A. A. BUSHONG & J. B. FITZPATRICK.

NUT-LOCKS.

No. 180,414. Patented Aug. 1, 1876.

Fig. 1

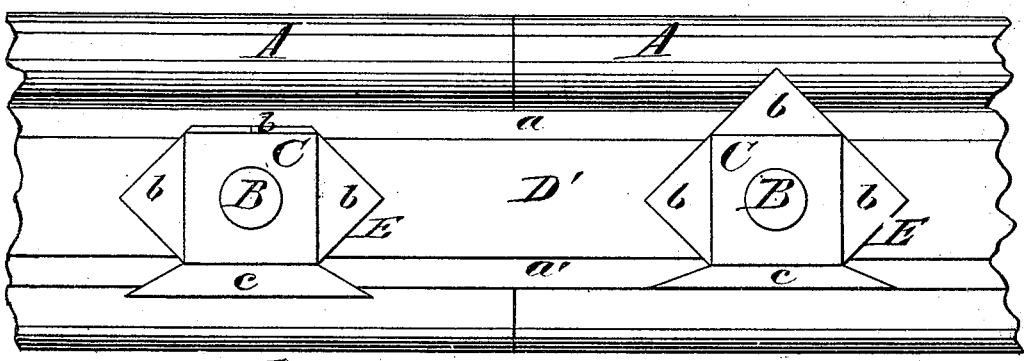


Fig. 2

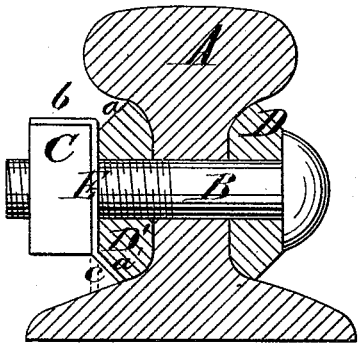


Fig. 3

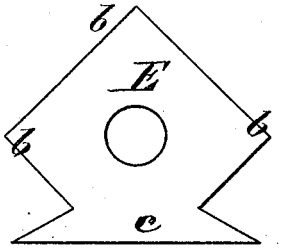


Fig. 5

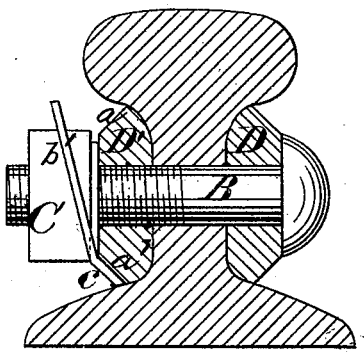
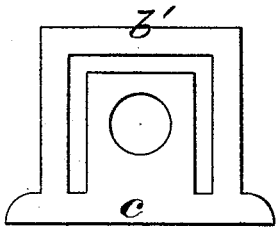


Fig. 4



WITNESSES

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ALPHEUS A. BUSHONG AND JAMES B. FITZPATRICK, OF COLUMBIANA, OHIO.

IMPROVEMENT IN NUT-LOCKS.

Specification forming part of Letters Patent No. **180,414**, dated August 1, 1876; application filed January 15, 1876.

To all whom it may concern:

Be it known that we, ALPHEUS A. BUSHONG and JAMES B. FITZPATRICK, of Columbiana, in the county of Columbiana and State of Ohio, have invented a new and valuable Improvement in Lock-Washers; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a side elevation of our lock-washer, and Fig. 2 is a transverse sectional view of the same. Figs. 3 and 4 are detailed views, and Fig. 5 is a transverse sectional view.

This invention has relation to nut-locks for railroad-rails and other purposes; and the nature of our invention consists in constructing the plate, known as the locking washer-plate, with a long bearing base adapted to rest upon the base-flange of the rail, and to be bent beneath the lower beveled edge of the fish-plate used in splicing the rail, as will be hereinafter explained.

In the annexed drawings, A A designate the ends of two sections of railroad-rails, which are of the well-known T shape, and which are spliced together by means of fish-plates secured on opposite sides of the necks of the sections by means of bolts B and nuts C. The bolts B are prevented from turning by forming flattened and tapered enlargements on them near their heads, which enlargements are received in recesses of corresponding shape made in the fish-plate D. The opposite end of the bolt B passes through the fish-plate D′, which has beveled edges *a a′* similar to the fish-plate D. The fish-plates on both sides of the rail are of the same size and shape, and are usually of the same length. E E designate washers, which are perforated to receive through them the bolts B, and constructed with angles *b* and also with broad extended base-pieces *c*. These washers lie flat against the fish-plates, and when the nuts are screwed "home" one of the angles *b* is bent over each nut, thus holding it firmly. The base-piece *c* of each washer is then driven under the lower beveled edge *a′* of the fish-plate, which secures the whole firmly, and prevents washer and nut from turning. In the act of being driven inward under the lower beveled edge *a′* of the fish-plate D′, the base-plate *c* of washer E is jammed into the angle formed by the edge and the rail-base, from which its casual disengagement is rendered impossible, thus at all times holding the said washer in contact with the base, and consequently preventing the casual bending outward of the said plate, the effect of which would be to loosen the fish-plate by allowing the nut to have partial rotation on the bolt. If, in bending back one of the angles *b*, it should break off, either one or the other of the angles *b* can be used.

Figs. 4 and 5 show a washer, having a spring-loop, *b′*, of rectangular form, for holding the nut from turning. This washer has the same form of extended base as described for the washer of Figs. 1, 2, and 3, and after the nut has been driven home this loop will be sprung up, encompassing three sides of the nut, and will effectually hold it against casual backward displacement.

What we claim as new, and desire to secure by Letters Patent, is—

1. In combination with the fish-plate D′, having a lower inwardly-beveled edge, *a′*, the washer E, having an extended base-part, *c*, adapted to be bent inwardly against the beveled edge of the fish-plate, and to rest against the flange of the rail, substantially as specified.

2. In combination with a bolt, B, fish-plate D′, with lower beveled edge *a′*, prismatic nut *c*, and the flange of a railroad-rail, the washer E, having rectangular loop *b′* adapted to be bent up over the nut and an extended base, *c*, adapted to be bent into the lower beveled edge of the fish-plate, and to bear against the flange of the rail, substantially as specified.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

ALPHEUS A. BUSHONG.
JAMES BIRNEY FITZPATRICK.

Witnesses:
CHAS. D. DICKINSON,
J. E. DEEMER.