

(No Model.)

J. W. WATSON & R. F. RANDOLPH.
NUT LOCK.

No. 459,801.

Patented Sept. 22, 1891.

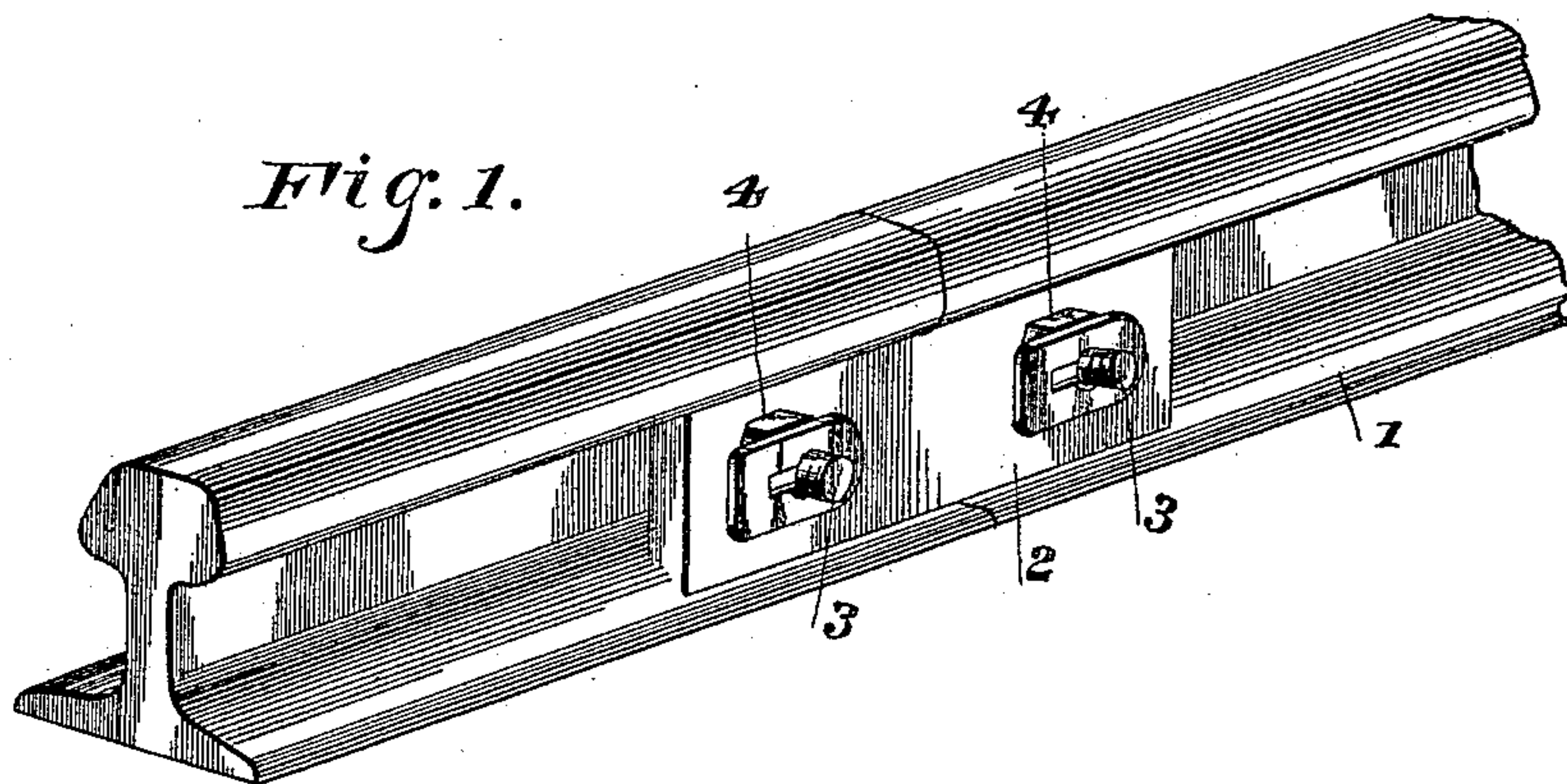


Fig. 2.

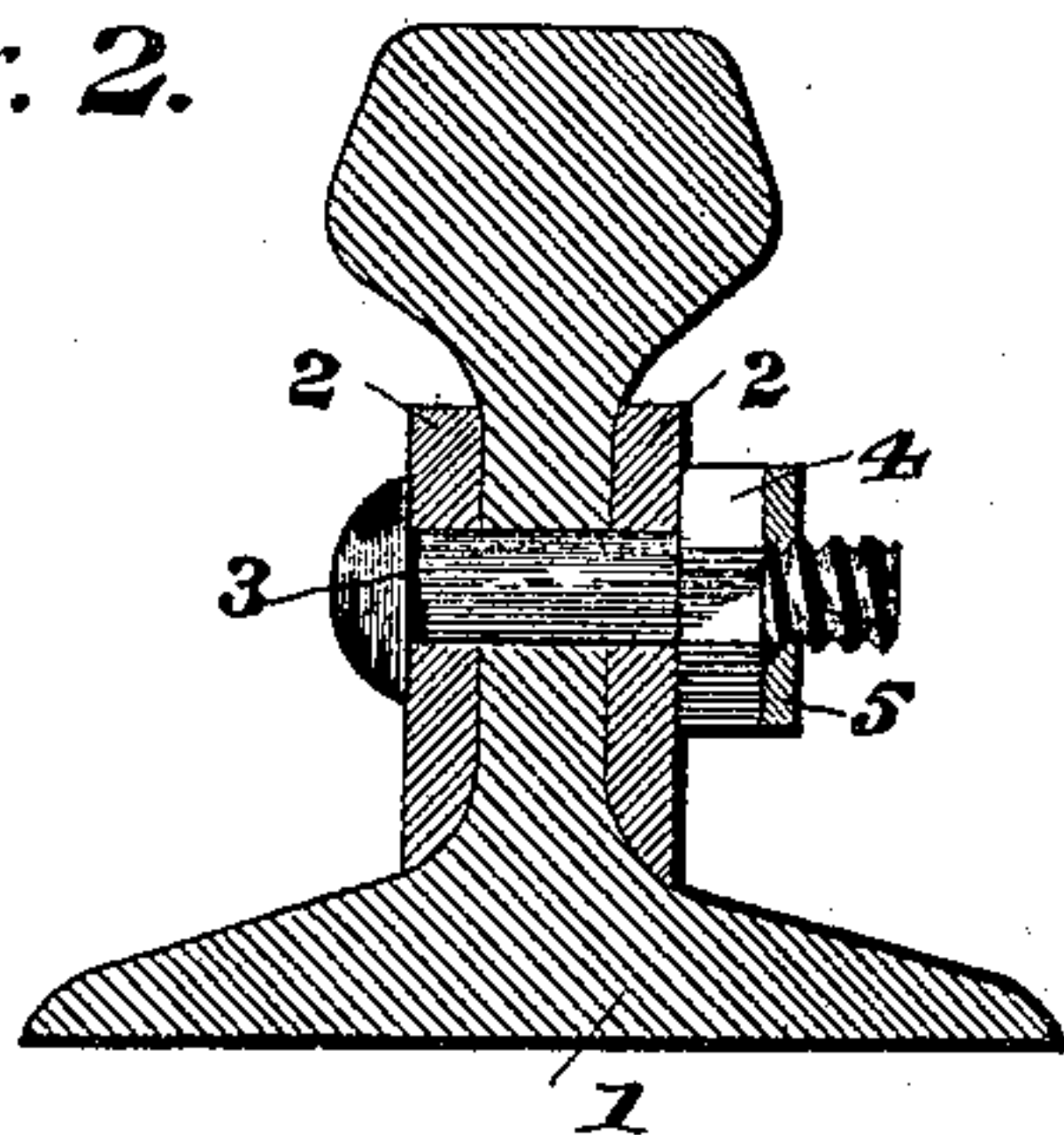


Fig. 3.

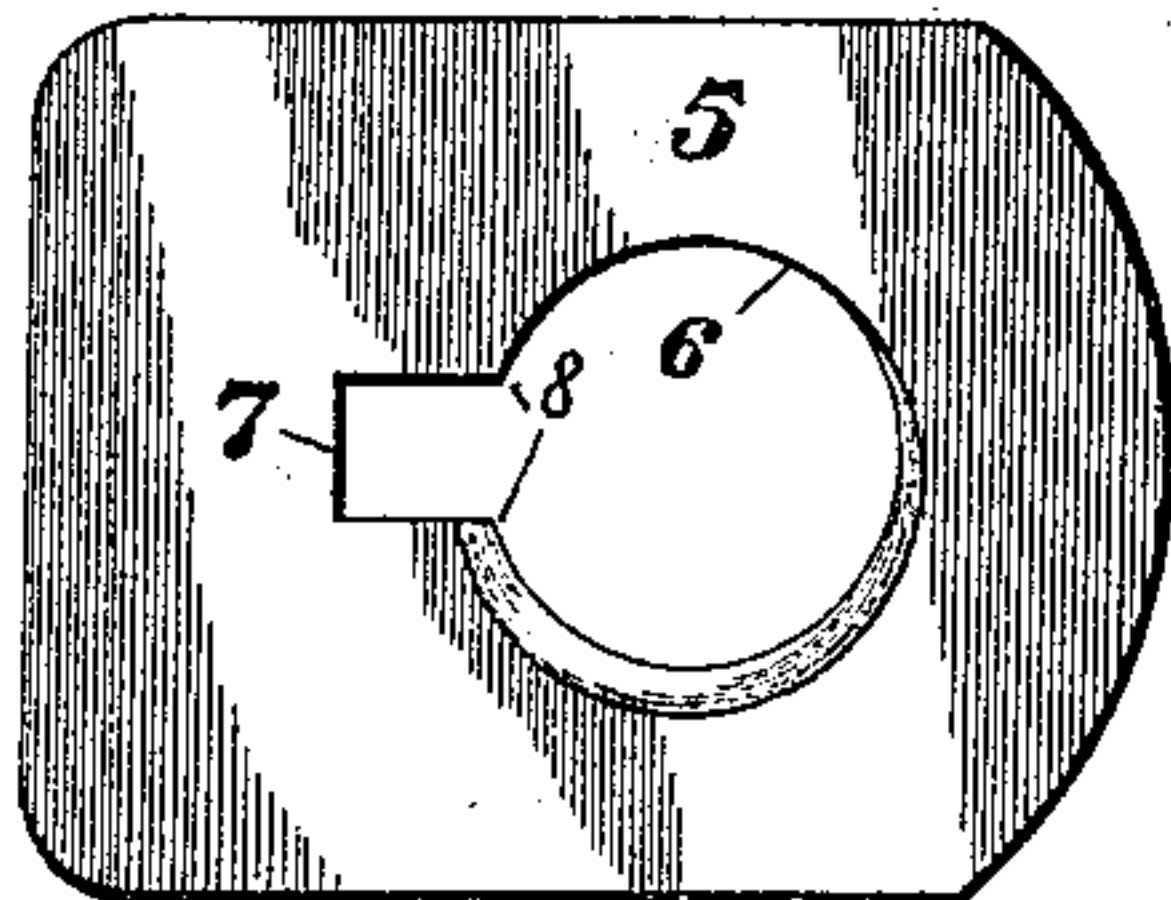
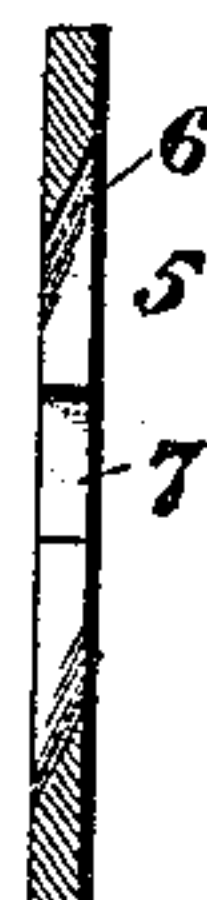


Fig. 4.



Witnesses:

D. S. Ober,
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By their Attorneys,

Inventors
James W. Watson &
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UNITED STATES PATENT OFFICE.

JAMES W. WATSON AND RICHARD F. RANDOLPH, OF ACHOR, OHIO.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 459,801, dated September 22, 1891.

Application filed November 21, 1890. Serial No. 372,205. (No model.)

To all whom it may concern:

Be it known that we, JAMES W. WATSON and RICHARD F. RANDOLPH, citizens of the United States, residing at Achor, in the county of Columbiana and State of Ohio, have invented a new and useful Nut-Lock, of which the following is a specification.

This invention has relation to nut-locks; and the objects in view are to provide a lock adapted to be applied to the ordinary bolts and nuts of to-day and which is designed to efficiently prevent any accidental removal of the nut from the bolt, which shall be easily applicable, and is safe and easily manufactured.

Further objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the claim.

Referring to the drawings, Figure 1 is a perspective of a portion of a railway-joint the nuts of which are locked in position in accordance with our invention. Fig. 2 is a vertical longitudinal section of the same. Fig. 3 is a detail in plan of the locking-plate. Fig. 4 is a vertical longitudinal section.

Like numerals of reference indicate like parts in all the figures of the drawings.

The rail, fish-plates, bolts, and nuts are of the usual construction, said bolts being passed through the usual openings in the fish-plate and rails.

1 designates the rails, 2 the fish-plates, 3 the bolts, and 4 the nuts.

5 designates an oblong sheet-metal plate of about the same thickness as the thread upon the bolt. The plate is provided above its center with a circular opening 6, adapted to fit the bolt, and by reason of the location of the opening the major portion of the weight of the plate is below the bolt. The lower side of the opening 6 is extended by a small opening or break 7, and the inner edge of the opening 6 is provided with a screw-thread.

In operation the nut is applied in the usual manner, after which the lock-plate 5 has its opening 6 inserted over the end of the bolt and is revolved upon the bolt until drawn snugly by the threads of the latter against the outer face of the nut, whereby the locking of the nut upon the bolt is completed. By reason of the plate being longer upon one

side the same is prevented from turning accidentally. It is also adapted to receive an ordinary wrench. In forming the thread upon the opening 6, by reason of the thinness of the metal, but a single thread can be formed, and therefore one-half of the edge of the opening will be beveled upon one side, while the remaining half will be beveled upon the opposite side. By reason of the notch a break is formed in the thread, which break or notch is highly essential, as said break prevents the plate from retrograde movement, and said notch also engages the nut at its inner edge. The break or notch extends some distance to one side of the edge of the opening 6, and it forms opposite angular shoulders 8 at the points its edges meet the edge of the opening. When the locking-plate is forced down against the face of the nut, the angular shoulders are in a manner forced into the same. Each of the shoulders may be forced into contact, which is permitted by reason of the notch or break allowing the locking-plate to be sprung, so that the two sharp edges of the thread, although formed upon opposite faces of the locking-plate, may be brought practically into alignment. By experience I have found that from two to five nuts may be put on a bolt, and by unscrewing or loosening the first nut the remaining nuts will work off the same as if they were one continuous threaded sleeve. Furthermore, I find that where the thread in the nut is complete or where there is an unbroken thread extending around the bolt either one or more times it (the bolt) will turn with any object coming against and adapted to move it. In the plate here shown the thread does not extend the entire distance around, and in order not to extend the thread entirely around it is mainly for this purpose that the break is formed.

It will be understood that the locking-plate may be of any desired shape, the oblong plate herein shown being but one of the many shapes especially designed for locking the nuts of bolts in railroad-joints.

Having described our invention, what we claim is—

The combination, with a bolt and its nut, of the herein-described locking device for the nut, the same consisting of a flat plate formed of sheet metal of a thickness agreeing with

that of the thread of the bolt and having an opening fitting and receiving the bolt, said opening being notched at a point along its edge and provided with a spiral thread engaging that of the bolt, which by reason of the thread and thickness of the plate agreeing forms opposite beveled edges at diametrically-opposite sides of the opening, substantially as specified.

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

JAMES W. WATSON.
RICHARD F. RANDOLPH.

Witnesses:

JONATHAN F. RANDOLPH,
LOUIS S. F. RANDOLPH.