

A. G. MARTIN.
NUT LOCK AND SCREW SOCKET FOR WELL DRILLING MACHINES.
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957,429.

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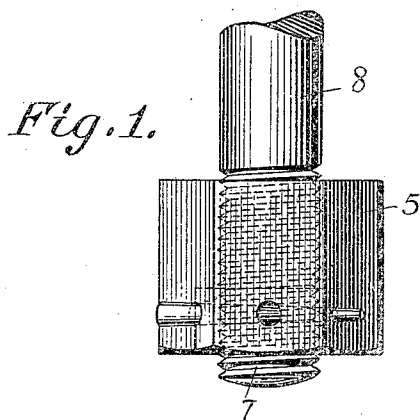


Fig. 4.

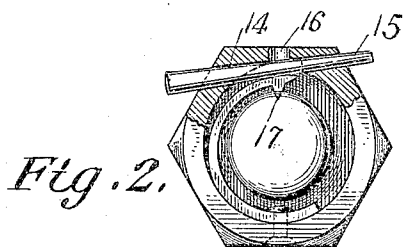
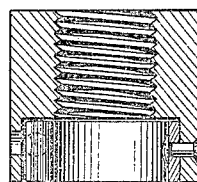


Fig. 5.

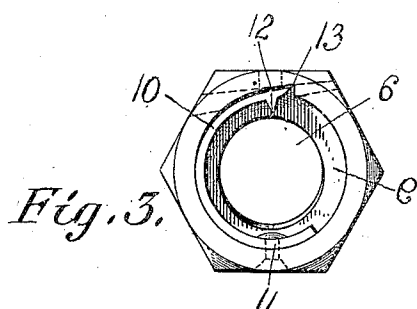
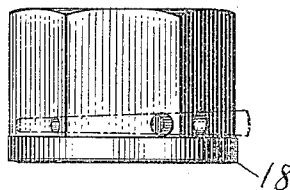
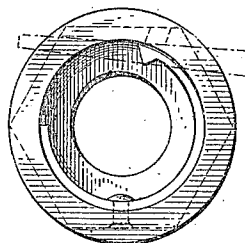


Fig. 6.



Witnesses:
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UNITED STATES PATENT OFFICE.

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NUT-LOCK AND SCREW-SOCKET FOR WELL-DRILLING MACHINES.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ABRAHAM G. MARTIN, a citizen of the United States, residing in the city of Bruceton, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Nut-Locks and Screw-Sockets for Well-Drilling Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to make and use the same.

This invention relates to nut locks for well driving tools, track bolts and the like and has for its object the provision of a comparatively simple and thoroughly efficient device of this character, for preventing accidental rotation of the nut after the latter has been adjusted on its securing bolt.

A further object is to provide a nut having a seating recess formed in one end thereof for the reception of a spring locking pawl, the latter being provided with a spur adapted to be driven into the threads on a bolt for the purpose of preventing rotation of one relatively to the other.

A further object is to provide a locking key for retaining the bolt to its seat in the nut, there being an opening formed in one side of the nut so that the key may be inserted therein and struck with a suitable tool for the purpose of forcing the spur into the threads of the bolt to provide said seat.

A still further object of the invention is generally to improve this class of devices, so as to increase their utility, durability and efficiency, as well as to reduce the cost of manufacture.

Further objects and advantages will appear in the following description, it being understood that various changes in form, proportions and minor details of construction may be resorted to within the scope of the appended claims.

For a full understanding of the invention and the merits thereof and also to acquire a knowledge of the details of construction and the means for effecting the result, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a side elevation of a nut lock constructed in accordance with my invention; Fig. 2 is a bottom plan view of the same partly in section, showing the manner of retaining the locking spur to its seat in

the nut; Fig. 3 is a bottom plan view of the nut detached, showing the key removed from the seat in said nut; Fig. 4 is a vertical sectional view of Fig. 3; Fig. 5 is a side elevation illustrating a modified form of the invention; Fig. 6 is a bottom plan view of Fig. 5.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The device comprises a nut 5 of any desired cross sectional formation and having an opening 6 formed therein, the walls of which are threaded for engagement with the correspondingly threaded end 7 of a bolt, indicated at 8. The nut 5 is cut-away to produce a circumferential recess 9, preferably disposed concentric with the bolt receiving opening 6 and opening through the bottom of the nut, as shown. Disposed within the recess 9 is a locking pawl 10 preferably formed of a single piece of spring metal having one end thereof riveted or otherwise rigidly secured to the adjacent wall of the recess, as indicated at 11 and its opposite end provided with an inwardly extending locking spur 12 adapted to be pressed into the threads on the bolt 8 for the purpose of preventing accidental rotation of the nut after the latter has been adjusted on said bolt. The pawl 10 is curved to conform to and bears against the wall of the recess 9 throughout its major portion, that end of the pawl provided with the locking spur 12 being normally housed within a pocket 13 formed in the lower face of the nut so that the active end of the spur will be normally spaced from the threads on the bolt and thus permit adjustment of the nut without binding or wedging action between the parts. It will here be noted that the lower longitudinal edge of the pawl 10 is disposed flush with the lower face of the nut so as to present a smooth unobstructed surface and thus allow another nut to be positioned on the bolt and screwed into engagement with the nut 5 so as to act as a jam nut, if desired.

Extending transversely of the nut, is a key seat 14, the opposite ends of which open through the adjacent side walls of the nut so as to permit the insertion of a key 15 through either side thereof, there being a single opening 16 disposed intermediate the opposite ends of the key seat or opening 14

and adapted to receive one end of the key 15 for the purpose of forcing the spur 12 into engagement with the threads on the bolt, thus to produce a seat in said threads for the reception of the spur.

In operation, the nut is adjusted on the threaded end of the bolt, and after the desired adjustment has been effected, one end of the key 15 is introduced within the opening 16 and struck with a hammer or other suitable tool so as to force the point or bill of the spur in the threads on the bolt and thus produce a seat 17. The key 15 is then removed from the opening 16 and inserted in the opening or seat 14, the side walls of the key 15 pressing the active end of the pawl 10 laterally in the direction of the bolt so as to cause the spur 12 to enter the seat 17, and in which position the nut and bolt will be effectually locked against rotation relative to each other.

In Figs. 5 and 6 of the drawing, there is illustrated a modified form of the invention, in which the seating recess or pocket 13 is dispensed with and the nut provided with a laterally extending flange 18, the construction and operation of the device being otherwise similar to that shown in Figs. 1 to 4 inclusive of the drawing.

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

1. The combination with a threaded bolt, of a nut engaging the threaded end of the bolt and having one face thereof provided with a seating recess surrounding the bolt receiving opening, a spring pressed pawl housed within the recess and having one end thereof provided with a spur for engagement with the threads on the bolt, there being an opening formed in the nut to permit the insertion of a key for forcing the spur into the threads to produce a seat, and transversely alined openings formed in the nut to permit the insertion of said key for holding the spur to its seat in the threads of the bolt.

2. The combination with a threaded bolt, of a nut engaging the threaded end of the bolt and provided with a seating recess, there being intersecting openings formed in the nut and communicating with the recess, a spring pressed pawl housed within the seating recess and provided with a spur, and a locking key adapted to be inserted in one of the openings for forcing the spur

of the locking pawl into the threads of the bolt to produce a seat, said locking key being subsequently inserted in the other opening with a portion thereof bearing against the adjacent face of the pawl for retaining the spur of said pawl to its seat in the threads of the bolt.

3. The combination with a threaded bolt, of a nut engaging the threaded end of the bolt and having one face thereof provided with a seating recess disposed concentric with the bolt receiving opening, there being a pocket formed in the nut and communicating with the seating recess, intersecting openings formed in the body of the nut, one of which communicates with the pocket, a spring pawl seated in the recess and having one end thereof rigidly secured to the nut and its other end normally disposed within the pocket and provided with a locking spur, and a locking key adapted to enter one of the openings in the nut for forcing the spur into engagement with the threads on the nut for producing a seat in said threads for the reception of the spur, said locking key being adapted to be subsequently inserted in the other opening in the nut for pressing the free end of the pawl laterally and retaining the spur thereof to its seat in the threads of the bolt.

4. The combination with a threaded bolt, of a nut engaging the threaded end of the bolt and having one face thereof provided with a seating recess and its side walls provided with intersecting openings, there being a pocket formed in the nut at one of said openings, a spring pawl entirely housed within the recess and embracing the major portion of the bolt, one end of the pawl being rigidly secured to the bolt and the other end thereof disposed at said pocket and provided with an inwardly extending spur, and a locking key adapted to be inserted in one of said openings for forcing the spur into engagement with the threads on the nut to produce a seat for said spur, said locking key being adapted to be subsequently inserted in the other opening for pressing the free end of the pawl laterally and retaining the spur to its seat in the threads on the bolt.

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