

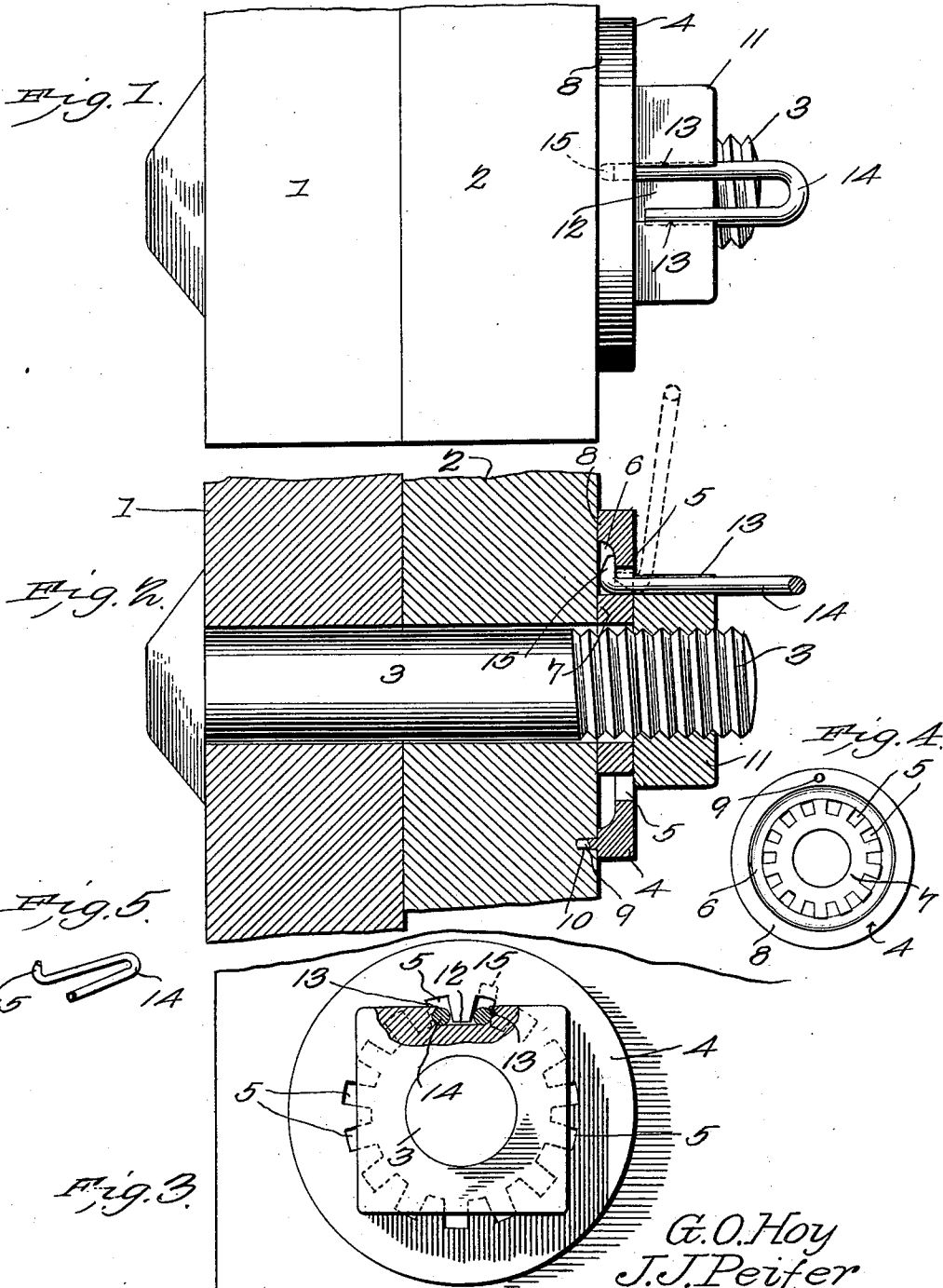
No. 698,837.

Patented Apr. 29, 1902.

G. O. HOY & J. J. PEIFER.
NUT LOCK.

(Application filed Jan. 15, 1902.)

(No Model.)



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UNITED STATES PATENT OFFICE.

GEORGE O. HOY AND JOHN J. PEIFER, OF SHAMOKIN, PENNSYLVANIA.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 698,837, dated April 29, 1902.

Application filed January 15, 1902. Serial No. 89,914. (No model.)

To all whom it may concern:

Be it known that we, GEORGE O. HOY and JOHN J. PEIFER, citizens of the United States, residing at Shamokin, in the county of North-
5umberland and State of Pennsylvania, have invented a new and useful Nut-Lock, of which the following is a specification.

This invention relates to nut-locks.

The object of the invention is to present a
10 nut-lock which will in a simple, practical, and thoroughly efficient manner lock the nut on the bolt against working loose, as from vibrations incident to the passage of trains over the rails employing the same or in any other
15 position where it may be employed.

A further object is to present a nut-lock in which the releasing of the nut may be effected without the necessity of the employment of a particular tool for the purpose.

20 A further object is to present a nut-lock which will require no change in the structural arrangement of the bolt and none in the nut other than the provision of a recess or notch to be engaged by the locking device.

25 A further object is to present a nut-lock which shall be thoroughly effective in holding the nut from disconnection from the bolt, even if only loosely turned thereon.

With these and other objects in view, as
30 will appear as the nature of the invention is better understood, the same consists in the novel construction and combination of parts of a nut-lock, as will be hereinafter fully described and claimed.

35 In the accompanying drawings, forming a part of this specification, and in which like numerals of reference indicate corresponding parts, there is illustrated a form of embodiment of the invention capable of carrying the
40 same into practical operation, it being understood that the elements therein exhibited may be varied or changed as to shape, proportion, and exact manner of assemblage without departing from the spirit of the invention, and
45 in these drawings—

50 Figure 1 is a view in side elevation, showing a nut-lock applied to position for use. Fig. 2 is a view in sectional elevation. Fig. 3 is a view in front elevation, partly in section. Fig. 4 is a detached detail view in elevation of the washer or disk with which the locking

device engages. Fig. 5 is a perspective detail view of the locking device.

Referring to the drawings, 1 designates the web of a rail, and 2 the fish-plate, through
55 which is passed the usual bolt 3. While the device is herein shown as applied to a railway-rail joint, it is to be understood that it is equally adapted for use in other positions, and as this will be readily understood detailed illustration of adaptation to other elements to be held assembled is deemed unnecessary.

The nut-lock comprises, essentially, a disk or washer 4, adapted, as usual, to fit over the
65 threaded end of the bolt and to bear against the fish-plate, the said disk being provided with a plurality of radially-disposed slots or openings 5, arranged equidistant from the wall of the bolt-opening, and in its back with a
70 countersink or chamber 6, into which the said slots open, the chamber 6 being of less width than the disk between the bolt-opening and its periphery, thereby to present solid bearing-surfaces 7 and 8 to rest against the fish-
75 plate, as clearly shown in Fig. 2. The back of the washer is provided near its periphery with a pin or projection 9, extending at right angles to the said back and adapted to engage an orifice 10 in the outer face of the
80 fish-plate, thereby positively to hold the washer from turning when the nut 11 is being seated. The nut, which may be either rectangular, as shown, or otherwise, is provided on one face with a recess 12, the op-
85 posed walls 13 of which are undercut, preferably in a semicircle, to engage with the sides of the locking device 14, (shown in detail in Fig. 5,) the latter comprising a piece of resilient wire bent to U shape and having
90 one of its legs provided with a toe 15, adapted to be inserted through one of a series of openings 5, thereby to hold the device securely in position and to permit of its being moved to the position shown in dotted lines
95 in Fig. 2 when the nut is to be removed.

In securing a bolt in position with the nut-lock the washer is first passed over the threaded end of the bolt and the projection
100 9 seated in the orifice 10 of the fish-plate, and the nut is then turned to its seat, care being taken to see that two of the openings

5 appear within the recess 12 of the nut, this being readily accomplished by reason of the fact that the said openings are so closely disposed as that a very slight turn of the nut
 5 will bring two of them into line with the said recess. The toe 15 of the locking device is now inserted through one of the openings in the washer, and the device is then bodily
 10 opposed terminals of the walls of the recess, and in passing these terminals the said arms are temporarily compressed; but as soon as clear of them the arms will spring laterally, and thus be securely locked in place, the toe
 15 15 operating in a positive manner to prevent withdrawal of the locking device by a straight pull or of the same working loose. When the locking device is to be released for the purpose of removing the nut, it may be
 20 moved out of engagement with the walls of the recess thereof by a blow from a hammer from beneath or by the employment of a lever or prize for the purpose.

As the association of the locking device
 25 with the nut is a positive one, it will be seen that the latter will be thoroughly effective for holding the nut against accidental separation from the bolt, even if it be but loosely seated thereon, and this will be found of advantage in certain kinds of machinery where
 30 in the bolt is allowed to have more or less play to obviate binding.

From the foregoing description it will be seen that while the nut-lock of this invention
 35 is exceedingly simple of construction it will be thoroughly efficient and durable in use and may be readily positioned in place merely by providing one of the members to be clamped—say a fish-plate—with the orifice 10
 40 and the nut with the recess 12.

Having thus fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. A nut-lock comprising a washer, a nut
 45 provided with a recess having overhanging

walls, and a locking device associated with the washer and having spring-arms adapted to engage the said walls.

2. A nut-lock comprising a washer provided with a plurality of openings, a nut provided
 50 with a recess having overhanging walls, and a locking device having a part to interlock with the openings of the washer and with resilient members to engage the said recess.

3. A nut-lock comprising a washer provided
 55 with a plurality of openings communicating with a circumferentially-arranged channel in the back thereof, a nut provided with a recess having overhanging walls, and a two-membered locking device adapted to engage
 60 with the said walls, one of the said members being provided with a toe to interlock with one of the openings in the washer and to project within the said channel.

4. A nut-lock comprising a washer provided
 65 with means for holding it against rotation and with a plurality of radially-disposed slots, a nut provided in one of its faces with a recess having overhanging walls, and a locking
 70 device having a toe to project within one of the openings and resilient locking members to engage the said walls.

5. A nut-lock comprising a washer provided with means for holding it against rotation
 75 and with a plurality of radially-disposed openings communicating with a circumferentially-arranged channel in its back, a nut provided in one of its faces with a recess having overhanging walls, and a locking device
 80 having a toe to project through one of the openings and to lie in the channel and resilient arms to engage the walls of the said recess.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

GEORGE O. HOY.
 JOHN J. PEIFER.

Witnesses:

W. A. COULSTON,
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