

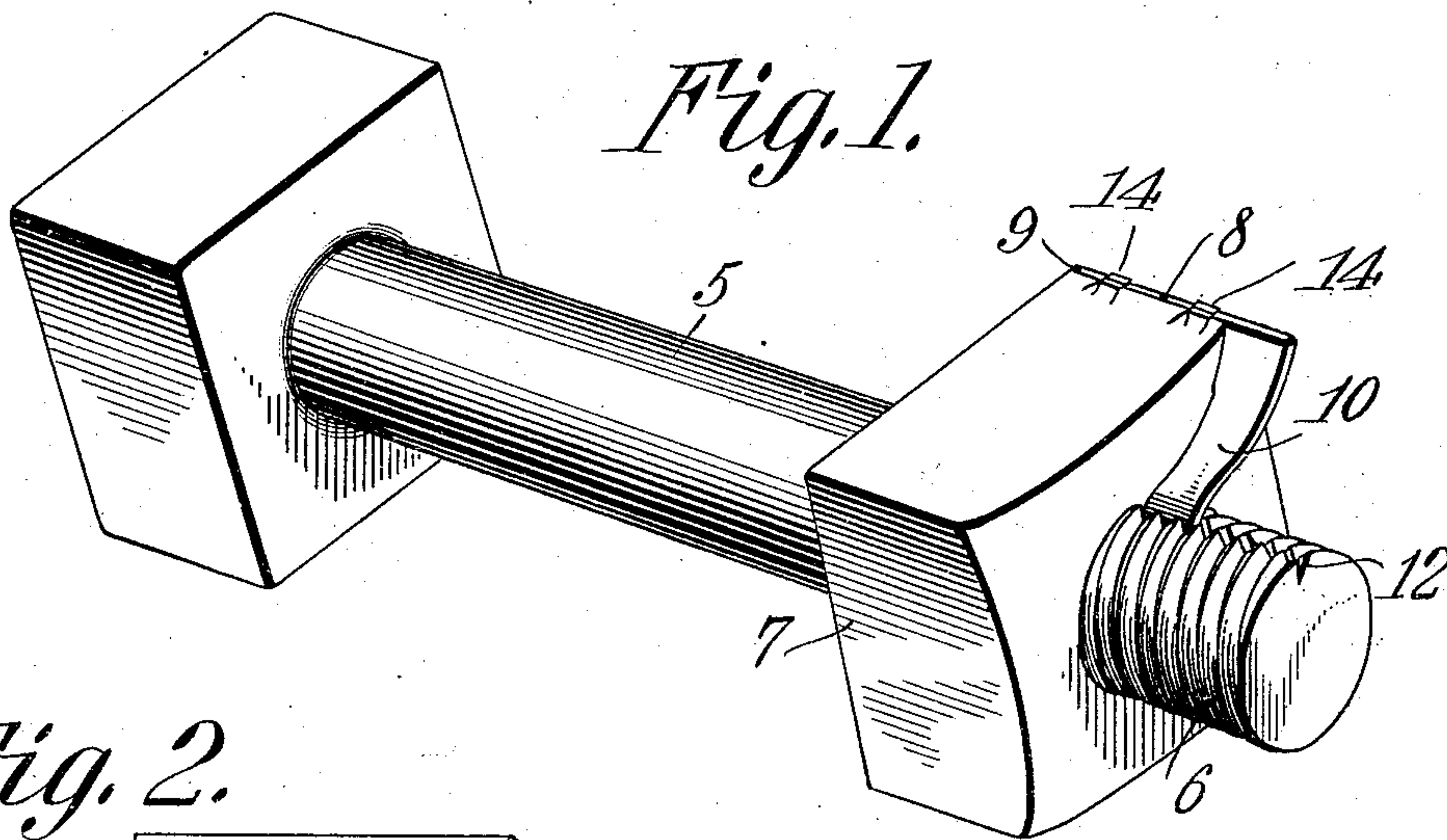
No. 842,647.

PATENTED JAN. 29, 1907.

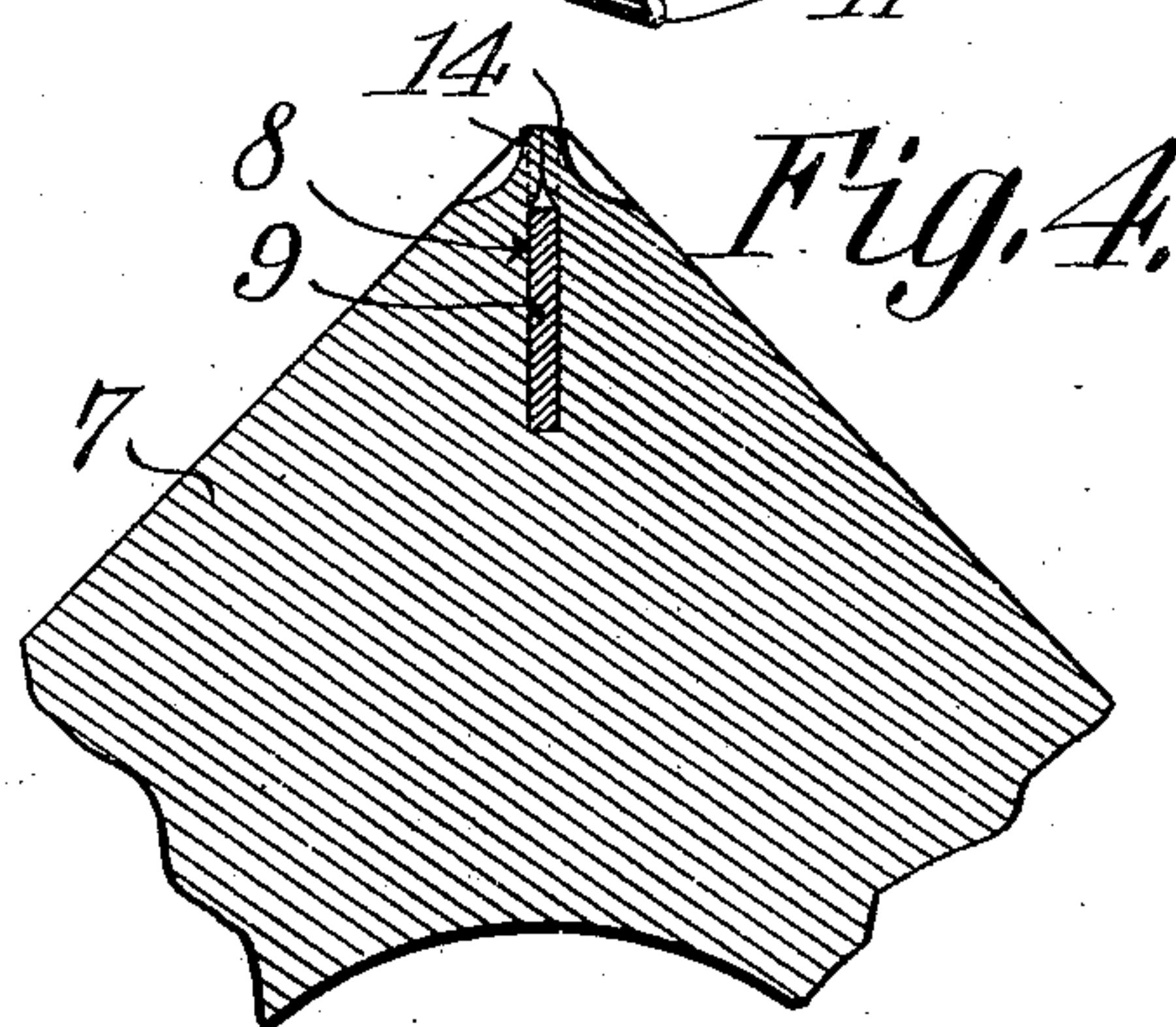
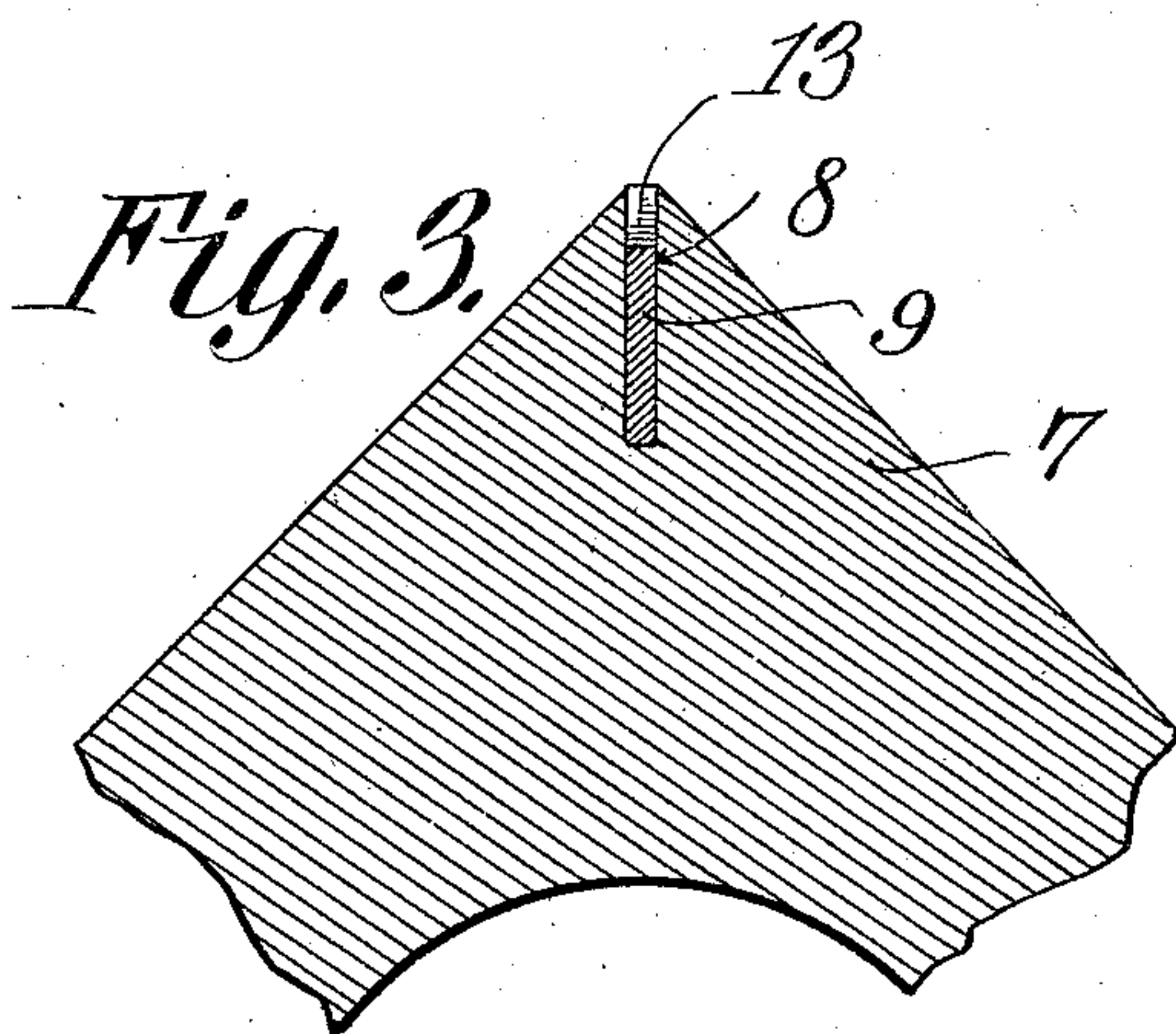
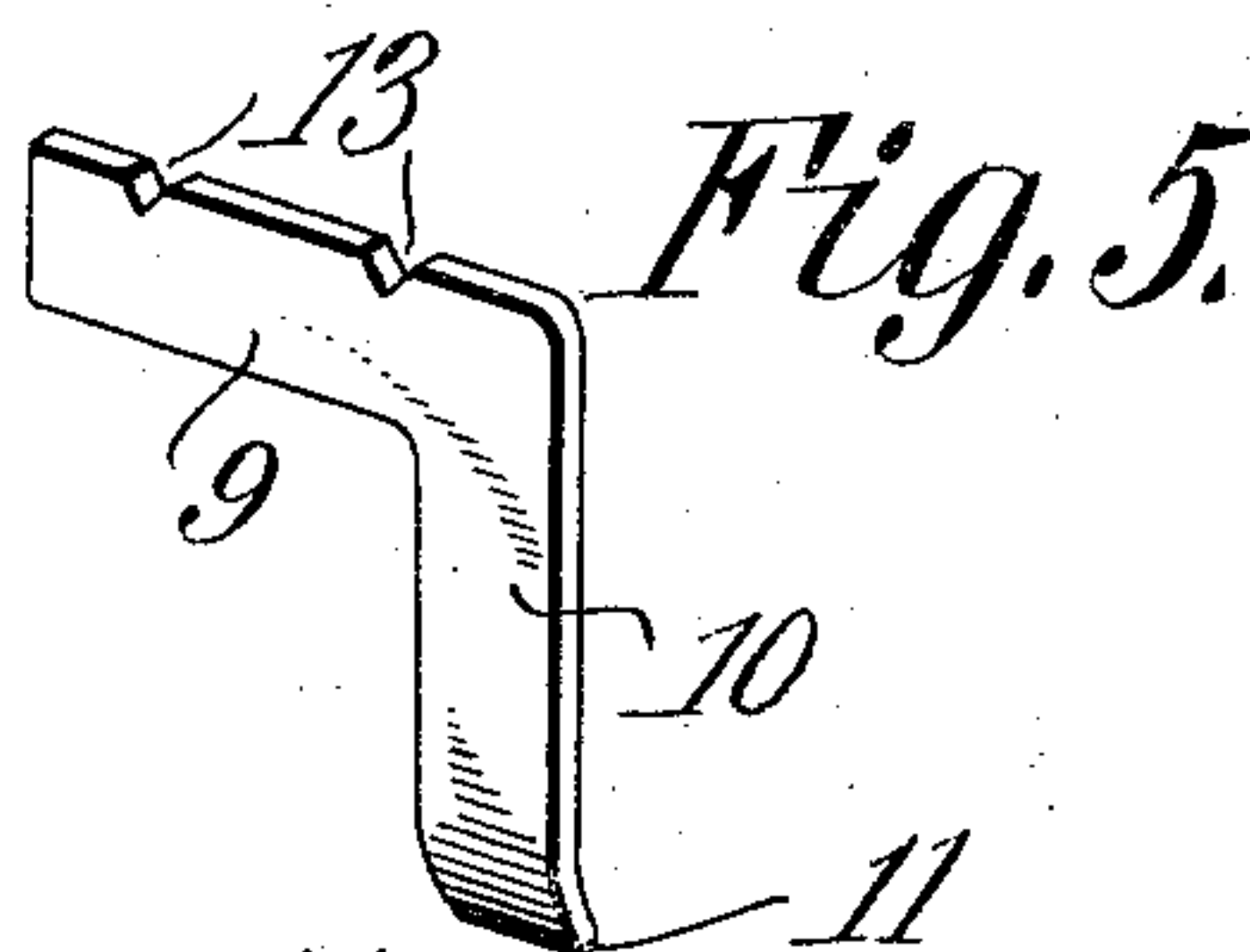
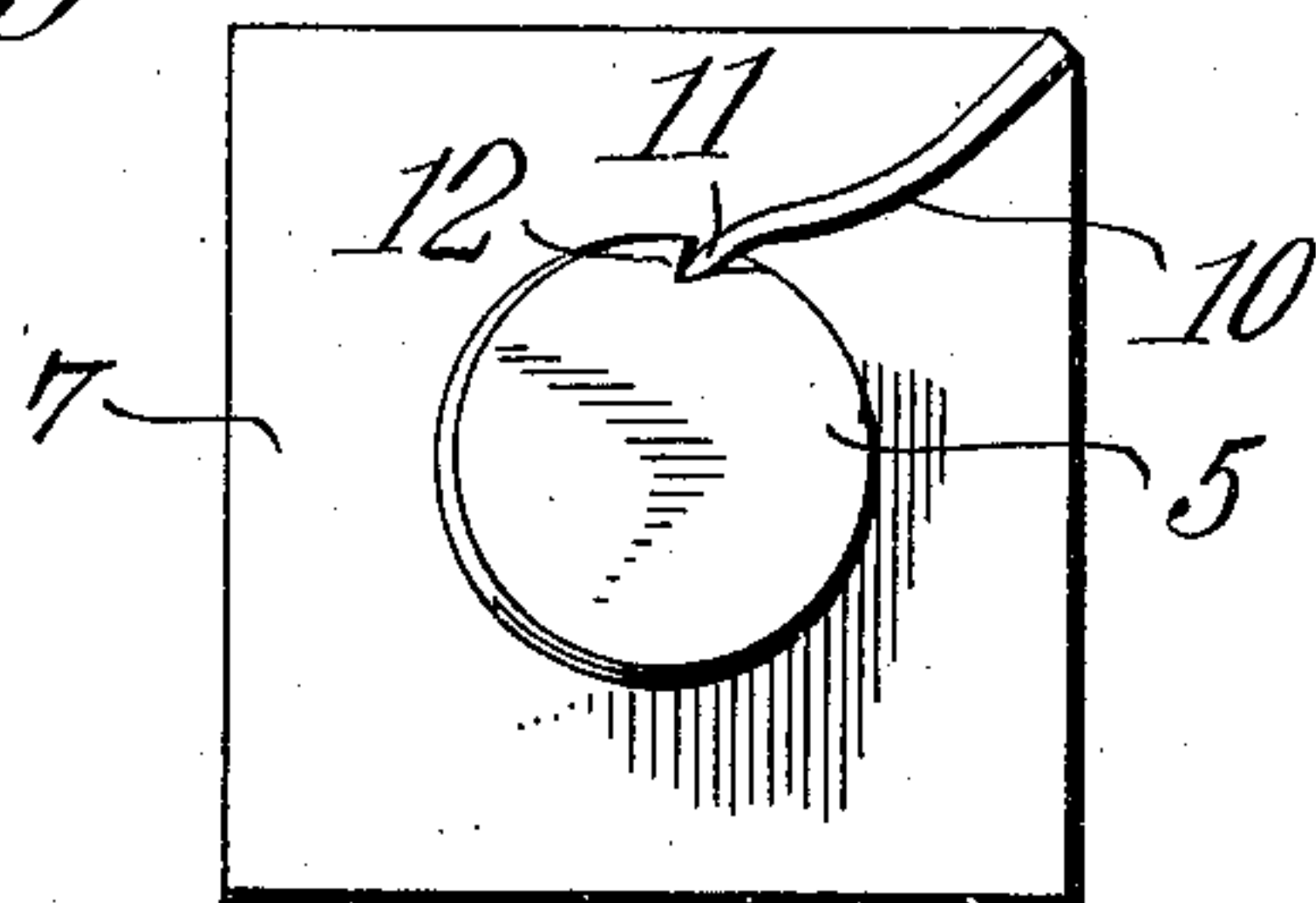
W. GMEINER.

NUT LOCK.

APPLICATION FILED OCT. 29, 1906.



*Fig. 2.*

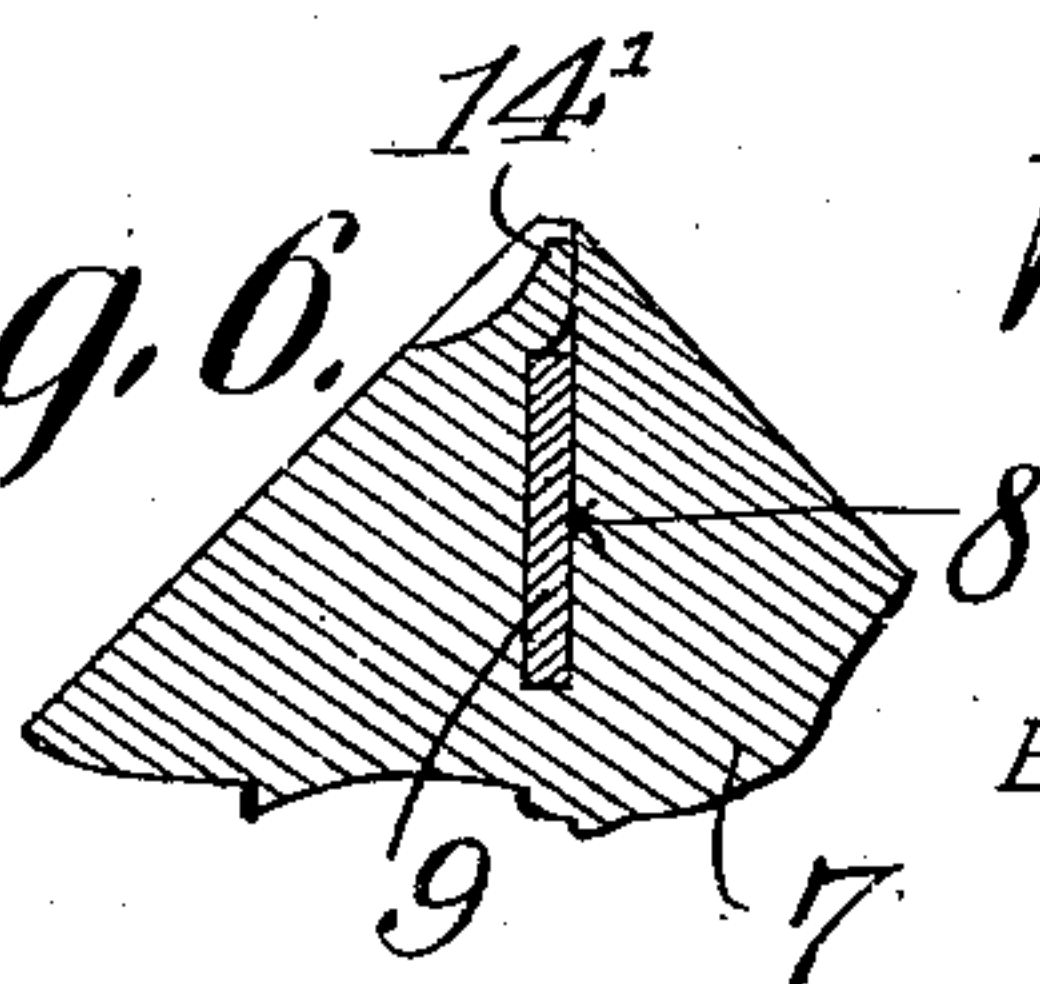


WITNESSES:

*E. J. Stewart*

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*Fig. 6.*



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INVENTOR.

By

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# UNITED STATES PATENT OFFICE.

WILLIAM GMEINER, OF PITTSBURG, KANSAS, ASSIGNOR OF ONE-FOURTH TO JOHN A. CAMERON AND ONE-FOURTH TO ALPHONSON J. GMEINER, OF PITTSBURG, KANSAS.

## NUT-LOCK.

No. 842,647.

Specification of Letters Patent.

Patented Jan. 29, 1907.

Application filed October 29, 1906. Serial No. 341,160.

*To all whom it may concern:*

Be it known that I, WILLIAM GMEINER, a citizen of the United States, residing at Pittsburg, in the county of Crawford and State of Kansas, have invented a new and useful Nut-Lock, of which the following is a specification.

This invention relates to nut-locks, and has for its object to provide a comparatively simple and inexpensive device of this character by means of which the nut may be effectually locked against accidental displacement.

A further object of the invention is to provide a nut having a kerf or recess intersecting two of its side walls for the reception of one end of a spring locking-pawl, the opposite end of said pawl being adapted to engage a longitudinal groove formed in the bolt, thereby to prevent rotation of the nut on said bolt.

A further object is to provide the fixed end of the pawl with spaced notches or recesses, whereby the metal forming the walls of the nut may be pressed or forced inwardly against the notches, so as to retain the pawl in position on the nut without the employment of screws, rivets, or similar fastening devices.

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

With these and other objects in view the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, and illustrated in the accompanying drawings, 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.

In the accompanying drawings, forming a part of this specification, Figure 1 is a perspective view of a nut-lock constructed in accordance with my invention. Fig. 2 is a top plan view of the same. Fig. 3 is a transverse sectional view showing the pawl seated in the kerf of the nut preparatory to pressing the metal in the notches. Fig. 4 is a similar view showing the metal seated in the notches. Fig. 5 is a perspective view of the pawl detached. Fig. 6 is a transverse sectional view illustrating a modified form of the invention.

Similar numerals of reference indicate corresponding parts in all of the figures of the drawings.

The improved locking means may be employed on the bolts used in railroad construction, bridge structures, and the like and by way of illustration is shown applied to a bolt of the ordinary construction, in which 5 designates the bolt provided with the usual threads 6 for the reception of the nut 7. The nut 7, which may be of any desired shape or configuration, is preferably rectangular in form and provided with a vertical kerf or recess 8, preferably formed at the intersection or juncture of two of its side walls, as best illustrated in Figs. 1 and 3 of the drawings.

Seated in the kerf or recess 8 is one arm 9 of a locking-pawl, the opposite arm 10 of which projects above the upper surface of the nut and is provided with a terminal lip 11 for engagement with a longitudinal locking-groove 12, formed in the bolt 5.

The arm 9 of the pawl is provided at one longitudinal edge thereof with spaced V-shaped notches or recesses 13, adapted to receive the metal forming the side walls of the nut, said metal being pressed inwardly with a chisel or other suitable tool into engagement with the walls of the recesses 13, thus forming locking-lugs 14 and securely retaining the pawl in position on the nut without the employment of screws, rivets, and similar fastening devices.

In assembling the parts comprising the nut-lock the arm 9 of the pawl is introduced into the kerf or recess 8, after which the metal forming the side walls of the nut is forced inwardly from opposite directions with a suitable tool into engagement with the recesses 13. The nut is then adjusted longitudinally on the bolt into engagement with the object to be clamped, and in which position the terminal lip 11 of the pawl will enter the longitudinal groove 12, and thus effectually prevent accidental rotation of the nut.

In order to remove the nut, it is merely necessary to introduce a knife or similar tool beneath the lip of the pawl, so as to disengage the lip from the groove 12, when the nut may be removed from the bolt in the usual manner. The bolt 5 may be formed with any number of locking-grooves 12, and the pawl instead of being positioned at the juncture of the side walls of the nut may be ar-



ranged intermediate their ends, the result accomplished being the same in both cases.

In Fig. 6 of the drawings there is illustrated a modified form of the invention in which the metal 14', forming one wall of the nut, is pressed laterally through the notches or recesses 13 into engagement with the adjacent wall of the kerf 8 instead of being forced inwardly from opposite sides of the pawl.

From the foregoing description it will be seen that there is provided an extremely simple, inexpensive, and efficient device admirably adapted for the attainment of the ends in view.

Having thus described the invention, what is claimed is—

1. The combination with a bolt having a longitudinal groove formed therein, of a nut having a kerf disposed at the intersection of two of its side walls, and a pawl having angularly-disposed arms one of which is seated in the kerf and provided at one longitudinal edge thereof with spaced recesses and the opposite arm provided with a terminal laterally-extending lip adapted to enter the groove in the bolt, the metal forming the walls of the nut being pressed laterally into engagement with the recesses in the pawl.

2. The combination with a bolt having a longitudinal groove formed therein, of a nut

having a kerf disposed at the intersection of two of its side walls, and a pawl having angularly-disposed arms one of which is seated in said kerf and provided with spaced recesses and the opposite arm provided with a terminal lip adapted to engage the groove in the bolt, the metal forming the walls of the nut being pressed laterally into engagement with the recesses in the pawl.

3. The combination with a bolt provided with a longitudinal groove, of a nut having a kerf formed at the intersection of two of its side walls, and a pawl provided with integral angularly-disposed arms one of which is seated in the kerf and provided with a plurality of spaced V-shaped recesses, the opposite arm being extended above and parallel with the upper surface of the nut and provided with a terminal laterally-extending lip for engagement with the groove in the bolt, the metal forming the walls of the nut being pressed laterally into engagement with the recesses in the pawl.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM GMEINER.

Witnesses:

A. J. CURRAN,

T. W. COGSWELL.