

E. C. MANGIN.
NUT LOCK.

APPLICATION FILED MAY 9, 1908.

920,359.

Patented May 4, 1909.

Fig. 1.

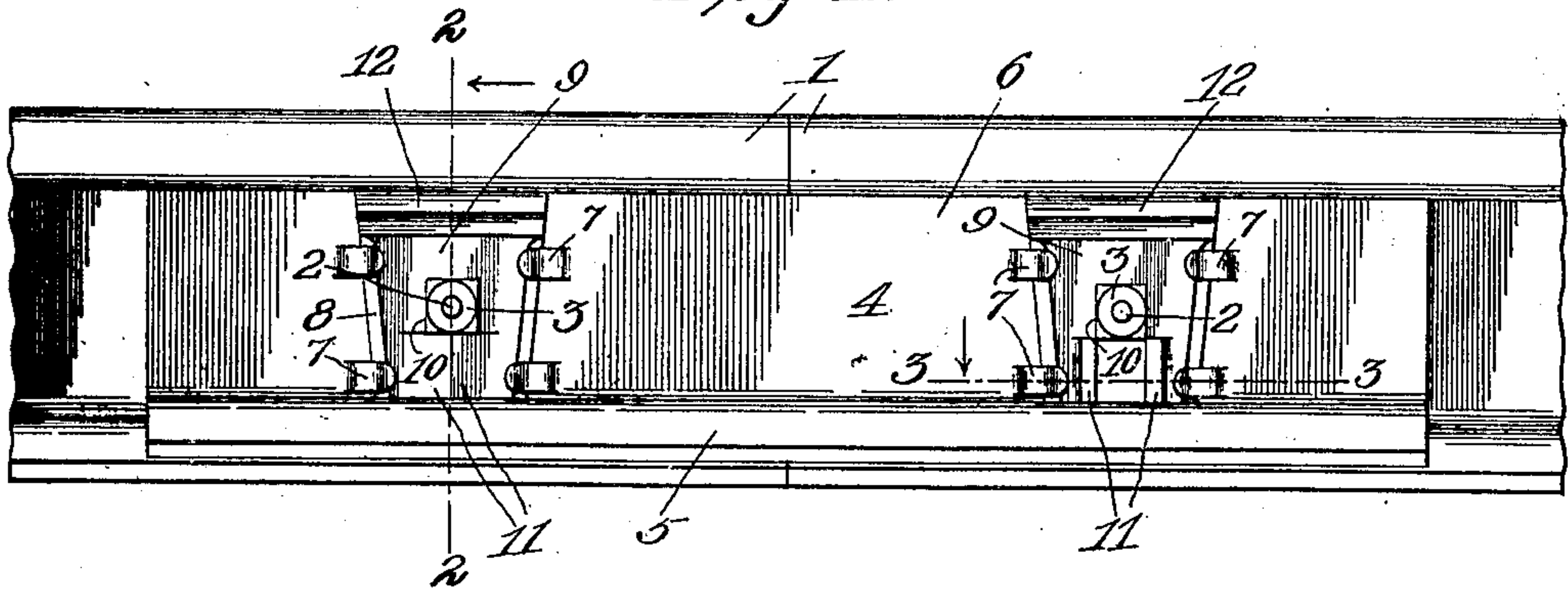


Fig. 2.

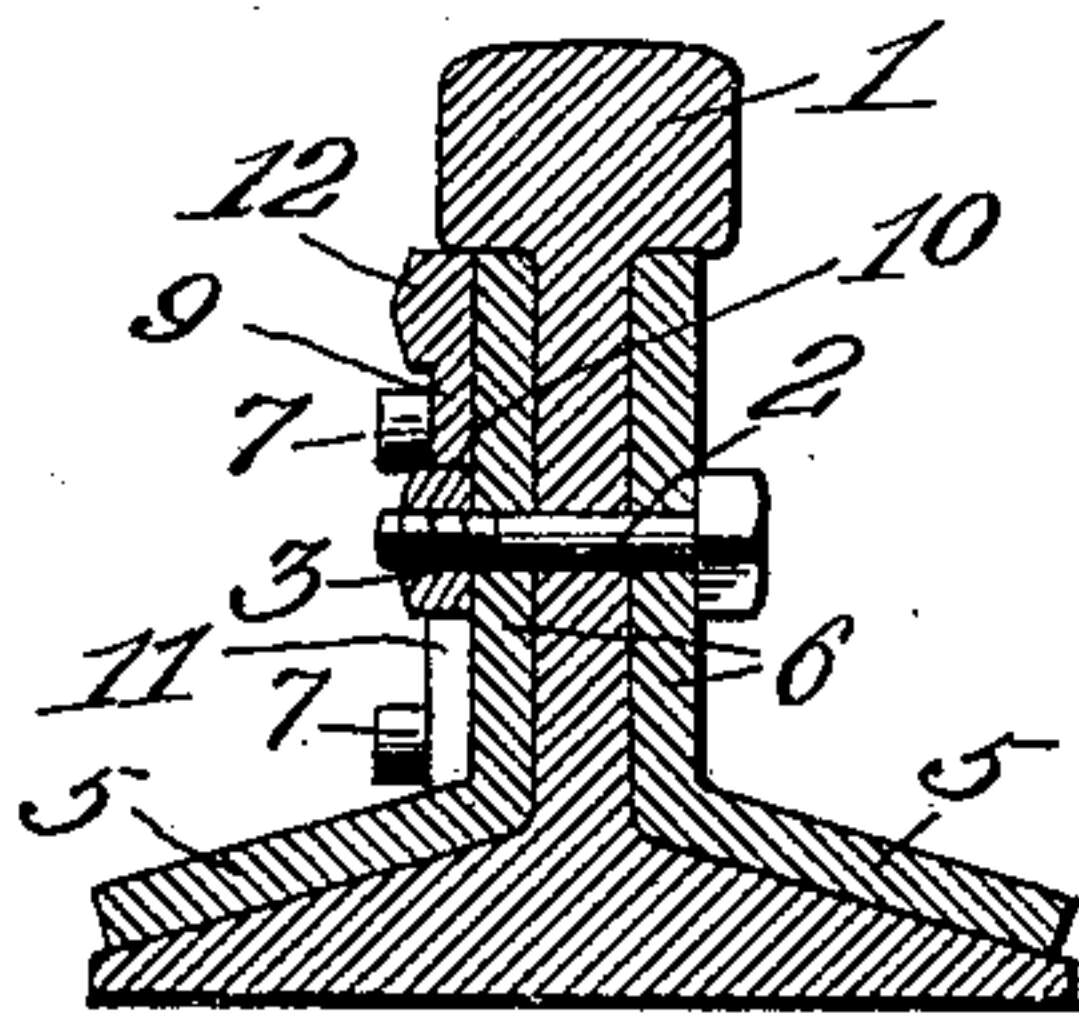


Fig. 3.

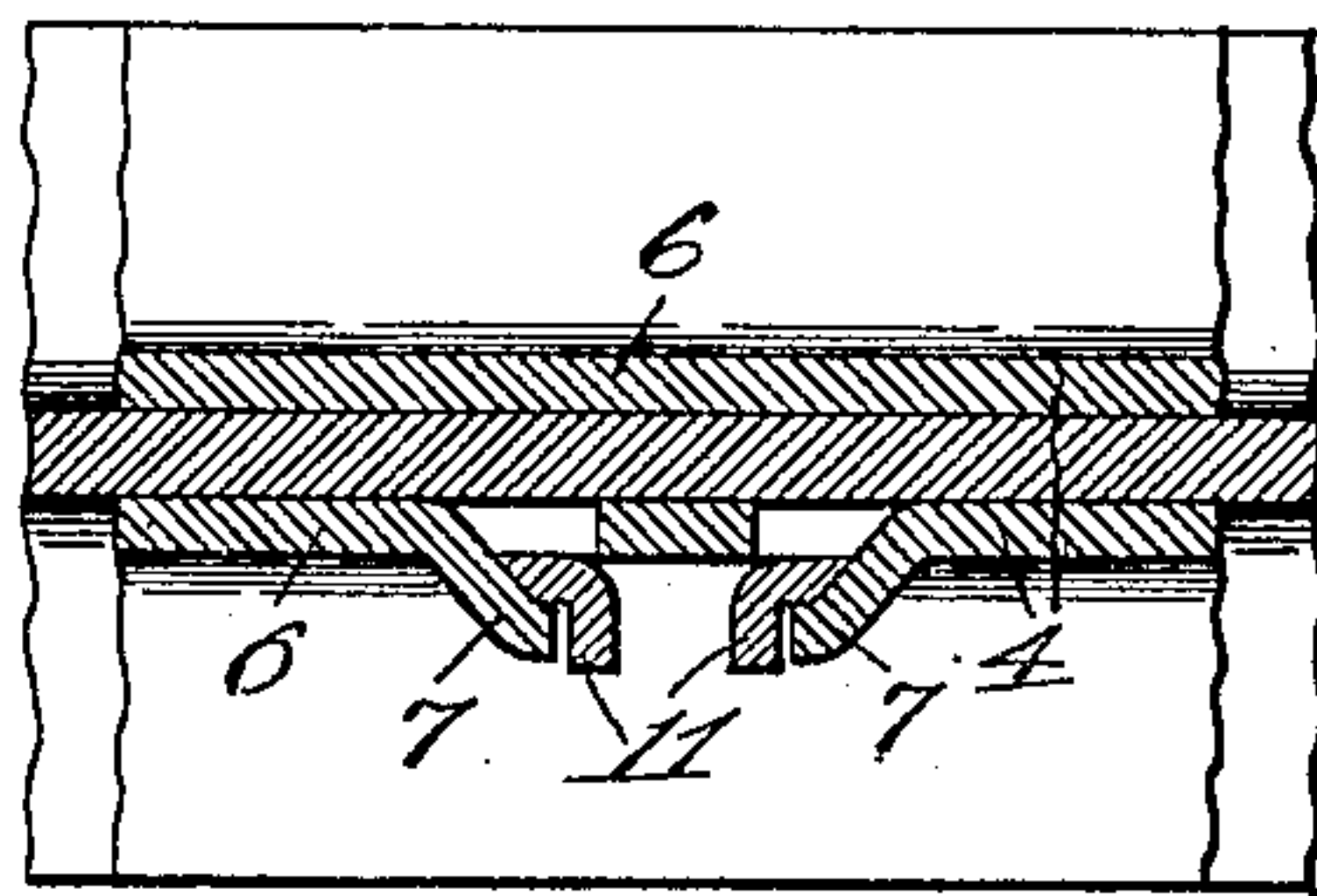
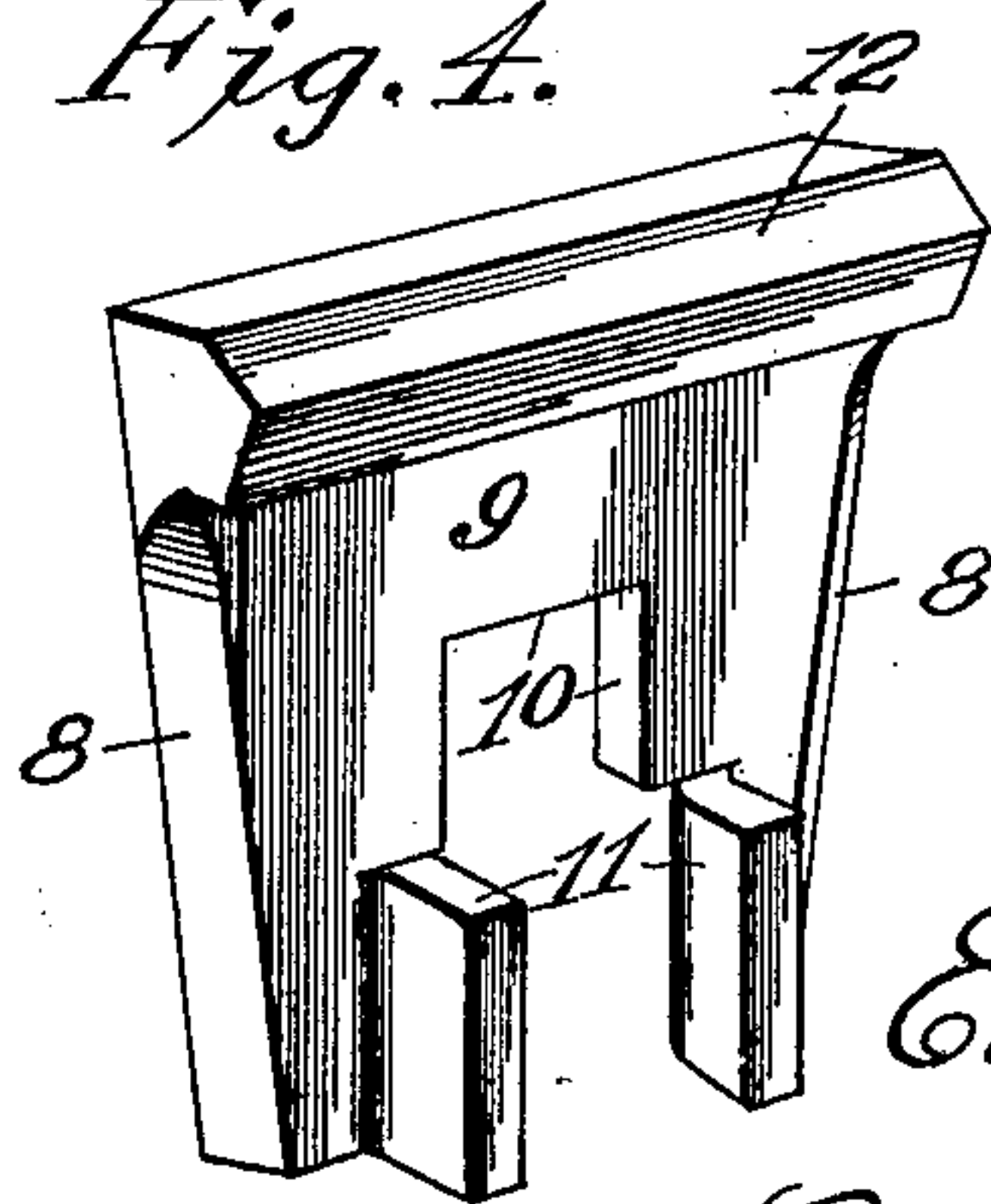


Fig. 4.



Witnesses

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NUT-LOCK.

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To all whom it may concern:

Be it known that I, EDWARD C. MANGIN, a citizen of the United States, residing at Colorado Springs, in the county of El Paso and State of Colorado, have invented certain new and useful Improvements in Nut-Locks, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to improvements in nut locks and consists of the novel features of construction and the combination and arrangement of parts hereinafter fully described and claimed.

The object of the invention is to provide a simple and practical nut locking device which may be quickly and easily applied to the nut to effectively secure it against rotation and which may be as readily removed without injury to it when it is desired to remove the nut from its bolt.

The above and other objects of the invention are attained in its preferred embodiment illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of my improved nut locking device showing it applied to the fish-plate of a rail joint; Figs. 2 and 3 are detail sectional views taken, respectively, on the planes indicated by the lines 2—2 and 3—3 in Fig. 1; and Fig. 4 is a detail view of the locking plate or key.

In the accompanying drawings I have illustrated my invention as applied to a fish-plate and a bolt of a rail joint but it will be understood that it may be used for fastening the nut of a bolt of any description.

In the drawings 1 denotes a track rail, 2 an ordinary bolt, 3 a nut, and 4 a fish-plate or washer plate which, as illustrated, is of angular form having a horizontal portion 5 resting upon the base flange of the rail and a vertical portion 6 engaged with the web of the rail. This vertical portion 6 of the plate 4 has an opening to receive the bolt and on opposite sides of said opening are upper and lower pairs of inwardly projecting lips 7 formed preferably by stamping them out from the plate 4. The lips or projections 7 of the lower pair are disposed closer together than those of the upper pair, and said lips of both pairs are adapted to receive the beveled edges 8 of a wedge-shaped locking plate or key 9. The latter is removably inserted between the lips 7 by forcing it downwardly between them and in its central portion is

formed an opening 10 shaped to receive the nut. Said opening extends to the bottom of the key plate 9 and at its lower portion are integral locking fingers or projections 11 which, when the plate is made, are bent outwardly at right angles to it to permit of the entrance of the nut in the upper portion of said opening 10 and which, after the key plate is in position, are adapted to be bent inwardly beneath the nut to prevent the key plate from working out of its position. Across the top of the key plate is an outwardly projecting rib 12 which may be struck by a hammer or other instrument when inserting the key plate in position or when removing it.

From the foregoing it will be seen that my improved nut lock is exceedingly simple in construction and may therefore be produced at a small cost and will be strong and durable. It is also exceedingly easy to apply and remove and it can be repeatedly applied or removed without injury to it or to the nut.

Having thus described my invention what I claim is:

1. The herein described nut lock comprising in combination with an object, a bolt therein, a nut upon the bolt and a washer plate apertured to receive the bolt, upper and lower pairs of integral inwardly projecting fingers stamped out of the washer-plate, the fingers of the lower pair being closer to each other than those of the upper pair, a wedge-shaped key plate having beveled side edges to engage said fingers, said key plate having in its bottom edge an opening to receive the nut, and flexible locking fingers 11 formed integral with the bottom portion of the key plate and on opposite sides of the nut opening and adapted to be bent inwardly beneath the nut to retain the key plate upon the washer plate and the transversely extending V-shaped rib 12 formed integral with the upper edge of the key plate and extending across the same whereby it may be struck by a hammer when inserting and removing the key plate.

2. In a rail joint, the combination with the meeting ends of two rails having transverse openings, of two angular fish-plates engaged with the web and base portions of the rails and having openings to register with those in the rails, bolts arranged in the registering openings in the rails and fish-plates, nuts upon said bolts, one of said fish-plates being formed with upper and lower pairs of integral

inwardly projecting fingers stamped out of
the plate, the fingers of the lower pairs being
closer to each other than those of the upper
pairs, wedge-shaped key plates having out-
5 wardly beveled side edges to engage said fin-
gers, said key plates having in their bottom
edges openings to receive nuts and flexible
locking fingers formed integral with the bot-
tom portions of the key plates and on oppo-
10 site sides of the nut openings and adapted to
be bent inwardly beneath the nuts to retain

the key plates upon the fish-plate and trans-
versely extending V-shaped ribs formed inte-
gral with the upper edges of the key plates
and extending across the same, substantially 15
as shown and for the purposes specified.

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

EDWARD C. MANGIN.

Witnesses:

I. C. COLLINS,
C. L. NICHOLS.