

No. 862,220.

PATENTED AUG. 6, 1907.

F. P. VAUGHAN.
LOCK NUT.
APPLICATION FILED OCT. 4, 1906.

Fig. 1.

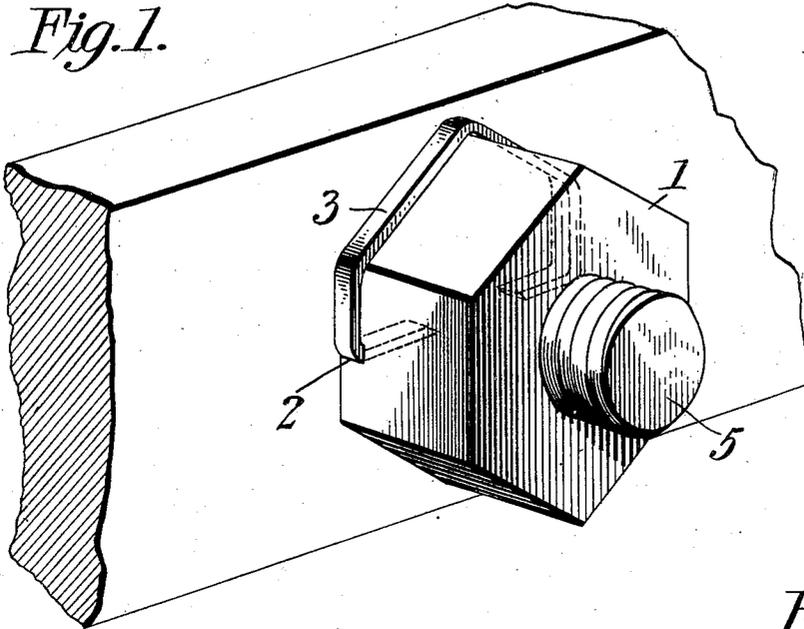


Fig. 2.

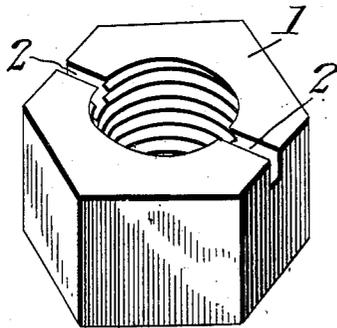


Fig. 3.

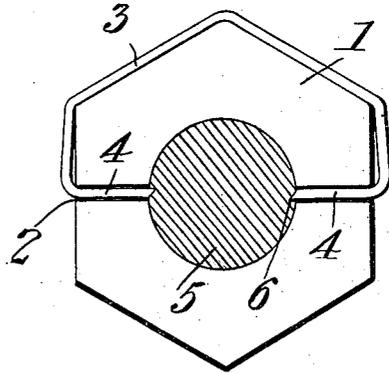


Fig. 4.

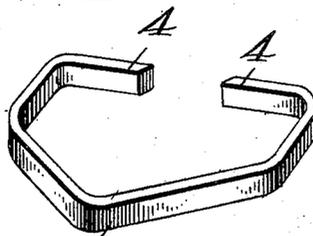
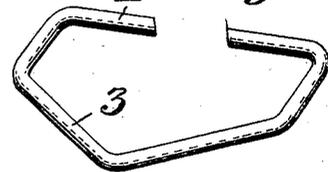


Fig. 5.



WITNESSES:
E. J. Stewart
Arthur J. ...

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UNITED STATES PATENT OFFICE.

FREDERICK P. VAUGHAN, OF CHICAGO, ILLINOIS.

LOCK-NUT.

No. 862,220.

Specification of Letters Patent.

Patented Aug. 6, 1907.

Application filed October 4, 1906. Serial No. 337,453.

To all whom it may concern:

Be it known that I, FREDERICK P. VAUGHAN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Lock-Nut, of which the following is a specification.

The invention relates to lock nuts, and has for its object to provide a simple, inexpensive and efficient construction suitable for use in any location or relation where it is desirable or necessary to secure a nut against accidental loosening, and particularly to provide such means as can be applied to any nut of ordinary construction with the minimum manipulation or preparation thereof so that the cost of preparing the nut and applying the lock may be minimized.

Further objects and advantages of the invention appear in the following description thereof, it being understood that various changes in the form and proportions of the parts may be resorted to without departing from the spirit of the invention.

In the drawing,—Figure 1 is a perspective view of a lock nut constructed in accordance with the invention, the same being shown applied in operative position to a bolt. Fig. 2 is a similar view of the nut detached and inverted. Fig. 3 is a plan view of the inner or bearing surface of the nut, with the lock in operative position. Fig. 4 is a detail view of the lock, detached. Fig. 5 is a similar view of the lock constructed of round wire.

Similar reference characters indicate corresponding parts in the several figures of the drawings.

The nut 1 embodying the invention, is provided in its under or inner surface with a transverse kerf 2 preferably extending diametrically, as shown, and intersecting the bolt opening so that both ends of each radial portion of the kerf are open, the outer ends at the outer surfaces of the nut and the inner ends at the bolt opening. This provides for forming the kerf by a cutting tool or saw in one operation in the course of the manufacture of the nut, and also provides for forming the same by means of a file or other tool in a nut already in use and to which it is desired to apply the invention.

The lock 3 is of spring metal having a body portion designed to embrace the side surface of the nut (being preferably shaped to conform thereto) and having terminals 4 set diametrically and engaged with the portions of the kerf in the inner surface of the nut. The kerf being formed in the inner or under surface of the nut can be made very shallow, and being open at said inner or rear surface will admit the spring lock without spreading the latter. Moreover, this location of the groove or kerf provides for using terminals 4 which

are set diametrically, or at any other desired angle, without requiring the use of a tool in applying the lock.

The nuts and locks may be shipped separately, the latter being applied to the former just before the nut is tightened to bring its inner or under surface in contact with the surface of the object from which the bolt projects. This provides against injury to the lock in the course of applying the nut, while the bearing of the inner or under surface of the nut against the supporting surface provides against accidental or surreptitious displacement of the lock. Moreover, the arrangement of the terminals of the spring diametrically of the nut causes the spring to exert a considerable and efficient resistance against accidental disengagement of the extremities thereof from the surface of the bolt. In order to disengage the lock from the bolt in order to release the nut it is therefore necessary to insert a tool between the side surface of the nut and the body portion of the lock, but it will be noted that a special tool is not required for this purpose inasmuch as the side surface of the nut is intact and is flat as in the ordinary construction. A tool such as a screw-driver or chisel, can be placed against the side surface of the nut and its extremity forced inward between the body portion of the lock and the surface of the nut, or if necessary, the tool may be struck a blow with a hammer in the event that the lock offers excessive resistance, and by so doing neither the lock nor the nut is injured and, therefore, both may be used as often as may be required. Moreover, by reason of the diametrical arrangement of the extremities of the lock the flexing of the body portion thereof by the insertion of a tool between the same and the side surface of the nut and the consequent outward displacement of the terminals, by which their extremities are drawn into the portions of the kerf, will serve to hold the lock in the disengaged position. In other words, the extremities of the lock, by frictional engagement with the surfaces of the kerf or groove, will hold the lock out of engagement with the bolt to permit the unscrewing of the nut.

The extremities of the lock terminals may be reduced and sharpened if desired, as illustrated in the drawing, to engage the bolt without recourse to the grooves 6 with which the bolt is provided, as shown, or it may be found preferable to leave the extremities of the lock blunt in case of the use of the groove, as shown. It will be noted, moreover, that the lock may, as illustrated, be arranged to engage at both ends with the bolt or at only one end, if found preferable.

What is claimed is:—

A polygonal nut having flat side and rear surfaces and having its bolt opening intersected by radial kerfs or

grooves which are open at, and extend inwardly from, the rear surface of the nut, and a locking spring having an angular body portion for continuous contact with the flat side surfaces of the nut, and provided with inturned terminals lying in said kerfs or grooves, and insertible into and removable from said kerfs or grooves through the rear open sides thereof by movement perpendicular to the plane of the rear surface of the nut without separating or spreading said terminals, and being held against removal when the nut is in use by the contact of the rear side of

the nut with the object against which it bears, the extremity of one of the terminals being extended to project into the bolt opening.

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

FREDERICK P. VAUGHAN.

Witnesses:

E. HUME TALBERT,

M. J. WARRINER.