(No Model.)

G. GROSSMAN.

NUT LOCK.

No. 345,842. Patented July 20, 1886.

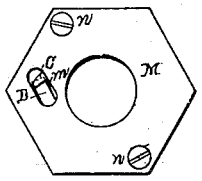

FIG. 2.

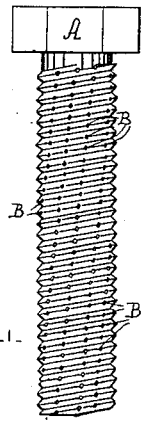

FIG. 1.

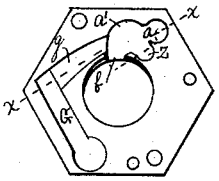

FIG. 3.

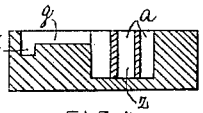

FIG. 4.

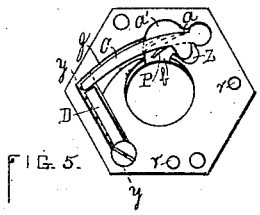

FIG. 5.

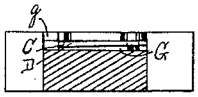

FIG. 8.

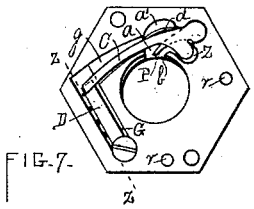

FIG. 7.

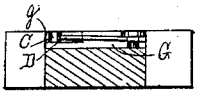

FIG. 6.

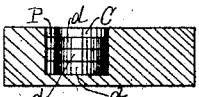

FIG. 10.

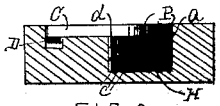

FIG. 9.

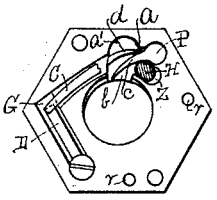

FIG. 11.

WITNESSES

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by Wm. R. Gerhart

His Atty.

UNITED STATES PATENT OFFICE.

GEORGE GROSSMAN, OF LANCASTER, PENNSYLVANIA.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 345,842, dated July 20, 1886.

Application filed April 1, 1886. Serial No. 197,395. (No model.)

To all whom it may concern:

Be it known that I, GEORGE GROSSMAN, a citizen of the United States, residing at Lancaster, in the county of Lancaster and State of Pennsylvania, have invented certain Improvements in Nut-Locks, of which the following is a specification.

My invention relates to devices for locking nuts, and the object of my improvement is to lock the nut by means of a pawl seated in the body of the nut, and adapted to engage a rack cut in the bolt. I attain this object by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a view of the bolt, and Fig. 2 a view of the face of the nut with the covering-plate in place. (In all the succeeding figures the covering-plate is removed.) Fig. 3 is a view of the face of the nut with the interior mechanism removed to show the position of the recesses; Fig. 4, a section through the broken line *x x* of Fig. 3; Fig. 5, a view of the face of the nut with the locking mechanism in place and set so as not to engage with the rack; Fig. 6, a section through *y y* of Fig. 5; Fig. 7, a view of the face of the nut with the pawl set for engagement with the rack; Fig. 8, a section through *z' z'* of Fig. 7; Fig. 9, a sectional view of the interior mechanism from the side on which it is engaged with the bolt; Fig. 10, a sectional view showing the back of the spring acting directly on the nut, and Fig. 11 a face view showing the action of the spring and cam-standard on the pawl.

Similar letters refer to similar parts throughout the several views.

The bolt A has indentations B cut in its thread in spiral lines throughout its length, to act as a rack for the pawl seated in the nut. The pawl P is pivoted in a recess, *a*, having an opening, *b*, into the bolt-hole, through which said pawl engages with the rack. The recess *a* is widened on the outer or opposite side, *a'*, of the pawl to that on which the standard H of the lever C is placed. Springs *d*, placed closely side by side, are secured in the enlarged part of the recess at the end thereof opposite to that at which the pawl is pivoted, and bear against or engage with the backs or outer sides of the arms *c* of the pawl, acting to force the pawl against and keep it in engagement with the rack in the bolt. The pawl is disengaged with the rack, and so held, by means of a lever, C, resting in an arm, *g*, of the recess *a* in the face of the nut. This lever is attached to a standard, H, having the shape, in cross-section, of a cam, which is pivoted in a recess, *z*, opening into the recess *a*, and bears against the inner face of the pawl, so as to force it open when the end of the lever is moved outward.

When the lever is turned so as to cause its standard to force the pawl open, its outer end is engaged by a spring, D, located in a recess, G, cut in the face of the nut perpendicular to that in which the lever rests. This spring is secured at one end, and is so constructed that when the lever is forced into the position which disengages the pawl from the rack, it bears against the inner face of said lever. By pressing from the outside upon the end of the spring when it thus bears against the lever, it is forced below it. This movement permits the action of the springs *d*, and the pawl is forced into engagement with the rack, turning the cam-standard, so that the lever-arm is moved over the end of the spring D. In order to permit the depression of the spring D, the recess in which it is placed is made deeper than that of the lever.

The face of the nut is covered by a plate, M, having an opening, *m*, through which the lever C and spring D are actuated. This plate is secured to the nut by screws *n*, and, to insure its being attached thereto in its proper position, it is provided with teats on its inner surface, which are received by corresponding openings, *r*, in the face of the nut.

What I claim as my invention, and desire to secure by Letters Patent, is—

As an improved nut-lock, the combination of a screw-bolt indented so as to form a rack, with a recessed nut, a pawl pivoted in said recess, a spring engaging with said pawl and actuating the same to engage with the rack, a lever secured to a cam-shaped standard located inside of and bearing against the pawl so as to disengage the same from the rack, and a spring adapted to engage with the lever to hold the pawl in disengagement with the rack, substantially as specified.

GEO. GROSSMAN.

Witnesses:
WM. R. GERHART,
W. J. FORDNEY.