S. L. SMITH.

LOCK NUT.

APPLICATION FILED DEC. 2, 1908.

928,811. Patented July 20, 1909.

Fig. 1.

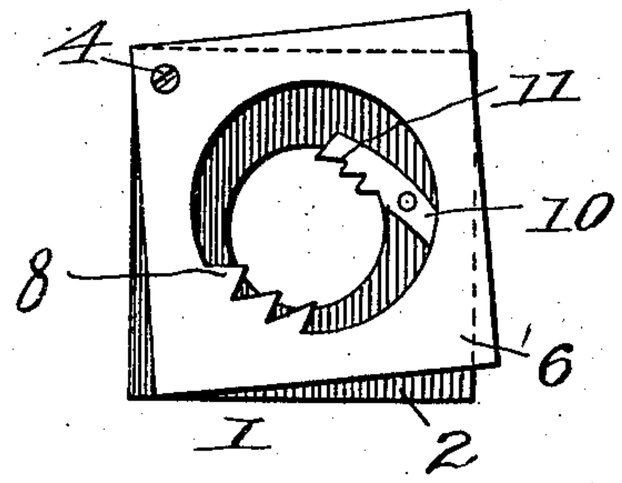
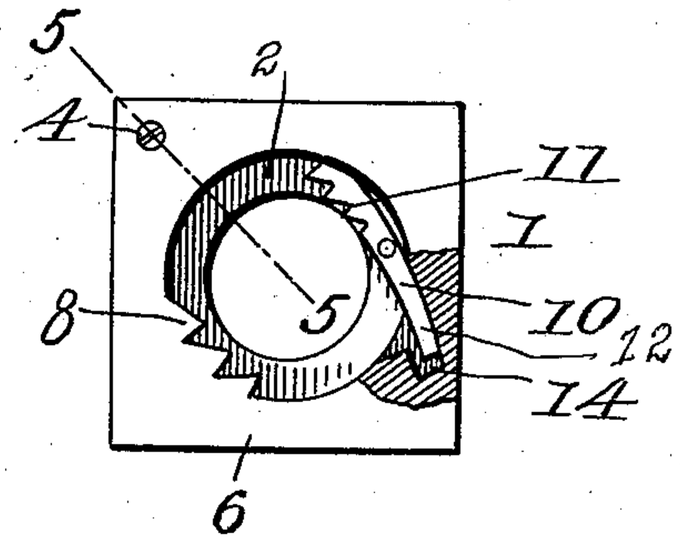


Fig. 3.



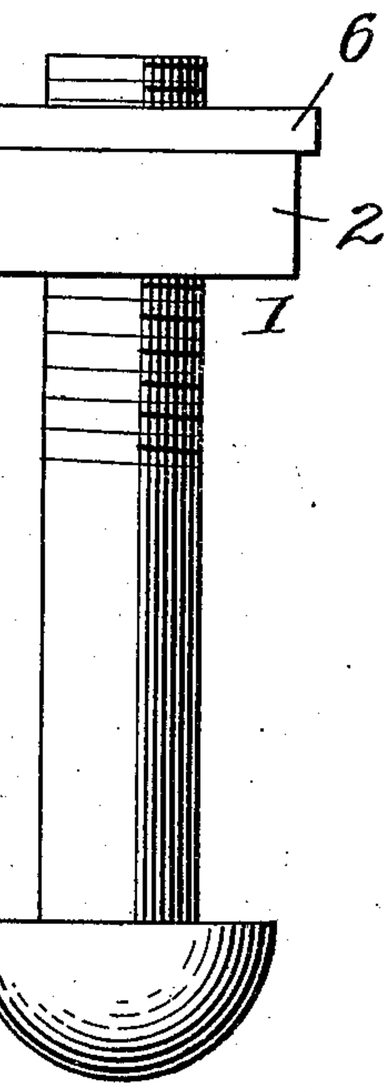
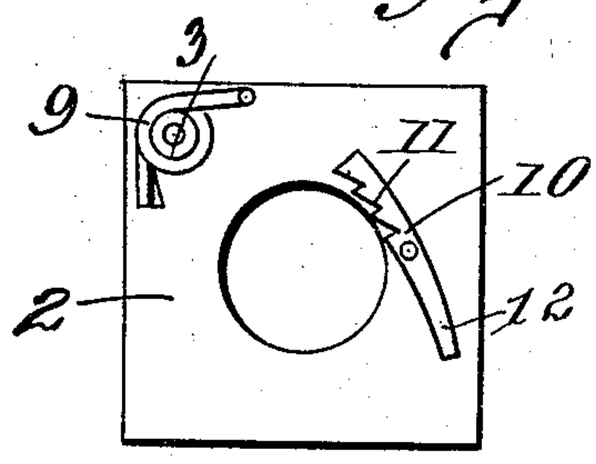


Fig. 2.

Fig. 4.



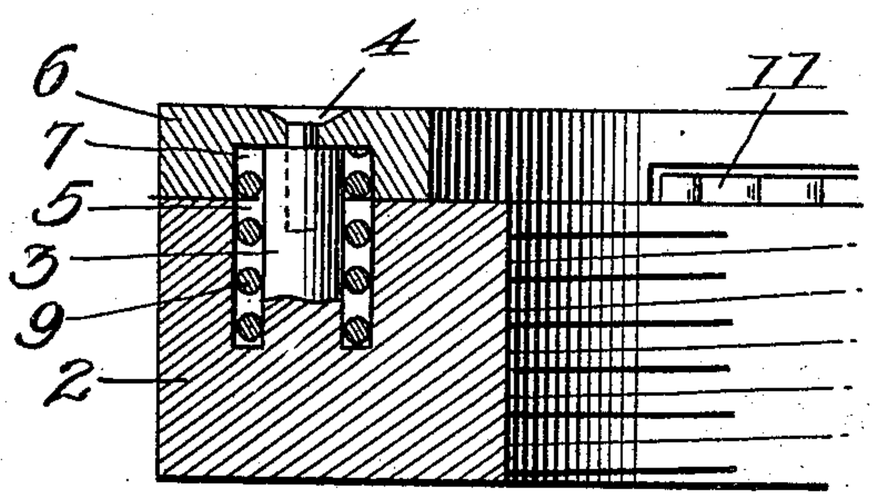


Fig. 5.

Witnesses

Jas. A. Lockhart

W. M. Worth

Inventor

Samuel L. Smith

By Victor J. Evans

Attorney

UNITED STATES PATENT OFFICE.

SAMUEL L. SMITH, OF OLDTOWN, SOUTH CAROLINA, ASSIGNOR OF ONE-HALF TO AUGUSTUS W. CHAPMAN, OF OLDTOWN, SOUTH CAROLINA.

LOCK-NUT.

No. 928,811. Specification of Letters Patent. Patented July 20, 1909.

Application filed December 2, 1908. Serial No. 465,702.

To all whom it may concern:

Be it known that I, SAMUEL L. SMITH, a citizen of the United States, residing at Oldtown, in the county of Newberry and State of South Carolina, have invented new and useful Improvements in Lock-Nuts, of which the following is a specification.

This invention relates to lock nuts, and the object of the invention is to provide a comparatively simple, cheap and effective device of this character whereby a nut may be secured automatically and effectively upon a bolt and which also provides means whereby the nut may be readily released when desired.

With these and other objects in view, which will be more apparent as the description progresses, the invention resides in the novel construction and arrangement of parts hereinafter fully described and claimed.

In the accompanying drawing there has been illustrated a simple and preferred embodiment of my improvement, but it is to be understood that minor details of construction, within the scope of the invention, may be resorted to without departing from the spirit or sacrificing any of its advantages.

In the drawing, Figure 1 is a front elevation of a lock nut constructed in accordance with the present invention, the plate and toothed dog in engaged position. Fig. 2 is a side elevation of the device in applied position upon a bolt. Fig. 3 is a front elevation of the same showing the plate and toothed dog in their disengaged position, parts of the plate being broken away to illustrate the housing of the dog. Fig. 4 is a front elevation of the nut and toothed dog, the plate being removed. Fig. 5 is a sectional view upon the line 5—5 of Fig. 3.

In the accompanying drawing the numeral 1 designates my improved lock nut. This lock nut 1 comprises a nut 2 of the ordinary construction having its face adjacent one of the corners thereof provided with an upstanding post 3. The post 3 is provided with a centrally arranged threaded orifice adapted for the reception of a securing element 4, by which the locking plate 6 is secured upon the nut member 2. The nut 2 is provided with a suitable channel 5 surrounding the post 3, and this channel is adapted for the reception of a helical spring which projects upwardly above the face of the nut member 2 and is adapted to engage within a similar orifice 7 provided within the under face of the plate 6. As illustrated in Figs. 1, 3 and 5 of the drawing the plate 6 is provided with a central cut away portion or opening, preferably of an angular formation and of a diameter greater than the bore of the nut 2. The wall provided by this annular cut away portion is provided with a plurality of teeth 8, which, when the plate is swung, through the medium of the spring 9 to the position illustrated in Fig. 1 of the drawing, will engage within the space provided by the bore of the nut 2. The nut 2 is provided with a pivoted dog 10. This dog 10 may be of a substantially arcuate shape as illustrated in Figs. 3 and 4 of the drawing and has its upper face adjacent the bore of the nut provided with a plurality of teeth 11 and its portion projecting in the opposite direction from its pivot point formed in the shape of a finger 12. The plate 6 adjacent its annular cut away portion is provided with a suitable recessed housing 14 adapted for the reception of the finger 12 of the dog 10. The teeth of the dog 10 and the teeth 8 provided upon the plate 6 are arranged, preferably, diametrically opposite each other, and it will be noted that when the plate 6 is thrown through the medium of the helical spring 9 the dog 10 will be caused to rotate upon its pivot and the toothed portion thereof brought forward over the space provided by the bore of the nut 2.

From the above description, taken in connection with the accompanying drawing it will be noted that I have provided an extremely simple and effective lock nut. It is to be understood that the outer faces of the nut 2 and the plate 6 are of an identical similar construction, so that a wrench engaging the nut will force the plate 6, and consequently the dog 10 away from the bore of the nut 2, and thus allow the nut to be tightened upon the bolt, and that when the wrench is released from the device, the plate 6 will then be swung upon its pivot causing the teeth 8 carried thereby and the toothed dog 10 to engage with the threads of the bolt. The teeth 11 of the dog 10 are adapted to be arranged at a lower plane than the teeth 8 carried by the plate 6, so that the teeth of the

dog and the teeth of the plate will engage between different threads of the bolt.

Having thus fully described the invention what is claimed as new is:

1. In a lock nut, a nut proper provided with a projecting stud and having a space entirely surrounding the stud, a helical spring surrounding the stud and projecting above the face of the nut, a plate of a size corresponding with that of the nut pivotally connected with the nut and engaged by the spring carried thereby, said plate being provided with a central cut away portion larger than the bore of the nut and having inwardly projecting teeth adapted to be swung over the space provided by the bore of the nut through the medium of the spring carried by the nut.

2. A lock nut comprising a nut proper and a plate pivotally connected with the nut, said plate being of a shape corresponding with that of the nut and being provided with a central opening of a larger circumference than the bore of the nut, projecting teeth upon the wall provided by the opening of the plate, a housing within the underface of the plate, a toothed dog pivotally connected with the upper face of the nut and having an extending portion engaging the housing, and means comprising a helical spring for forcing the teeth of the plate and the teeth of the dog over the space provided by the bore of the nut.

In testimony whereof I affix my signature in presence of two witnesses.

SAML. L. SMITH.

Witnesses:

SAM C. BLEASE,

J. S. CROUCH.