

(No Model.)

W. S. HARRIS.

NUT LOCK.

No. 350,827.

Patented Oct. 12, 1886.

Fig. 1.

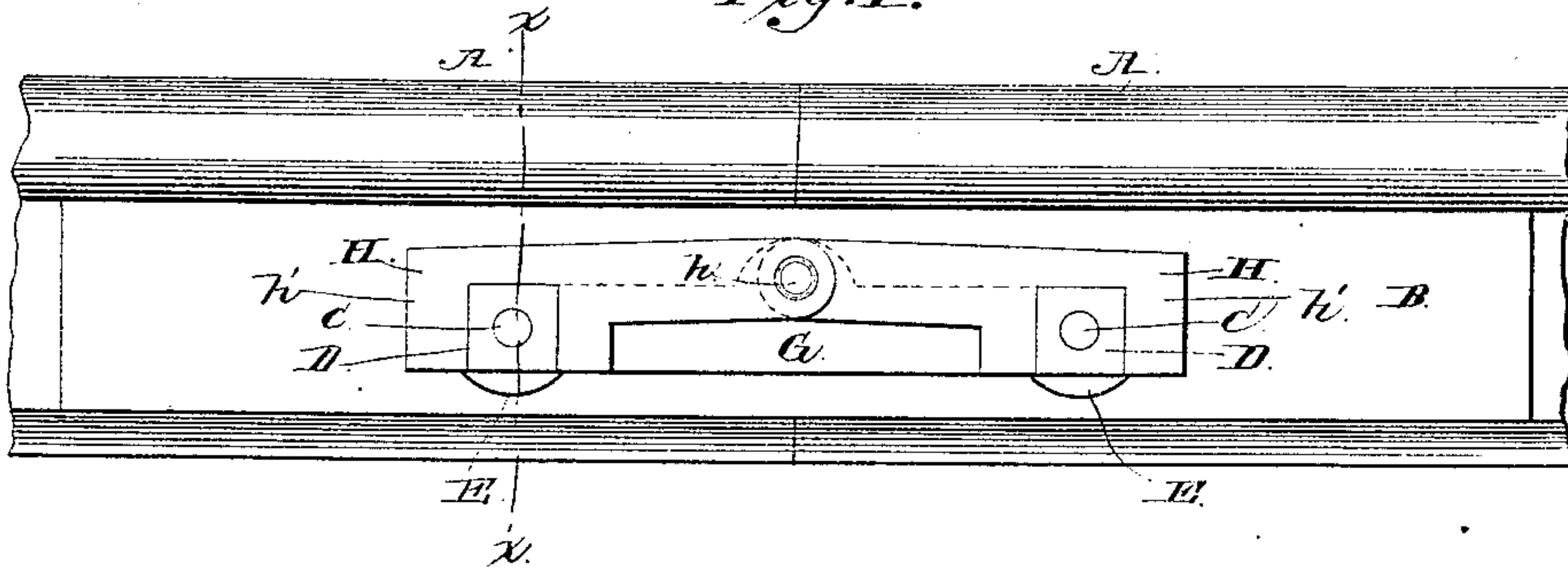


Fig. 2.

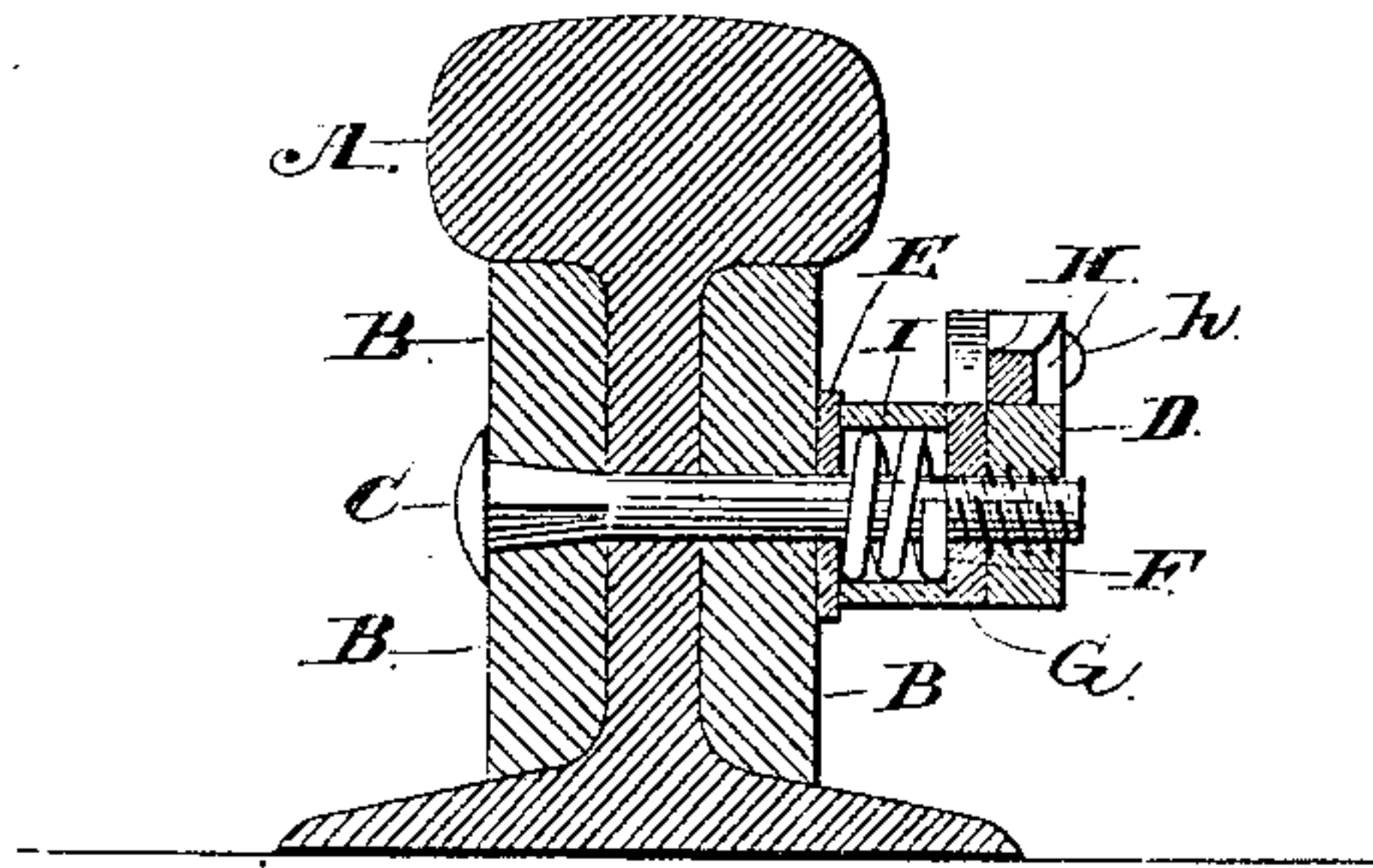


Fig. 3.

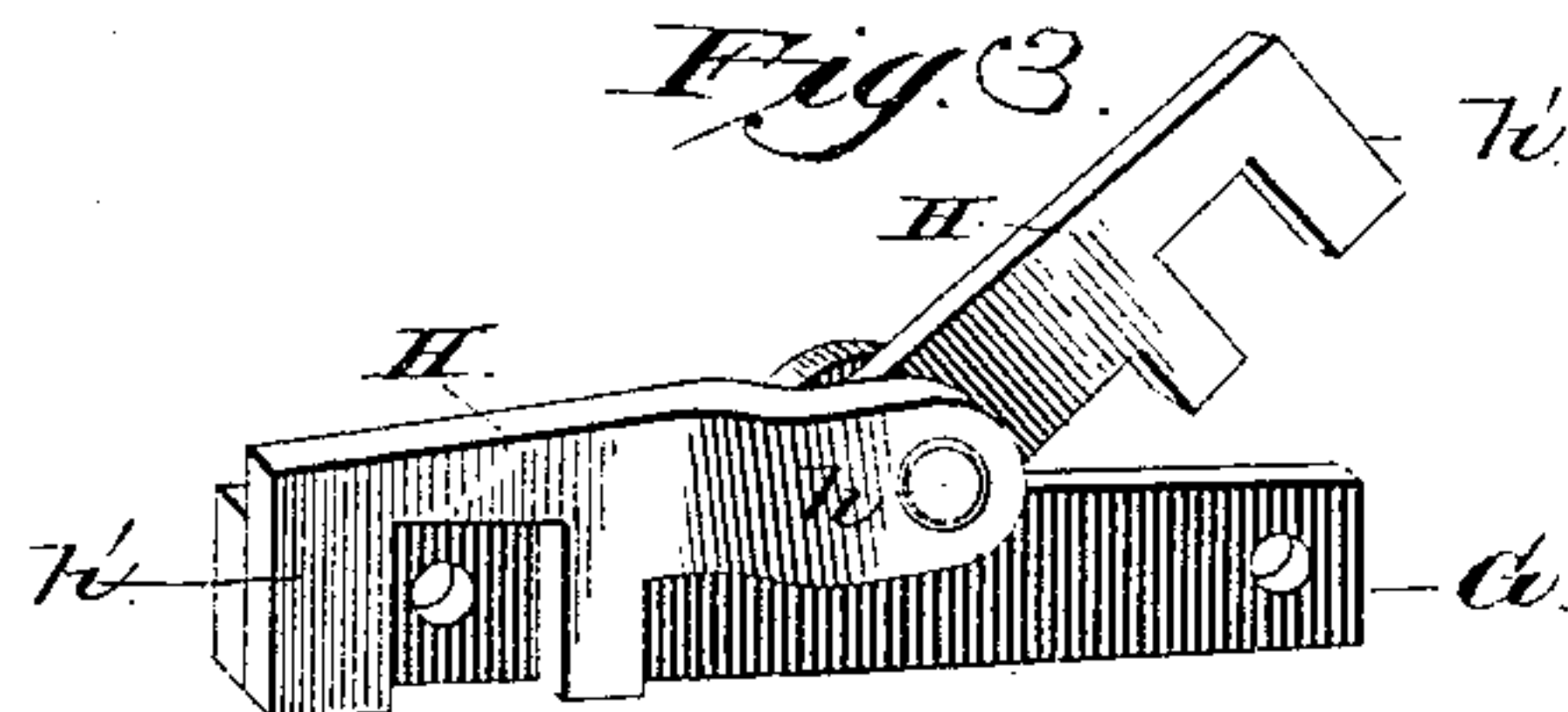
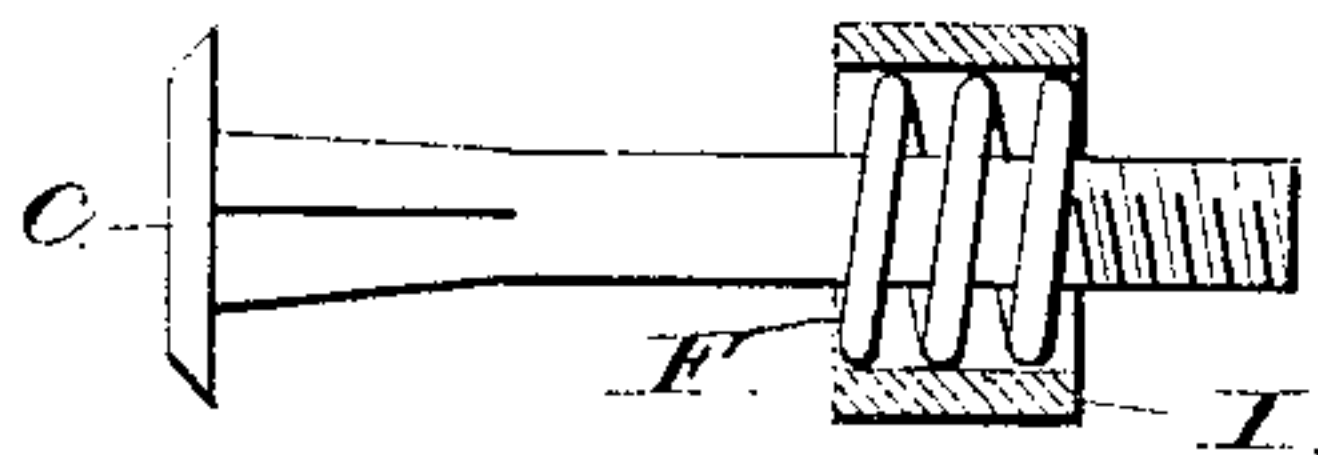


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

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NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 350,827, dated October 12, 1886.

Application filed November 12, 1885. Serial No. 182577. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM SHELTON HARRIS, a citizen of the United States, residing at Arlington, in the county of Ballard and State of Kentucky, have invented a new and useful Improvement in Nut-Locks, of which the following is a specification, reference being had to the accompanying drawings.

My invention has relation to improvements in nut-locks; and it consists in the peculiar construction and combination of parts, substantially as hereinafter fully set forth, and specifically pointed out in the claims.

The primary object of my invention is to provide a nut lock which shall be easily and readily applied to and removed from the securing-bolts, and to provide means whereby a longitudinal strain or pressure is exerted on the bolts to keep them from rattling in their sockets.

A further object of my invention is to provide means whereby each nut can be locked in position independently of the other, thus permitting of the removal of one nut without disturbing the other nut; and it has further for its object to combine simplicity with strength and durability of construction and thorough effectiveness of operation.

In the annexed drawings, Figure 1 is a side elevation of a nut-lock embodying my invention. Fig. 2 is a transverse vertical sectional view on the line $x x$ of Fig. 1. Fig. 3 is a detail perspective view of the supporting-plate, together with the pivoted locking-arms. Fig. 4 is a view of one of the bolts with its attached spring and protecting-sleeve.

Referring to the drawings, in which like letters of reference indicate corresponding parts in all the figures, A designates the rail; B, the fish-plates; C, the bolts passing through the fish-plates and rail, and D the securing-nuts fitted on the outer ends of the bolts.

E designates a washer fitted over each of the bolts and bearing against the outer vertical face of one of the fish-plates, and F a coiled or helical spring fitted over each of the bolts, and bearing at one end against the washer E and at its opposite end against a supporting-plate, G, extending from and fitted over the bolts C. The securing-nuts D bear against the

outer face of the supporting-plate G, and are each engaged by a locking-arm, H, two of which are provided and pivoted on a common center or pin, h , arranged between the two nuts. The outer end of each locking-arm H is provided with a slotted head, h' , which fits over the side faces of the nut, and thus securely locks the same in position from turning. The inner ends of each locking-arm are bent, as shown, to adapt them to move past each other at their inner ends, and said arms move in a plane above the nuts and supporting plate or bar G.

I designate a sleeve or thimble fitted over the bolt and the coiled spring, to protect them from rust and the action of the weather.

To apply my improved nut-lock the bolts are first inserted through the fish-plates and rail, the washers E then fitted over the bolts and against one of the fish-plates, the coiled springs and sleeves are now placed thereon, the securing-bar fitted over the bolts and pressed or forced inwardly against the tension or force of the springs by means of the nuts D bearing against the same, and, finally, when sufficient force is exerted on the bar, the locking-arms H are engaged with the nuts.

By means of the coiled springs bearing against the bar or plate and the securing-nuts, a longitudinal strain is exerted on the bolts, which serves to keep them from movement and rattling in their sockets, and when the arms H engage the nuts the latter are effectually prevented from turning and becoming detached from the bolts.

Each nut-locking arm can be disengaged from its nut independently of or without its fellow arm, and the nuts can thus be secured in place independently of each other and removed from the bolts.

In order to define the nature, scope, and advantages of my invention I would state that heretofore it has been proposed to provide a nut-lock with locking-arms pivoted to the fish-plate and having a notch and plate adapted to engage a nut, a locking-plate arranged to bear on the contiguous pivoted ends of the locking-arms, and a screw to secure the plate in place and prevent the pivoted nut-locking arms from movement in a vertical plane.

am also aware that a nut-lock has been provided which comprises two arms or plates, the outer ends of which are enlarged and provided with flanges to engage the upper and lower
 5 faces of two adjacent nuts, while the inner ends of the arms are pivoted together so as to move in a horizontal plane, and have openings therein that are in alignment with each other when the device is adjusted in place, so that
 10 a pin can be passed vertically through the same to hold the arms rigidly together and against movement. In the device first above referred to the locking-arms are pivoted directly to the fish-plates, and they cannot be
 15 adjusted laterally to engage the nuts very squarely and firmly when the nuts lie at a distance from the fish-plate; and in the latter device above referred to the arms are wholly supported on the nuts, and are thus supported
 20 entirely independent of the fish-plate and have no connection therewith. My invention differs from these devices in the fact that I employ a plate that is loosely mounted on the
 25 the fish-plates by springs coiled around the bolts and interposed between the movable plate and the fish-plate. On this movable spring-pressed plate my nut-locking arms are pivoted by a single bolt, and these arms are
 30 adjustable independently of each other over the nuts that are screwed on the free ends of the bolts, and serve to retain the movable plate in place and to prevent the bolts from rattling in their sockets.
 35 The advantage gained by my device over the constructions hereinbefore mentioned lies in the fact that when the nuts are turned on the bolt the movable spring-pressed plate is also adjusted so that the nut-locking arms al-
 40 ways occupy the same relative position to the nuts, and are thus maintained in a position so that they can squarely and firmly engage the nuts to lock them in place.

I am also aware that it is not new to pro-

vide a bolt of a nut-lock with a spring that
 45 lies between the fish-plates and the nut to prevent the bolt from rattling, nor to provide a chambered washer having a coiled spring to engage the head of a bolt; but such is not my
 50 invention.

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

1. In a nut-lock, the combination of the rails, the fish-plates, the through-bolts, the
 55 laterally-movable plate supported on two adjacent bolts, the springs for normally pressing the plate away from the rails, the nuts fitted on the bolts and bearing on the plates to re-
 60 tain the latter on the bolts, and the nut-locking arms pivoted on and carried by the laterally-movable plate, whereby when the nuts are adjusted the spring-pressed plate and the
 65 nut-locking arms will also be adjusted to adapt the arms to firmly engage the nuts, substan-
 70 tially as described.

2. In a nut-lock, the combination of the rails, the fish-plates, the through-bolts, a plate,
 75 G, supported on two adjacent bolts and movable thereon laterally of the rails, the coiled
 80 springs F, encircling the bolts and bearing against the fish-plates and the laterally-movable plate, the sleeves I, inclosing the springs and bolts, the nuts D, bearing against the
 85 plate G to retain the same on the bolts, and the locking-arms H, carried by the laterally-movable plate and pivoted on a pin, h, com-
 90 mon to both arms, and further provided with the enlarged notched ends h', substantially as described.

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

WILLIAM SHELTON HARRIS.

Witnesses:

J. W. EDWARDS,
 B. B. BLADE.