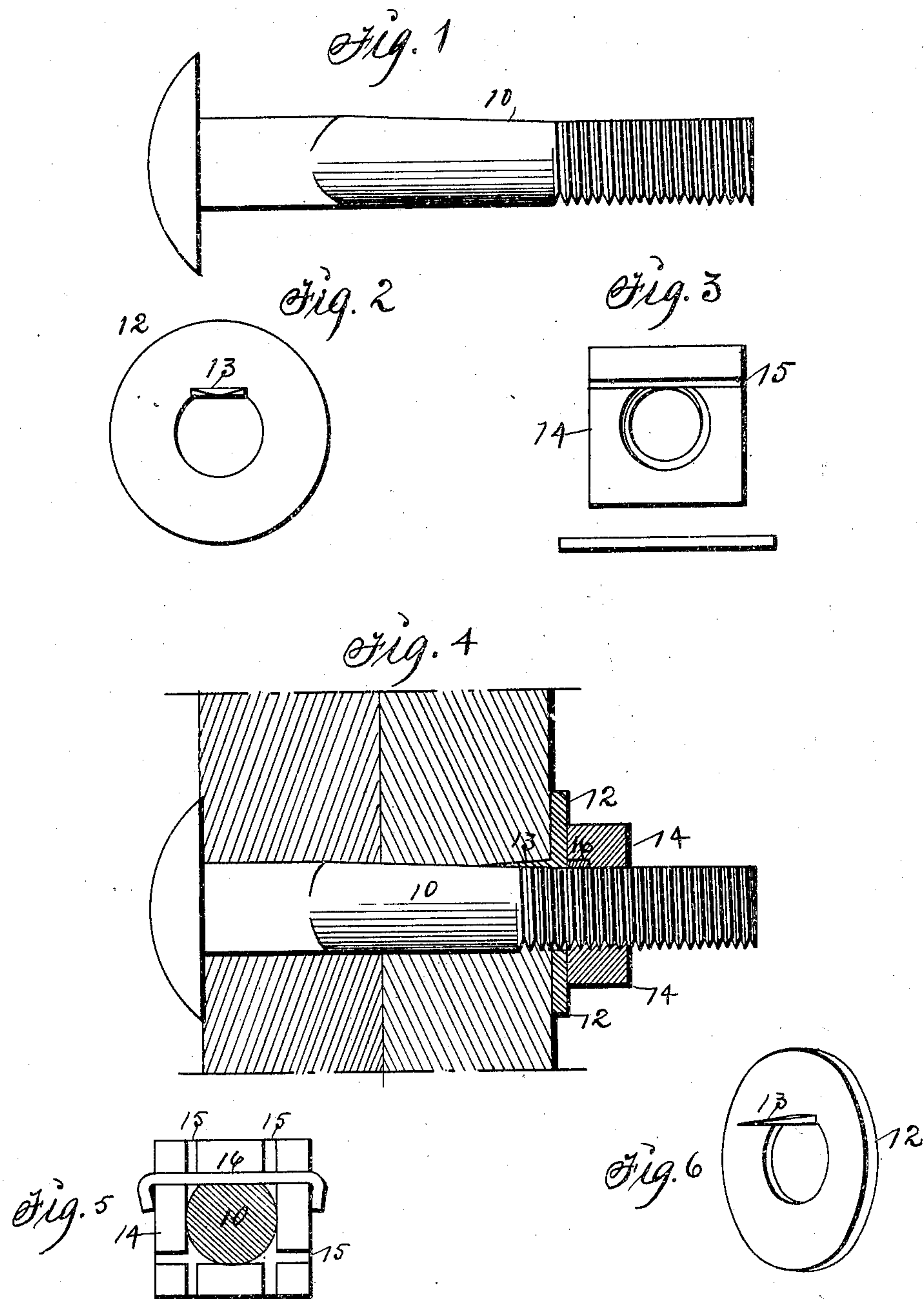


No. 793,737.

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E. PACKER.  
NUT LOCK AND BOLT LOCK COMBINED.  
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Witnesses:  
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# UNITED STATES PATENT OFFICE.

ELI PACKER, OF DES MOINES, IOWA.

## NUT-LOCK AND BOLT-LOCK COMBINED.

SPECIFICATION forming part of Letters Patent No. 793,737, dated July 4, 1905.

Application filed February 23, 1904. Serial No. 194,975.

*To all whom it may concern:*

Be it known that I, ELI PACKER, a citizen of the United States, residing at Des Moines, in the county of Polk and State of Iowa, have  
 5 invented a new and useful Nut and Bolt Lock Combined, of which the following is a specification.

My object is to prevent the dangers, accidents, and damages to machinery incident to  
 10 nuts and bolts becoming loose; and my invention consists in the construction, arrangement, and combination of a bolt, a nut, a washer, and a key to produce a combined nut and bolt lock, as hereinafter set forth, pointed out in  
 15 my claims, and illustrated in the accompanying drawings, in which—

Figure 1 shows a bolt and its screw-threaded end and part of its round central portion cut  
 20 away to produce a flat surface and plane extending from near its head and over the screw-threaded portion. Fig. 2 shows a washer provided with an integral flat wedge extended at right angles and adapted to slide on the flat surface of the bolt. Fig. 3 shows the inside  
 25 flat face of a nut provided with a spline adapted for seating a key in such a manner that the key will engage the flat surface of the bolt to slide thereon whenever the nut is moved on the bolt. Fig. 4 is a view, partly in section,  
 30 that shows all the parts combined as required for practical use. Fig. 5 shows the inside face of the nut provided with a plurality of transverse grooves or splines for the admission of a key, so that by turning the nut a  
 35 quarter of a revolution one of the grooves will be brought into alinement with the flat surface of the bolt, as required to allow a key to be passed through the groove to lock all the parts together. Fig. 6 is a perspective  
 40 view of the washer and its integral wedge that projects at right angles and is adapted to engage and slide upon the flat surface of the bolt to aid in preventing the bolt from rotating.

45 The numeral 10 designates a screw-bolt that may vary in size as desired. It is provided with a flat surface by cutting away or by pressure from its periphery the screw-threads and also a part of its round and central portion to produce a flat plane upon which a

washer having a right-angled projection to engage the flat surface can slide but not rotate. The washer 12 has an integral extension 13 projecting at right angles from its inner edge and is pointed and sharpened and  
 55 flat on its inner side and tapering on its outside and adapted to slide on the flat surface of the bolt and to penetrate wood or metal, through which the bolt may be extended, and its function is to aid in preventing the bolt  
 60 from turning where a nut is drawn on the end of the bolt by power applied to the nut, as required, to force the nut to its limit on the bolt. The nut 14 is provided with one or  
 65 more transverse grooves 15 to serve as splines in which to seat a key.

In practical use when a bolt is extended through overlying parts that are to be clamped together the washer 12 is placed on the bolt in  
 70 such a manner that the flat under surface of the wedge 13 will rest and slide on the flat surface of the bolt. The nut 14 is then placed on the screw on the end of the bolt and advanced thereon by means of a wrench as required to  
 75 force the wedge 13 into the space between the flat surface of the screw and the bore in the material through which the bolt is extended and to wedge fast therein, and when the nut  
 80 is driven to its limit and one of the splines 15 is in alinement with the flat surface of the bolt a key 16 is extended through the spline and its end bent at right angles as required  
 85 to securely lock all the parts together, so that neither bolt, washer, or nut can turn relative to each other, because the washer and the nut  
 90 are jointly locked on the bolt by means of the flat surface of the bolt to which they are fixed. It is obvious a spring-key may be used in place of a solid key, as shown. It is also obvious  
 95 that by means of the flat face on a bolt and the washer having a flat-faced right-angled projection, as shown, the bolt will be locked, so that it cannot rotate when a screw is forced on or off the end portion of the bolt, and that  
 100 this feature of the invention is greatly advantageous regardless as to what kind of a nut is used on the bolt.

Having thus set forth the purpose of my invention and the construction, arrangement, and combination of all the parts, the practical

operation and utility thereof will be readily understood by mechanics and others familiar with the art to which it pertains.

What I claim as new, and desire to secure  
5 by Letters Patent, is—

1. In a bolt and nut lock, the combination  
of a washer having a central circular aperture  
and an integral right-angled projection at its  
inner edge, flat on its inside and tapering on  
10 its outside and adapted to engage a flat sur-  
face on a bolt and an object through which the  
bolt is extended and a bolt having a flat sur-  
face, for the purpose of preventing the bolt  
from turning when extended through a bore.

15 2. In a bolt and nut lock, the combination  
of a bolt having a flat surface extended from  
near its head and over the screw-threaded sur-  
face to its end and a washer having an inte-

gral wedge slidably connected with the said  
flat surface of the bolt, a nut on the bolt and 20  
means to lock the nut on the bolt, for the pur-  
poses stated.

3. A bolt and nut lock comprising a bolt  
having a flat surface extended over the screw  
and plain surface, a washer having an inte- 25  
gral flat-faced wedge extending at right an-  
gles from the inner edge, a nut having a spline  
across its inside face and a key seated in said  
spline in the nut to engage the flat surface of  
the bolt, arranged and combined to operate in 30  
the manner set forth for the purposes stated.

ELI PACKER.

Witnesses:

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