

(No Model.)

J. M. ALBERT.
NUT LOCK.

No. 536,118.

Patented Mar. 19, 1895.

Fig. I.

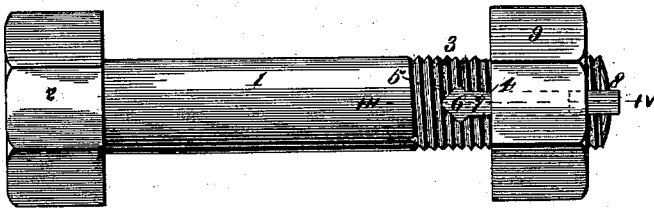


Fig. II

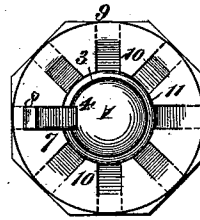


Fig. III.

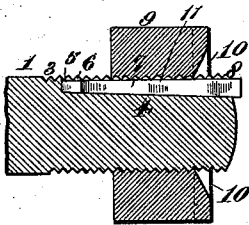


Fig. IV.

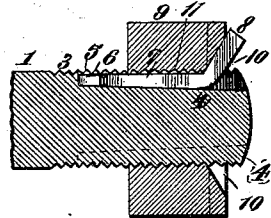


Fig. V.

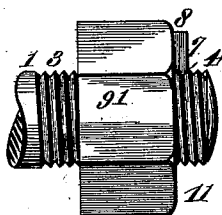
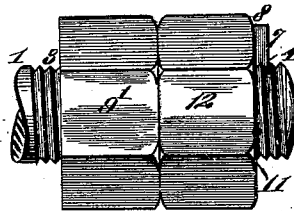


Fig. VI.



Attest:

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UNITED STATES PATENT OFFICE.

JAMES M. ALBERT, OF VANDALIA, ILLINOIS.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 536,118, dated March 19, 1895.

Application filed January 21, 1893. Serial No. 459,144. (No model.)

To all whom it may concern:

Be it known that I, JAMES M. ALBERT, of Vandalia, in Fayette county, in the State of Illinois, have invented a certain new and useful Improvement in Nut-Locks, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to positive key locks for the screw-nut attachment of bolts, the said key lock seated in recessed slots in said bolts, and bent over into recessed lock slots in said screw nuts; and said invention consists in features of novelty hereinafter fully described and pointed out in the claim.

Figure I is a side view of a bolt in which the locking key is inserted in its slot-bed, and the nut screwed into its operative position, the out end of the key being straight with its body previous to being bent within the recessed lock-slot of the screw-nut. Fig. II is an end view, and shows the out end of the bolt, the screw-nut seated thereon, and said nut provided with a radial series of recessed lock slots, in one of which the projecting end of the key is bent over, and in a measure embedded to secure a permanent lock of said screw-nut to said bolt. Figs. III and IV are detail, longitudinal sections, taken on line III—IV, Fig. I, and show the key embedded in its recessed seat in the bolt respectively, before and after the lock-bend of said key into its radial recessed seat in the nut; and Fig. IV also shows, in broken lines, an additional key-slot, for use when it is required to double lock the nut. Fig. V is a detail, side view, and shows a modification in which the radial series of lock-slots on the screw-nut are dispensed with, and the lock key is bent around the smooth face of the nut; and Fig. VI is a detail, side view; and shows a jam-nut added to the combination. Said jam-nut may have a smooth outer face, as shown in said figure and in Fig. V, or it may be provided with like radial key bed slots, as are shown in Figs. II, III and IV.

Referring to the drawings:—1 represents the bolt, 2 the head of said bolt, and 3 its screw.

4 represents the tapered slot or key-bed or beds, (as the case may be, when there is more than one key used,) recessed in said screw, and 5 is an angular enlargement at the head

of said key slot, in which the angular enlargement or head 6 of the locking key 7 is inserted. The said key is tapered or gradually enlarged in thickness from head 6 to its outer point 8, thereby providing the greater comparative strength at its turn locking end where it has to withstand the greatest strain, so as to effect a more reliable lock.

9 represents the screw nut, screw seated on said bolt; and 10 are tapered radial slots that diverge outwardly in the outer face of said nut from its screw-bore 11. After the nut has been turned into place, the out end 8 of the lock-key 7 is bent around into the radial slot bed 10, that at the time being registers with said lock-key, and said key thus besides locking the nut, is itself locked in said slot of said nut, so that the abrasion against outside objects cannot easily break said locking point of the key from its stem, and thus endanger the unlocking of the nut.

9' represents a modification of the screw-nut, in which the radial slots 10, are omitted, and the point 8 of the lock-key 7, is therein bent up against the unslotted face of said nut. The slot faced nuts of the previous figures are preferred, but this modified form may also be used.

12 represents a jam-nut that may be screw seated on the screw-tip of the bolt 1 outside the initial screw-nut, which jam-nut, while it may be used in combination with my slot faced nut 9, is more generally used with the modified, smooth faced nut 9', to provide an extra security to the hold of said nut on its screw bolt, as said smooth faced nut, does not provide the extra security that is found in the recessed, radial locking beds 10, in which the locking point of the key engages. When said jam-nut is used, the lock-key 7 extends through and beyond said jam-nut, and its locking point 8 is bent around against the face of said nut, as shown in Fig. VI. The jam-nut may have a plain face, as shown in Fig. VI, or it may be provided with recessed, radial slots 10, as shown in Figs. II, III and IV.

A single locking-key may be used, or two or more of said keys may be used, an equal number of slotted key beds 4 in the bolts being provided to that of the keys used.

While the nuts shown in Figs. I, II, III and IV, with recessed radial locking slots 10, for

lock bedding the bent points of the key or keys are preferred, as adding to the safety of the lock, and preserving the locking points of said key or keys from breakage by abrasion, yet the other elements of the device may be used in combination with smooth faced nuts, as shown in Figs. V and VI, and the device may also be used when preferred in combination with a jam-nut 12, as shown in Fig. VI.

When my lock-nut is used in connections of mowers, harvesters, and other traveling machinery in which the lock-nut frequently comes in violent contact with stones, clods, roots, and other obstructive substances, a still further guard against the unlocking of the nut on such untoward occasions may be adopted, by slightly changing the routine of the combination. To effect this, the outer point 8 of the lock-key 7 may be bent round into the recessed, radial locking slots 10 in the face of the screw nut 9 and the jam nut 12 is then screw seated outside said nut 9, and its bent lock-key. The radial, recessed locking slots in said case are preferably recessed clear across the face of the screw-nut 9, as shown in broken lines in Fig. II, and in broken lines in Figs. III and IV, and the locking point of the key is bent round and clearly embedded in one of said recessed slots, so as not to interfere with the seating of said jam-nut. The

said jam-nut thus completely protects the locking key from abrasure against the foreign substances.

While I prefer the laterally enlarged extension of the lock-key head 6, shown in Figs. I, III and IV, yet it may in some cases be bent downward instead of being laterally enlarged, and the head 5 of the slotted key-bed 4 is then slightly further counter-sunk into the bolt to provide a catch hold for said bent head of the lock key.

I claim as my invention—

In a nut-lock, the combination of the screw-bolt 1 provided with the longitudinal tapered slot or key bed 4 having the angular enlargement 5, the tapered locking key 7 seated in said tapered slot 4 and having an angular head or enlargement at its small end which fits in the angular enlargement 5 of the key bed, and the screw nut engaging the screw-thread of the bolt and fitting over the key 7, said nut being formed with tapered radial recesses deepest adjacent to the bolt, and the large end of the key being adapted to be bent over into engagement with one of the recesses, substantially as and for the purpose set forth.

JAMES M. ALBERT.

In presence of—

BENJN. A. KNIGHT,
E. S. KNIGHT.