

No. 850,801.

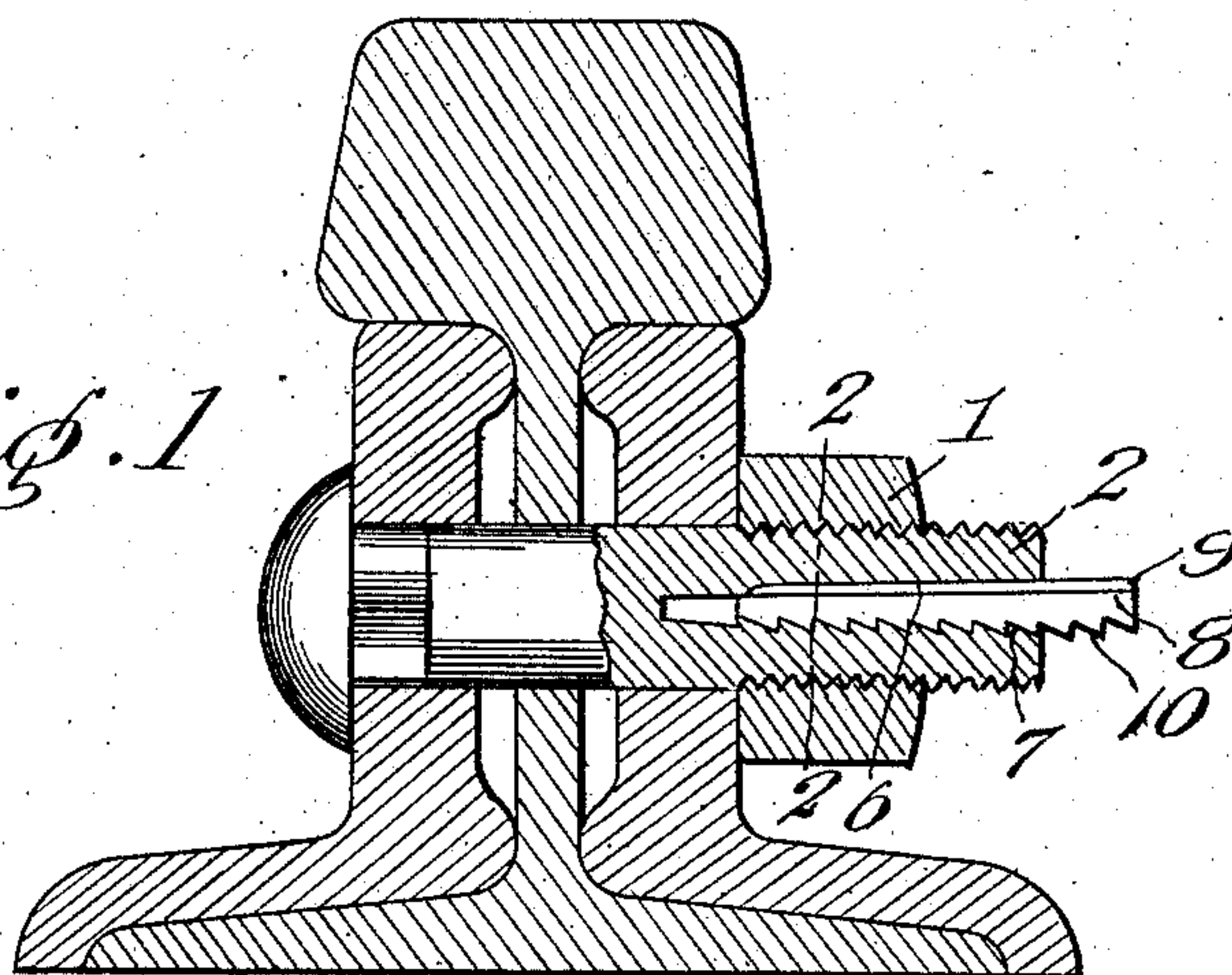
PATENTED APR. 16, 1907.

E. E. SMITH.

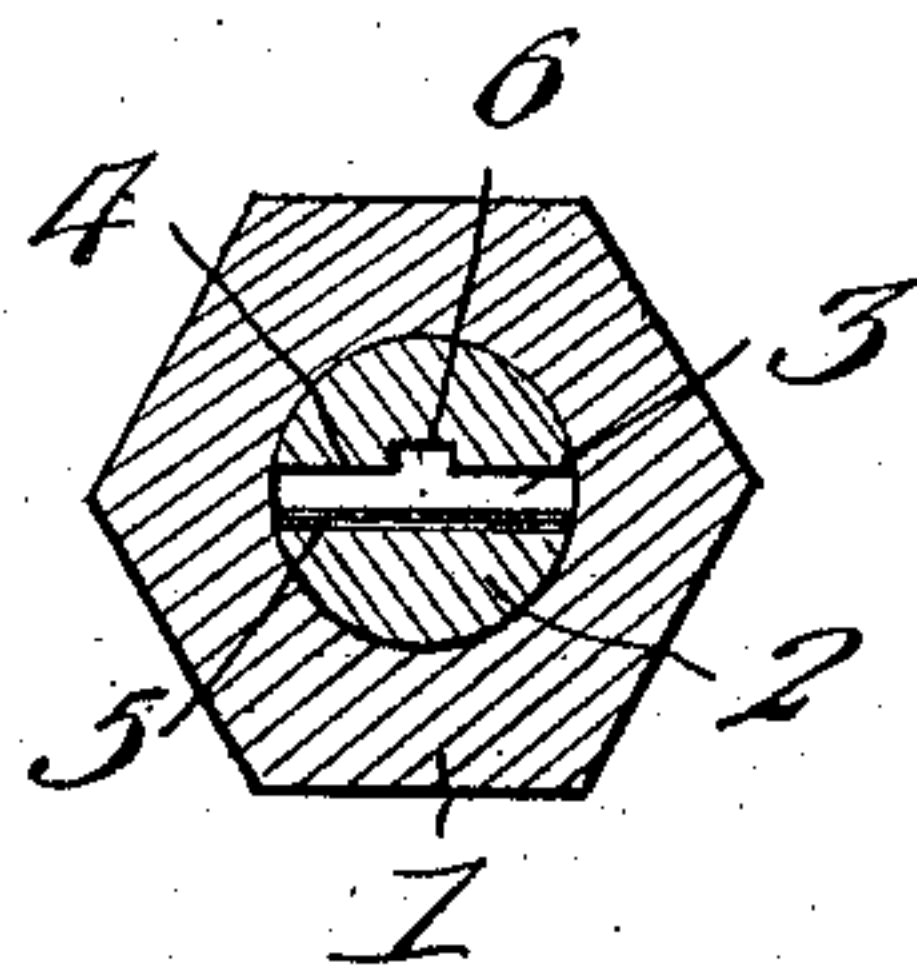
NUT LOCK.

APPLICATION FILED JAN. 9, 1907.

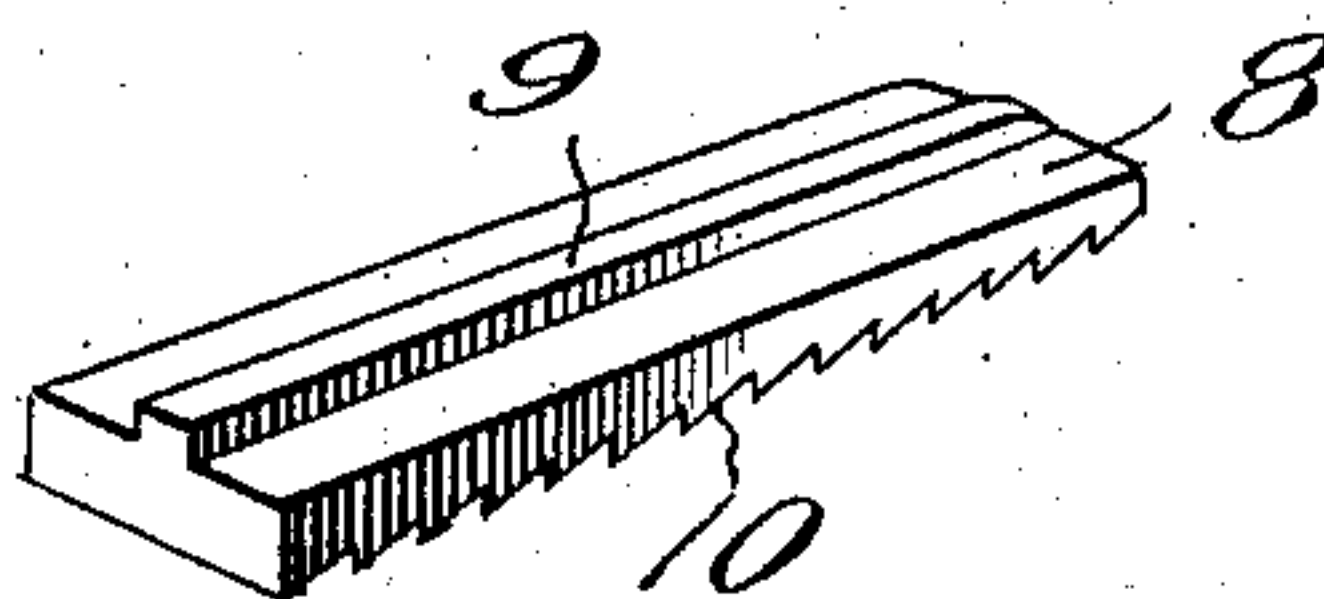
*Fig. 1*



*Fig. 2.*



*Fig. 3.*



Inventor

*Everett E. Smith*

Witnesses

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# UNITED STATES PATENT OFFICE.

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## NUT-LOCK.

No. 850,801.

Specification of Letters Patent.

Patented April 16, 1907.

Application filed January 9, 1907. Serial No. 351,531.

*To all whom it may concern:*

Be it known that I, EVERETT E. SMITH, a citizen of the United States, residing at Leon, in the county of Mason and State of West Virginia, have invented new and useful Improvements in Nut-Locks, of which the following is a specification.

The invention relates to an improvement in nut-locks of that type in which the bolt is spread after operative engagement of the nut, whereby to preclude independent movement of the nut.

The main object of the present invention is the provision of a wedge-key designed to co-operate with the walls of a kerf longitudinally formed in the bolt, whereby to spread the walls after engagement of the nut, the key and one of the kerf-walls being formed with coöperating guiding means to accurately seat the key in operation.

The invention will be described in the following specification, reference being had particularly to the accompanying drawings, in which—

Figure 1 is a vertical sectional view, partly in elevation, illustrating the application of my improved nut-lock. Fig. 2 is a transverse section on line 2 2 of Fig. 1, the key being omitted. Fig. 3 is a perspective view of the key.

Referring particularly to the drawings, my improved nut-lock is designed to provide a simple and efficient means whereby a nut 1 after the usual coöperation with the threaded end of a bolt 2 is prevented from independent movement relative to the bolt, and thereby locked in the initially-set position.

In constructing my improved nut-lock I form diametrically and longitudinally of the bolt 2 an incision or kerf 3, the upper and lower walls 4 and 5 of which are spaced a substantial distance apart. Longitudinally and centrally of the upper wall I form a squared recess 6, hereinafter termed the "guide-recess," which preferably terminates in advance of the relatively inner end of the wall, though the same may be extended throughout the length of the wall, if desired. The lower wall 5 of the kerf is formed with a series of teeth 7, arranged with their operative faces projecting toward the relatively rear end of the wall, as clearly shown in Fig. 1.

A wedge-key 8 is arranged for coöperation

with the kerf 3, said key comprising a metallic strip coextensive in width with the width of the kerf and wedge-shaped in longitudinal section. The relatively upper surface of the key is formed with a guide-rim 9, designed to snugly fit in the guide-recess 6, and on the lower surface with a series of teeth 10, designed for coöperation with the teeth 7, and arranged, of course, in a relatively reverse direction.

In use, after coöperation of the nut 1 with the threaded surface of the bolt 2, the reduced or smaller end of the key 8 is inserted in the kerf 3, the rib 9 being seated in the recess 6. The key is now driven longitudinally of the bolt with the effect to spread the sections of the bolt beyond the nut, and thereby insure such binding coöperation between the threads of the bolt and nut as will prevent independent movement of the nut.

The teeth 10 on the key interlock with the teeth 7 in the bolt, thereby preventing an endwise movement of the key, tending to withdraw it from the bolt, the rib 9 serving to accurately guide the key in the full longitudinal movement of the latter and prevent any tendency of the key to affect the threads of the nut. The guiding operation of the key is important, as thereby the nut-threads are protected against injury, and consequently the holding effect of said threads is not destroyed.

While the nut-lock described is primarily adapted as a means for securing the fish-plate connections, as shown in Fig. 1, it is obvious that it is equally applicable to all structures in which it is desired to positively lock the nut and bolt against independent movement.

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

1. A nut-lock including a bolt formed with a longitudinally - extending kerf, one wall thereof being formed with a guide recess and the opposite wall with a series of teeth, and a key designed to coöperate with the walls of the kerf, said key being formed on one surface with a guide-rib to engage the recess in the kerf-wall, and on the opposite surface with a series of teeth designed to engage the teeth of the opposite kerf-wall.

2. A nut-lock including a bolt formed with a longitudinally-extending kerf, one wall

thereof being formed with a guide-recess and  
the opposite wall with a series of teeth, and a  
key designed to cooperate with the walls of  
the kerf, said key comprising a metallic body  
5 wedge-shaped in longitudinal section, said  
key being formed on one surface with a  
guide-rib to engage the recess in the kerf-  
wall, and on the opposite surface with a se-

ries of teeth designed to engage the teeth of  
the opposite kerf-wall.

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

EVERETT E. SMITH.

Witnesses:

ROBERT CHAPMAN,  
CHAS. COSTO.