

J. V. SOHN.

NUT LOCK.

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975,171.

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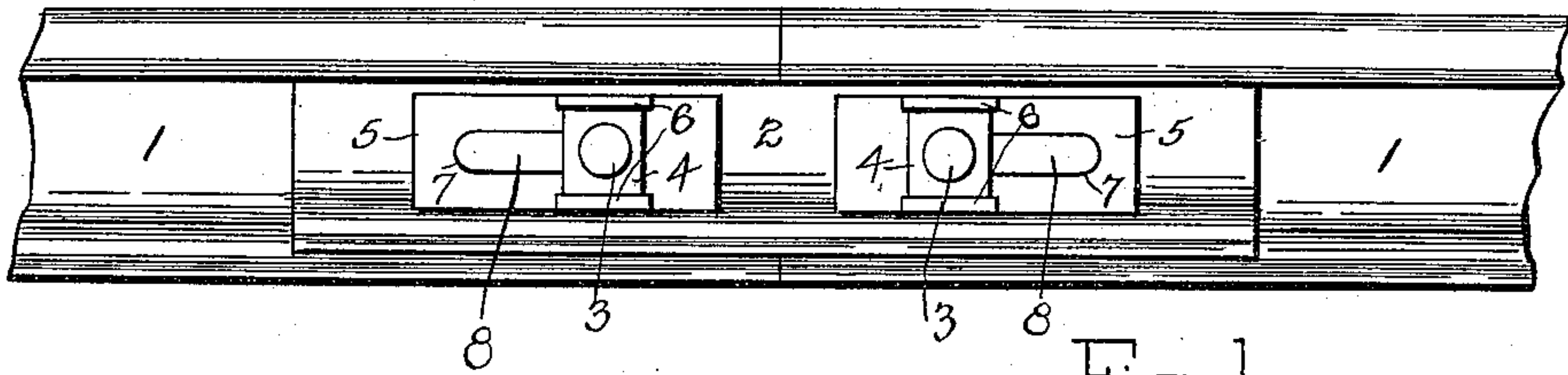


Fig. 1.

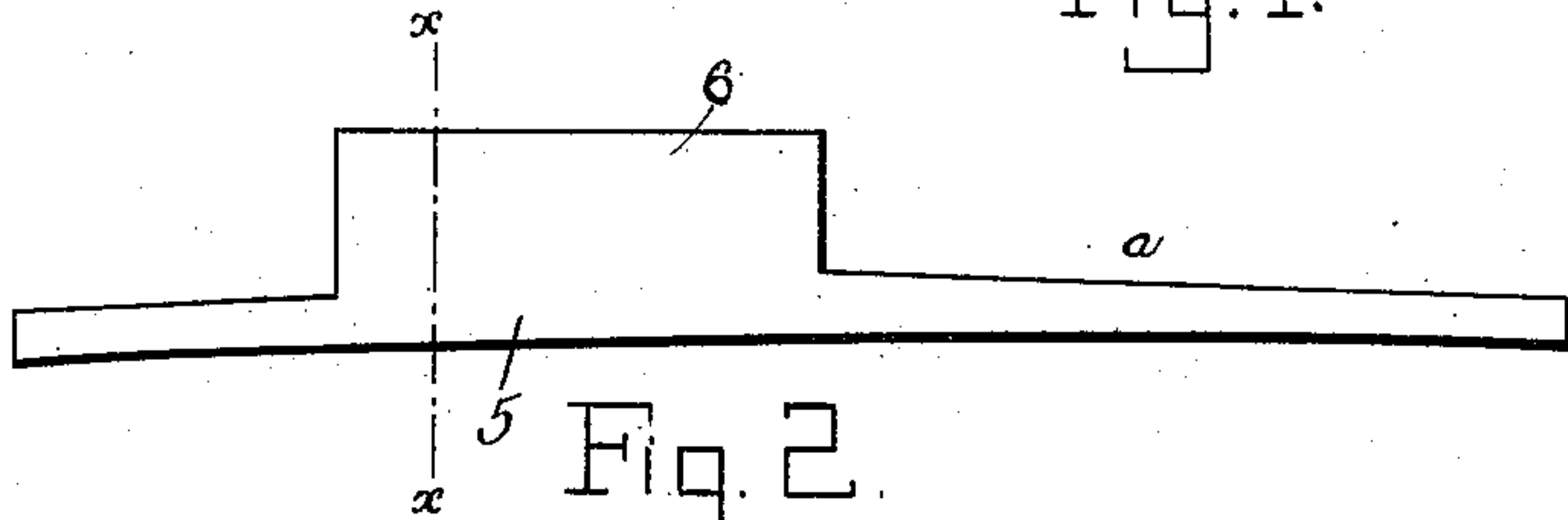


Fig. 2.

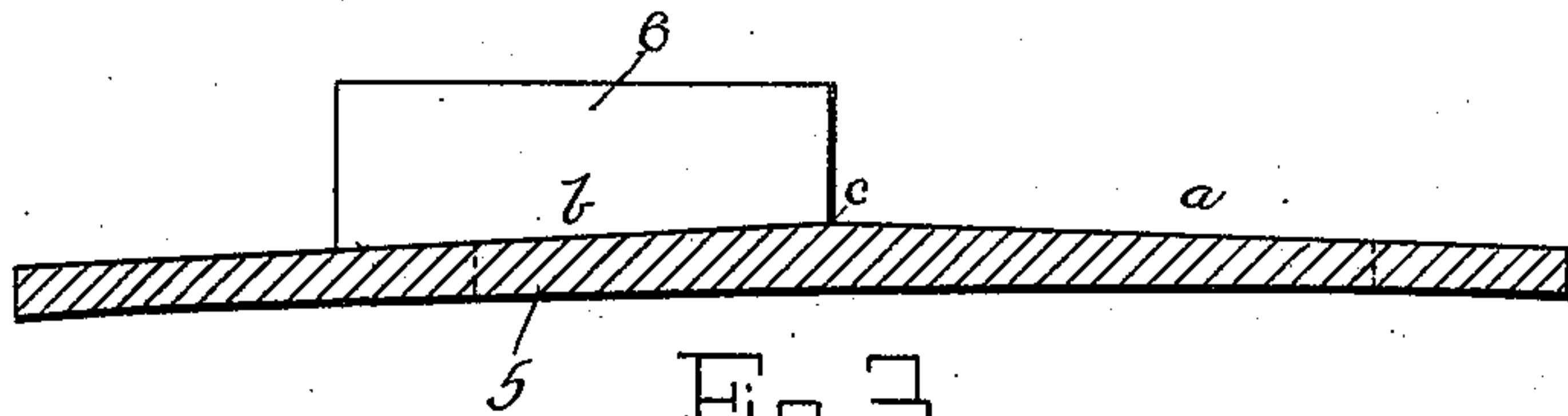


Fig. 3.

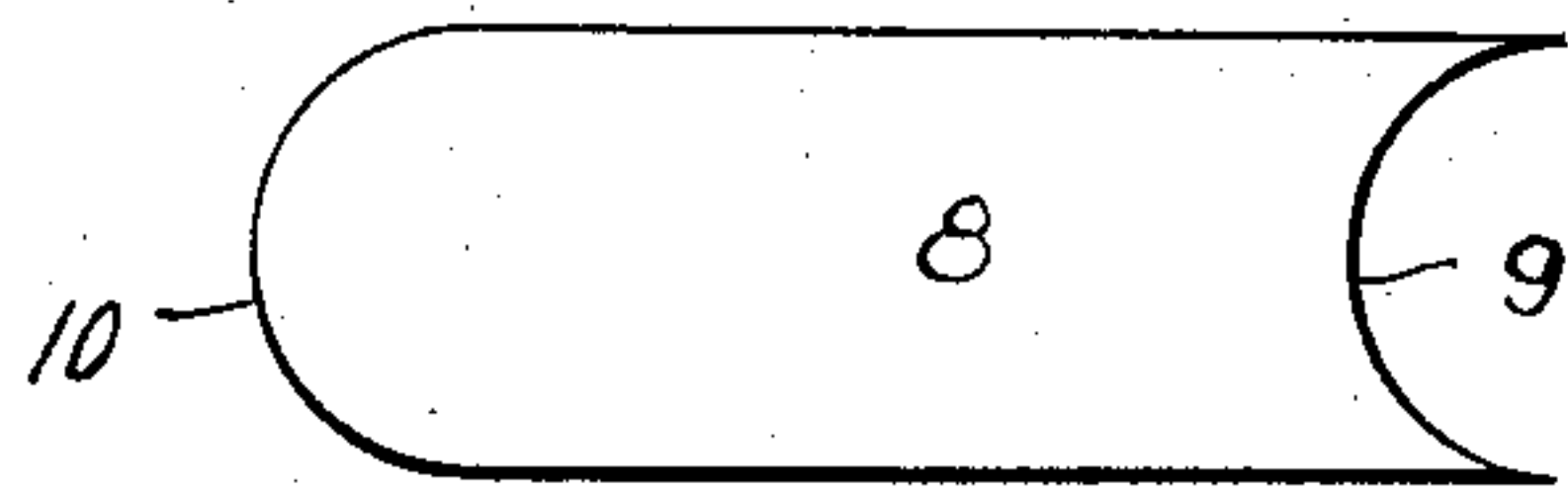
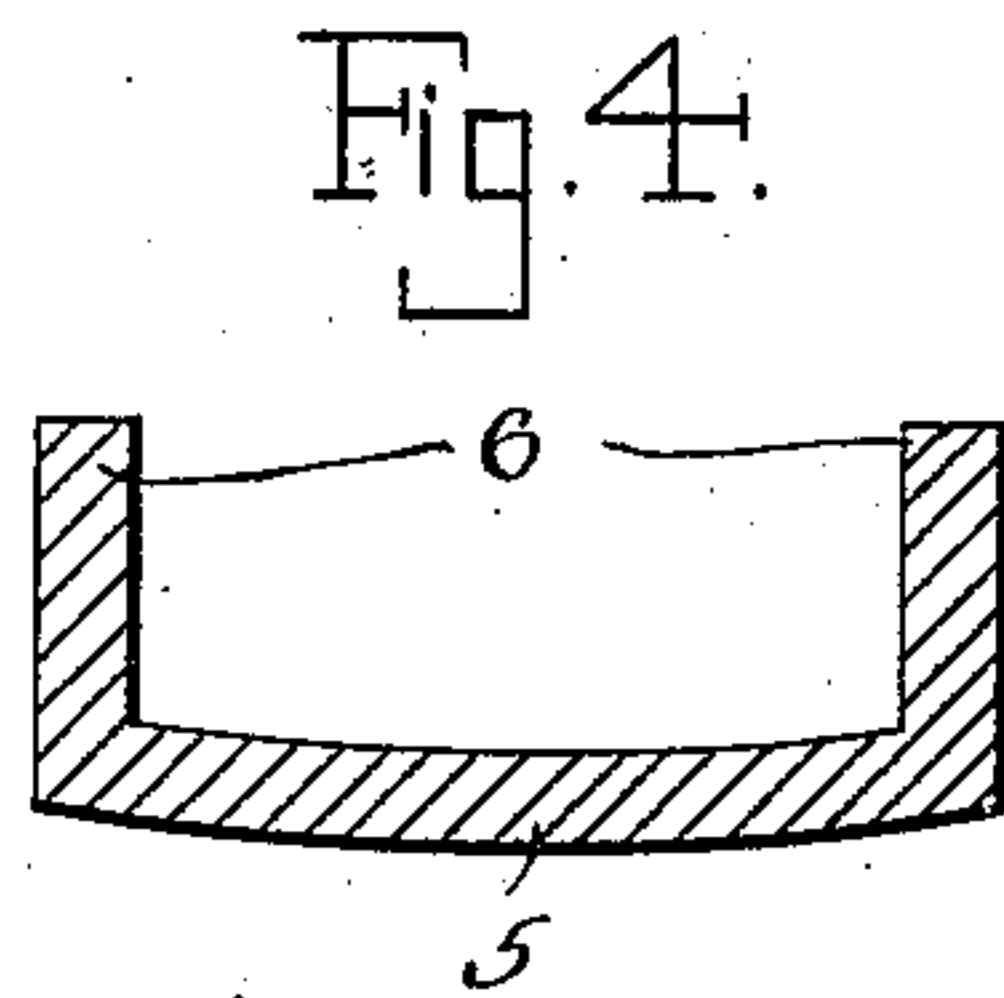


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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NUT-LOCK.

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To all whom it may concern:

Be it known that I, JEROME V. SOHN, a citizen of the United States, residing at Saybrook, in the county of McLean and State of Illinois, have invented certain new and useful Improvements in Nut-Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to nut-locks of that type comprising plates or washers arranged between the fish-plates and nuts and provided with obstructions engaging said nuts whereby the latter are secured against reverse turning.

The objects of this invention are to provide a simple and inexpensive washer-plate of this kind which may be easily and quickly put in position and removed, and to prevent the washer from working loose or becoming separated from the nut under the vibration caused by passing trains.

The invention consists in the features of construction of the washer-plate and the combination thereof with other parts as will be hereinafter described and specified in the claims.

In the accompanying drawing illustrating the preferred embodiment of my invention: Figure 1 is a side view of portions of two rails connected together and showing my washer-plates applied to the nuts of the securing bolts. Fig. 2 is an enlarged edge view of the washer-plate. Fig. 3 is a longitudinal sectional view taken at one side of the slot. Fig. 4 is a sectional view on the line $x-x$ of Fig. 2, and Fig. 5 is a detailed view of the filling block used in the slot of the washer-plate as a precaution against said plate moving longitudinally and its projecting lugs becoming disengaged from the sides of the nut by vibration or any other cause.

In the drawing, 1 designates the rails, 2 the fish-plate applied to one side of the joint, 3 the bolts and 4 the nuts on said bolts. A separate washer-plate 5 is preferably applied to each nut. Said washer-plate is provided with projecting lugs 6 arranged opposite each other at its edges and near one end thereof. A slot 7 extends longitudinally of the plate from a point intermediate of said lugs to a point well beyond them and near the other end of said plate. This slot is of

a width to permit the passage of the end of the bolt therethrough and the distance between the lugs is such as to allow said lugs to engage opposite flat sides of the nut when said sides are arranged parallel thereto.

In order to prevent the vibration caused by passing trains from jarring the plate so that its lugs will be disengaged from the nut, said plate is made concave longitudinally on its inner face as will be seen in Figs. 2 and 3. The part of the plate bearing the lugs is also convex transversely, as illustrated in Fig. 4. This combination of transverse convexity and longitudinal concavity has been found to overcome the tendency of the plate to move longitudinally under vibrations or jars.

The washer-plate tapers or increases gradually in thickness from the end in which the extension of the slot is formed to the adjacent ends of the lugs, as at a in Figs. 2 and 3, and tapers in the opposite direction or decreases in thickness, as at b , from the latter point to the other ends of said lugs. The object of the first taper is to tighten the nut on the bolt as the plate is driven into place, as it might happen that said nut would not be as tight as desired when its flat sides are brought into alinement with the lugs on the plate. The second taper serves as an additional means to prevent the plate from moving longitudinally, as in order to do this, the nut must ride over the thickest part of the plate which is indicated at c in Figs. 2 and 3.

Another safety or precautionary means may be employed for preventing longitudinal movement of the plate. It consists of a filling block 8 which has one end 9 grooved to fit around the bolt and the other end rounded, as at 10, to fit the end of the slot in the washer-plate. Said filling block is made long enough so that it will have to be wedged slightly into place and be retained by frictional contact of its rounded end with the extremity of the groove. It will be understood that the filling block is put in place by first inserting its grooved end into the slot below the nut, driving it in until it engages the bolt and finally depressing its rounded end into the groove. This filling block not only prevents the washer from working loose under vibrations, but is also calculated to cause trouble for any one, with malicious intent, tampering with the rail joints.

I claim:—

1. A nut-lock comprising a washer-plate adapted to be inserted between a rail and the nut of a securing bolt, said plate being provided with a longitudinal slot and oppositely arranged lugs at one end of said slot, the plate being tapered or gradually increasing in thickness from the end thereof containing the outer portion of the slot to the adjacent ends of said lugs, and tapering or decreasing in thickness from that point to the other ends of said lugs, all for the purposes specified.
2. A nut-lock comprising a washer-plate adapted to be inserted between a rail and the nut of a securing bolt, said plate being provided with a longitudinal slot and oppositely arranged lugs at one end of said slot, the inner face of the plate being concave longitudinally, the plate being tapered or gradually increasing in thickness from the end thereof containing the outer portion of the slot to the adjacent ends of said lugs, and tapering or decreasing in thickness from that point to the other ends of said lugs, all for the purposes specified.
3. A nut-lock comprising a washer-plate adapted to be inserted between a rail and the nut of a securing bolt, said plate being provided with a longitudinal slot and oppositely arranged lugs at one end of said slot, the inner face of said plate between said lugs being convex transversely, the plate being tapered or gradually increasing in thickness from the end thereof containing the outer portion of the slot to the adjacent ends of said lugs, and tapering or decreasing

in thickness from that point to the other ends of said lugs, all for the purposes specified.

4. A nut-lock comprising a washer-plate adapted to be inserted between a rail and the nut of a securing bolt, said plate being provided with a longitudinal slot and oppositely arranged lugs at one end of said slot, the inner face of said plate being concave longitudinally and the portion thereof between said lugs being convex transversely, the plate being tapered or gradually increasing in thickness from the end thereof containing the outer portion of the slot to the adjacent ends of said lugs, all for the purposes specified.

5. A nut-lock comprising a washer-plate adapted to be inserted between a rail and the nut of a securing bolt, said plate being provided with a longitudinal slot and oppositely arranged lugs at one end of said slot, the inner face of said plate being concave longitudinally and the portion thereof between said lugs being convex transversely, the plate being tapered or gradually increasing in thickness from the end thereof containing the outer portion of the slot to the adjacent ends of said lugs, and tapering or decreasing in thickness from that point to the other ends of said lugs, all for the purposes specified.

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

JEROME V. SOHN.

Witnesses:

GEO. M. NELSON,
LEVI HEAVILIN.