(No Model.)

H. F. COREY.

NUT LOCK.

No. 389,639. Patented Sept. 18, 1888.

Fig. 1.

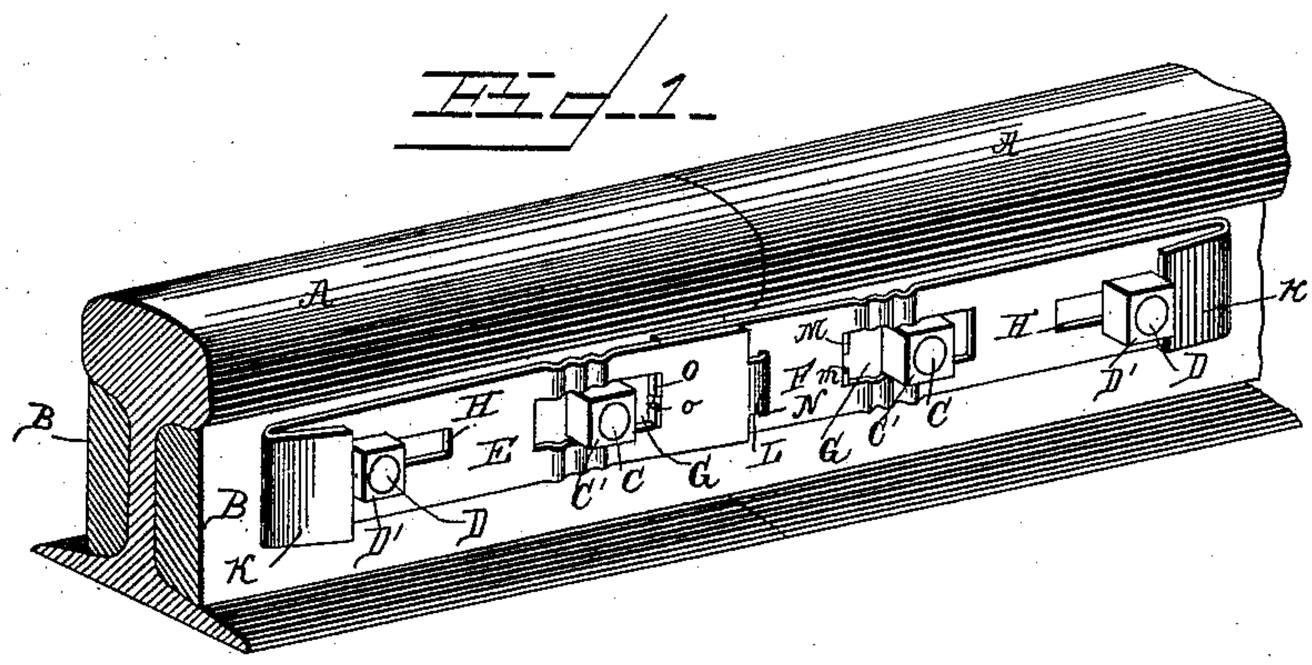


Fig. 2.

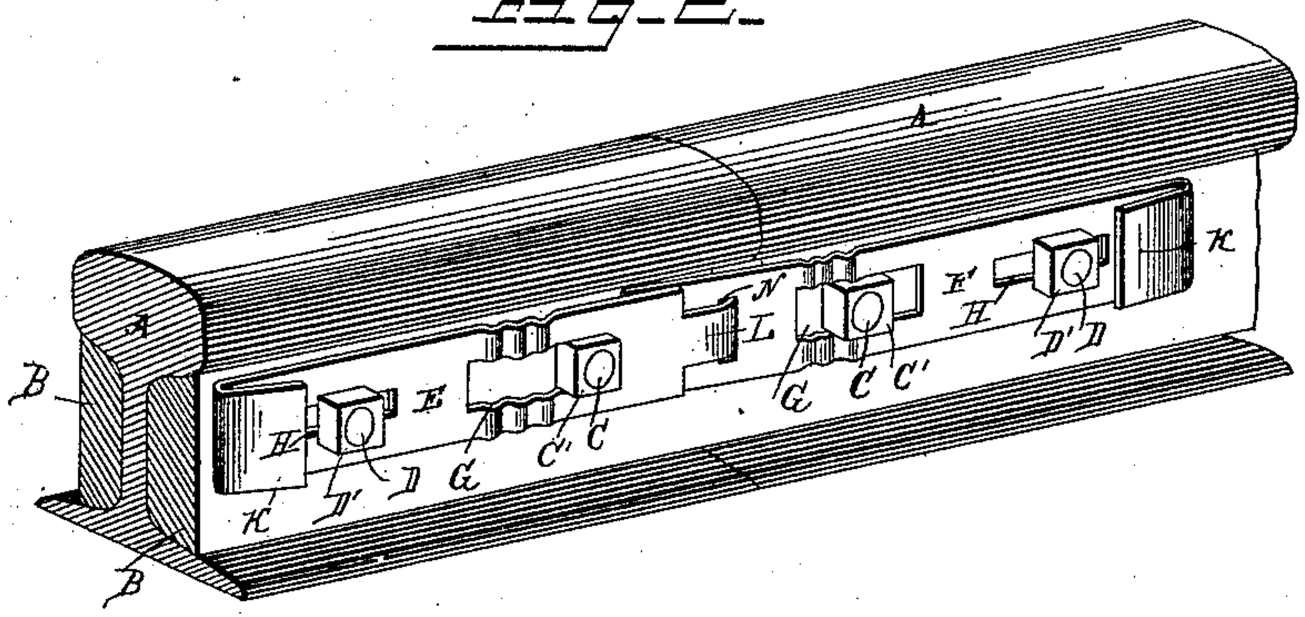


Fig. 3.

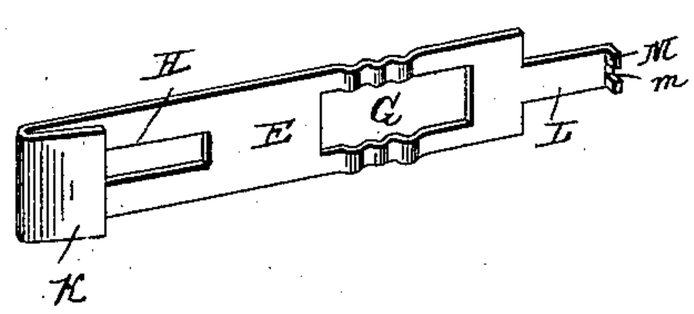
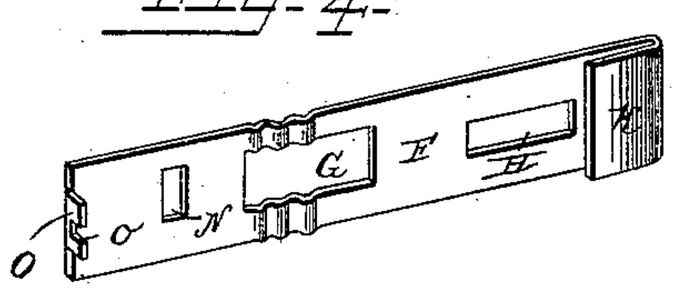


Fig. 4.



Witnesses
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UNITED STATES PATENT OFFICE.

HARRY FRANKLIN COREY, OF ALAMEDA, CALIFORNIA.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 389,639, dated September 18, 1888.

Application filed February 15, 1888. Serial No. 264,054. (No model.)

To all whom it may concern:

Be it known that I, HARRY FRANKLIN COREY, a citizen of the United States, residing at Alameda, in the county of Alameda and State of California, have invented a new and useful Improvement in Nut-Locks, of which the following is a specification.

My invention relates to improvements in nut-locks; and it consists in a device which is especially designed for application to the nuts which secure the fish-plates over the joints between railroad-rails.

The invention, which consists in a certain novel construction and arrangement of devices, is hereinafter more fully described in connection with the accompanying drawings, wherein—

Figure 1 represents the improved nut-lock applied in the locked position to railroad-rails. Fig. 2 represents the nut-lock before the parts are finally secured together. Figs. 3 and 4 are views of the two plates detached.

Referring by letter to the drawings, A A designate the adjacent ends of two rails, which are connected by the fish-plates B, and C C and D D are bolts arranged, respectively, adjacent to the ends of the rails and removed slightly from the ends. The inner bolts, C C, are provided with nuts C′ C′, and the outer bolts, D D, are provided with the nuts D′ D′.

E and F represent spring-metal locking-plates, which are provided at their inner or adjacent ends, respectively, with the longitudinal slots G G, which are equal in width to the nuts C′ C′. Similar longitudinal slots, H H, are formed in the spring-plates near their outer ends; but the slots H are only sufficiently wide to allow the bolts D D to pass through. The outer ends of both plates E and F are bent away from the rails to form the hooks or projections K K, having vertical edges at their inner ends, for a purpose to be hereinafter described.

The inner end of the plate E is provided with a tongue, L, having its free end bent outward to form the stud or detent M.

N represents an aperture in the spring-plate F, which is of a size sufficient to receive the tongue L, and the latter is about equal in width to the slot G. The inner end of the plate F is provided with a stud or detent, O, similar to the stud or detent M, and they are provided at their outer ends with the notches *m o*, respectively.

The operation and application of the nut-lock are as follows: After the bolts C C and D D are passed through the fish-plates the nuts C′ C′ are screwed on their respective bolts and turned so that two of their opposite sides are in a horizontal position. The tongue L on the plate E is passed through the aperture N in the plate F, and the slots G G are adjusted over the nuts C′ C′, and the slots H H are adjusted over the bolts D D. As before mentioned, the slots G G are equal in width to the nuts C′ C′, and therefore the latter will fit snugly in the slots and the plates E F will bear against the outer side of the fish-plate. The nuts D′ D′ are now screwed on their respective bolts until they bear tightly against the plates E and F, and the said nuts are turned until their outer sides are vertical or parallel with the edges of the hooks or projections K K. The nut-lock is now in the position shown in Fig. 2, and the end of the tongue L and the end of the plate F and the studs or detents on the ends of the same are concealed, respectively, behind the plates F and E. To complete the operation of locking the nuts it is simply necessary to drive the plates toward each other until the detents M and O engage, respectively, in the slots G in the plates F and E. In this position the edges of the hooks or projections K bear against the outer sides of the nuts D′ D′, and the plates cannot be drawn apart, as will be readily understood. Being of spring metal, the detents will engage automatically in the said slots, and the plates will assume a flat position, as seen in Fig. 1.

It will be understood that as the sides of the slots G G embrace the sides of the nuts C′ C′, the latter cannot be rotated, and as the plates are held down at their outer end by the nuts D′ and at their inner ends by their connection together, the said nuts C′ cannot be freed from the engaging slots, except as hereinafter described. The plates are crimped transversely on opposite sides of the slots G G, and the sides of the said slots thus take a firmer hold of the sides of the nuts. The main object of the crimps, however, is to allow free longitudinal expansion and contraction of the plates,

it being well known that both the rails and the plates will be considerably affected by changes in the weather.

To remove the clamping device, repress the detents M O out of engagement with the slots G, drive the plates E F apart sufficiently to allow the nuts D′ D′ to turn, remove the said nuts, and the plates may be removed. To repress the said detents, insert pointed tools in the notches in the outer ends of the detents and pry the plates out sufficiently to allow the detents to pass thereunder.

The clamping-plates, as will be seen from the drawings and description, are struck from sheet metal, after which to form the locking-plates it is simply necessary to bend their outer ends to form the hooks or projections K and bend the detents out at right angles to the bodies of the plates. Therefore this nut-lock may be very cheaply manufactured. It is also applicable to any bolts or nuts, provided the nuts adjacent to the inner ends of the plates will fit in the slots G G. The lock is very easily and quickly applied, and when properly adjusted cannot possibly be jarred loose or removed without the proper tools to repress the detents. Further, this lock is small and neat in appearance, taking up but little space, as will be seen from the drawings. It will be entirely concealed under the overhanging tread of the rails to which it is applied.

The hooks or projections K may be substituted by studs having their inner sides flattened to bear against the outer sides of the nuts; but I prefer the construction which is herein shown. Further, the detents M and O may, if preferred, engage in especially-formed apertures in the plates, instead of engaging, as herein described, in the slots G G.

Various slight changes may be made in my lock without departing from the spirit and intent of the invention, and I reserve the right to make such changes.

Having thus described my invention, I claim—

1. In a nut-lock, the plates having slots to receive the bolts and having projections to engage the nuts, the tongue L on the inner end of one plate passing through an aperture, N, in the other plate, and the detents or studs, respectively, on the end of the tongue and the end of the other plate engaging suitable apertures in the plates, substantially as specified.

2. In a nut-lock, the plates having slots H H therein to receive the bolts, the hooks or projections on the plates to engage the nuts on the said bolts, the tongue L on the inner end of one plate passing through an aperture, N, near the inner end of the other plate, and the studs or detents M O, arranged, respectively, on the end of the tongue L and the end of the apertured plate, and having notches *m o* in their outer ends, the said detents or studs being adapted to engage in suitable apertures in the plates, substantially as specified.

3. As an article of manufacture, the herein-described sheet-metal plates E F, having the slots G G near their inner ends, the narrow slots H H near their outer ends, the hooks or projections K K on the outer extremities of the plates, provided with vertical bearing-edges, the aperture N in the plate F, close to its inner end, the tongue L on the inner end of the plate E, passing through the aperture N, and the studs or detents M O on the inner ends of the tongue L and the plate F, adapted to engage in the inner ends of the slots G G, substantially as and for the purpose specified.

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

HARRY FRANKLIN COREY.

Witnesses:
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D. C. MACDOUGAL.