

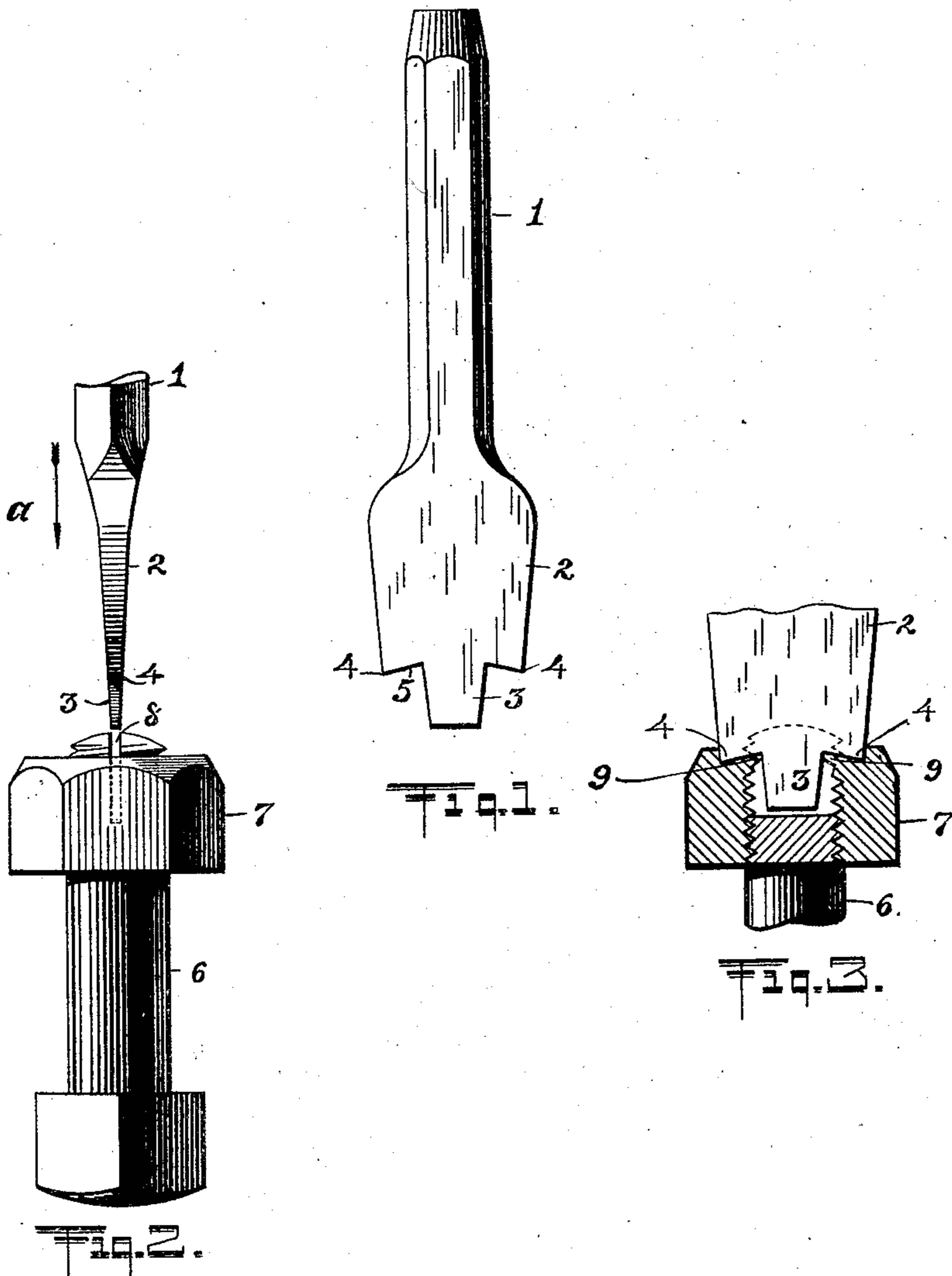
No. 819,289.

PATENTED MAY 1, 1906.

A. KOOTZ & E. E. SCHIRMER.

NUT LOCKING DEVICE.

APPLICATION FILED SEPT. 27, 1905.



Witnesses  
C. Sterling Allen.  
Anna P. Bennett.

Albert Kootz  
E. E. Schirmer  
Inventors.  
By J. W. L. [Signature] Attorney

# UNITED STATES PATENT OFFICE.

ALBERT KOOTZ AND EDWARD EVERETT SCHIRMER, OF PARKERSBURG,  
WEST VIRGINIA, ASSIGNORS OF ONE-THIRD TO HENRY C. JACKSON,  
OF PARKERSBURG, WEST VIRGINIA.

## NUT-LOCKING DEVICE.

No. 819,289.

Specification of Letters Patent.

Patented May 1, 1906.

Application filed September 27, 1905. Serial No. 280,270.

*To all whom it may concern:*

Be it known that we, ALBERT KOOTZ and EDWARD EVERETT SCHIRMER, citizens of the United States, and residents of Parkersburg, in the county of Wood and State of West Virginia, have invented certain new and useful Improvements in Nut-Locking Devices, of which the following is a specification.

Our invention relates to an improvement in nut-locking devices, and the objects of our invention are to provide a device or tool simple and cheap to manufacture, yet efficient and simple in its operation. We attain these objects in the implement illustrated and described in the accompanying drawings and description.

In the drawings like numerals of reference refer to like parts throughout the respective views.

Figure 1 is a side elevation of the device. Fig. 2 is an elevation of a bolt and nut and an end or edge elevation of the tool in position for locking. Fig. 3 is a side elevation of the tool and sectional view of the bolt and nut after the operation of locking.

In the figures, 1 is the body of the tool, 2 being the blade or wedge.

3 is the lower or entering edge of the blade or wedge.

4 indicates teeth or swaging-spurs, as hereinafter explained, formed by cutting away the metal of the tool at an angle, as shown at 5.

6 is a bolt, 7 a nut thereon, and 8 a slot in the end of the bolt.

9 9 indicate the spurs of metal of the nut forced into the slot by the spurs 4 4 after the locking is complete.

The method of locking a nut on a bolt by the use of the tool forming the subject-matter of this application is disclosed at length in an application filed by us on the 27th day of September, 1905, Serial No. 280,269. Briefly, however, it consists in driving the tool into the end of a bolt, and thus spreading the walls of the latter, so as to force them against the interior of the nut and then forcing the material of the nut into the spread end of the bolt and between the separated walls in a direction substantially at right angles thereto.

On reference to the figures the functions of the various parts of the device will be evident.

The body 1 is similar to that of an ordinary cold-chisel. The blade portion 2, both as a whole and also in the portion 3, is given a sufficient taper in two dimensions, as shown in Figs. 1 and 2, to insure, first, the wedging or spreading action; second, the compressing action, and, third, to permit easy withdrawal from the locked nut and bolt.

The spurs, teeth, or swages 4 are given an angular form, so that on being driven into the upper surface of the nut they will compress, swage, or force the material thereof in toward the center and so into the open end of the bolt, as above set forth. The lower part 3 is made of such width that it can be withdrawn after the action last mentioned is complete.

I do not limit myself to the exact design, shape, or proportion shown or described herein or to any particular material, as I may depart from these in some details without departing from the substance of my invention.

Where I have used the word "swage," "swaging," or "swages" I desire to be understood to mean by this the act of compressing or upsetting or rearranging the particles of metal or the particular devices for producing this effect—in this case, particularly, the lateral spurs 4.

What we claim, and desire to protect by Letters Patent, is—

1. A nut-locking tool comprising a wedge tapering in two dimensions and having its lower edge cut back on each side of the center to form two flanking swaging-spurs adapted to act at right angles to the main body of the wedge.

2. A nut-locking tool having a general wedge shape, the lower edge of which is cut back so as to leave a central wedge portion of less width than the whole and form two swaging-spurs one on each side of the central wedge, the operating-faces of which are at right angles to the operating-faces of the wedge as a whole.

3. A nut-locking device having a wedge-shaped blade, and two swaging-spurs oppositely disposed in the plane of the blade.

4. A nut-locking tool having a wedge-

shaped blade, and oppositely-disposed swages lying in the plane of the blade and adapted to act at right angles to the main part of the wedge.

5 5. A nut-locking tool having a general wedge shape, and having the lower edge cut back so as to leave a central projecting portion, and two flanking swaging-spurs lying in the plane of the blade.

10 6. A nut-locking tool having a wedge-shaped blade, and two swaging-spurs oppositely disposed relative to the main part of the blade, and having their outside faces diverging from the axial line of the blade and  
15 their inside faces converging thereto.

7. A nut-locking tool having a wedge-shaped blade, and two swaging-spurs oppo-

sitely disposed relative to the main part of the blade and having their inside faces converging toward the axial line of the blade. 20

8. A nut-locking tool having a wedge-shaped expanding blade and two oppositely-disposed compressing-spurs lying in the same plane and adapted to act at right angles to the expanding wedge. 25

Signed at Parkersburg, in the county of Wood and State of West Virginia, this 31st day of August, A. D. 1905.

ALBERT KOOTZ.

EDWARD EVERETT SCHIRMER.

Witnesses:

H. WOODYARD,

A. D. IRELAND.