this device I obtain a perfectly secure lock to the nut, and at the same time am able to release the lock without destroying or in the least injuring any of the parts, so that it can be used over and over again until finally worn out. The device is simple and cheap, easily applied, and readily removed, if keys are furnished to the proper persons; or, if the wedge is adapted to the use of an ordinary nail, the lock may be removed by any person.

This nut-lock is adapted for use in railway-joints and in all other places where nut-locks are desirable.

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

1. A split bolt, A, in combination with a wedging-key, C, provided with a T-head, *c*, at its thin end, and the nut B, substantially as described.

2. The nut B, provided with a circular seat, *b*, in its inner face, in combination with the wedge C, provided with a T-head, *c*, at its thin end, the thickness of which is equal to the depth of cut in the inner face of the nut, substantially as and for the purpose set forth.

3. The nut and split bolt, in combination with the wedge C, provided with the slot *c'*, and the pin D, substantially as and for the purpose set forth.

WALTER S. GILMAN.

Witnesses:
L. A. BUNTING,
W. C. CORLIES.