

(No Model.)

D. O. WARD.
NUT LOCK.

No. 468,754.

Patented Feb. 9, 1892.

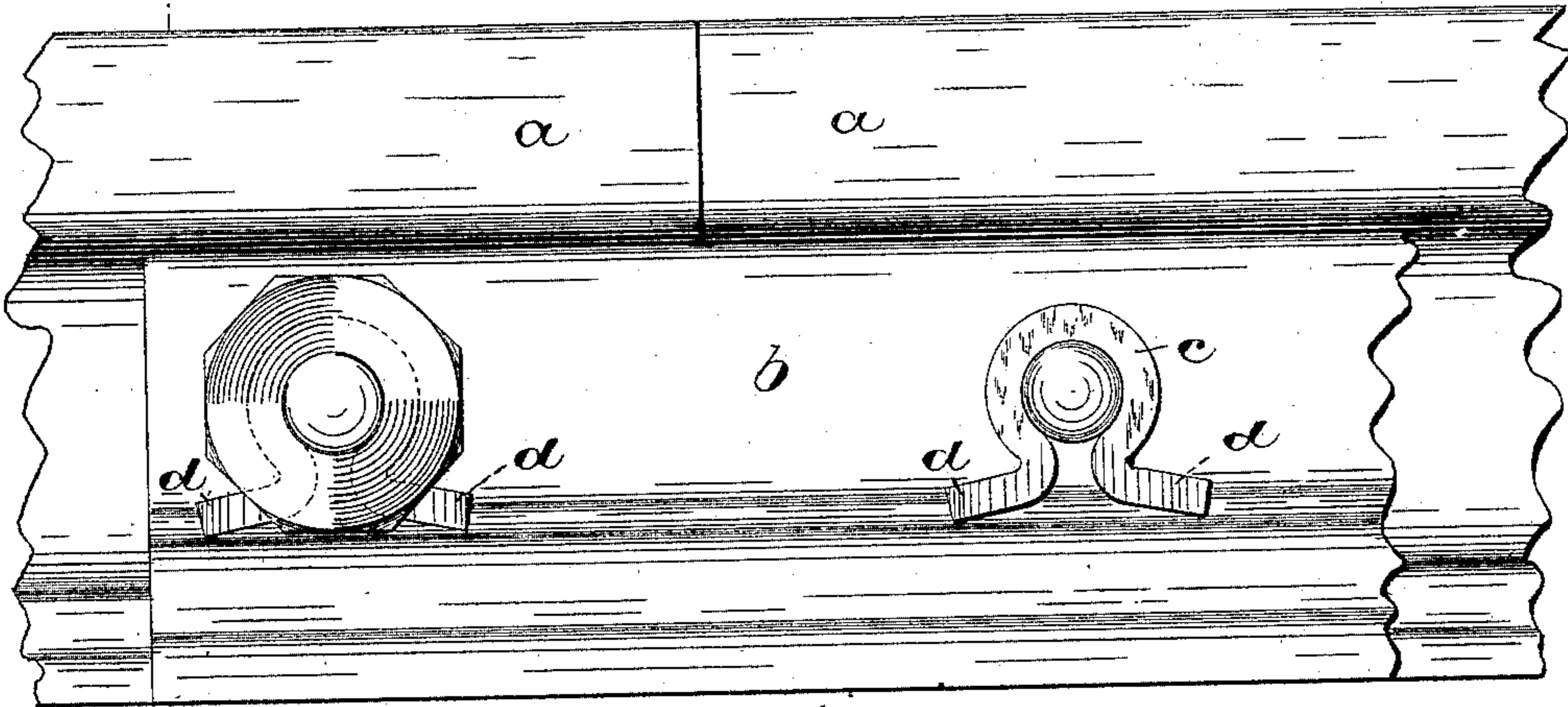


Fig. 1.

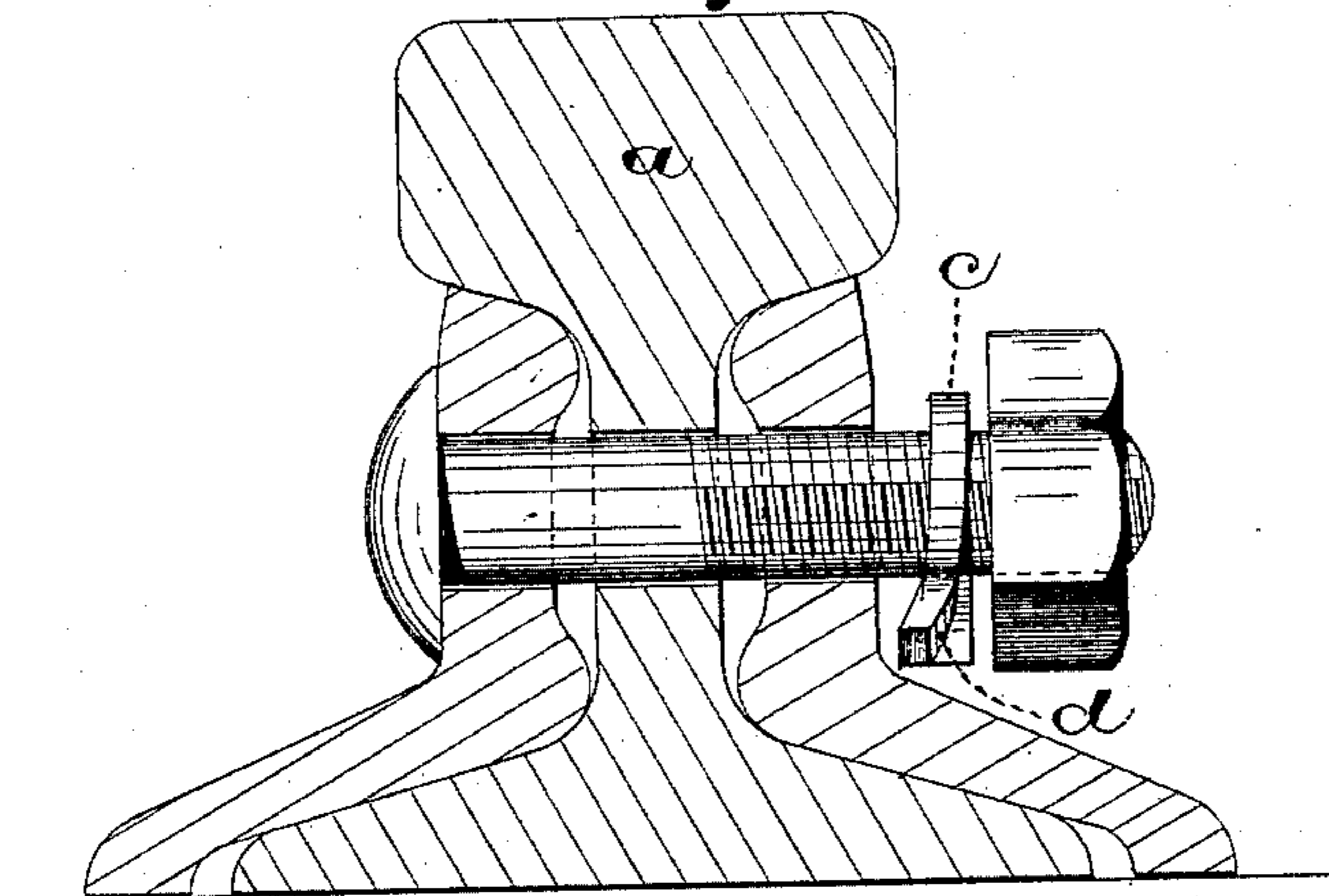


Fig. 2.

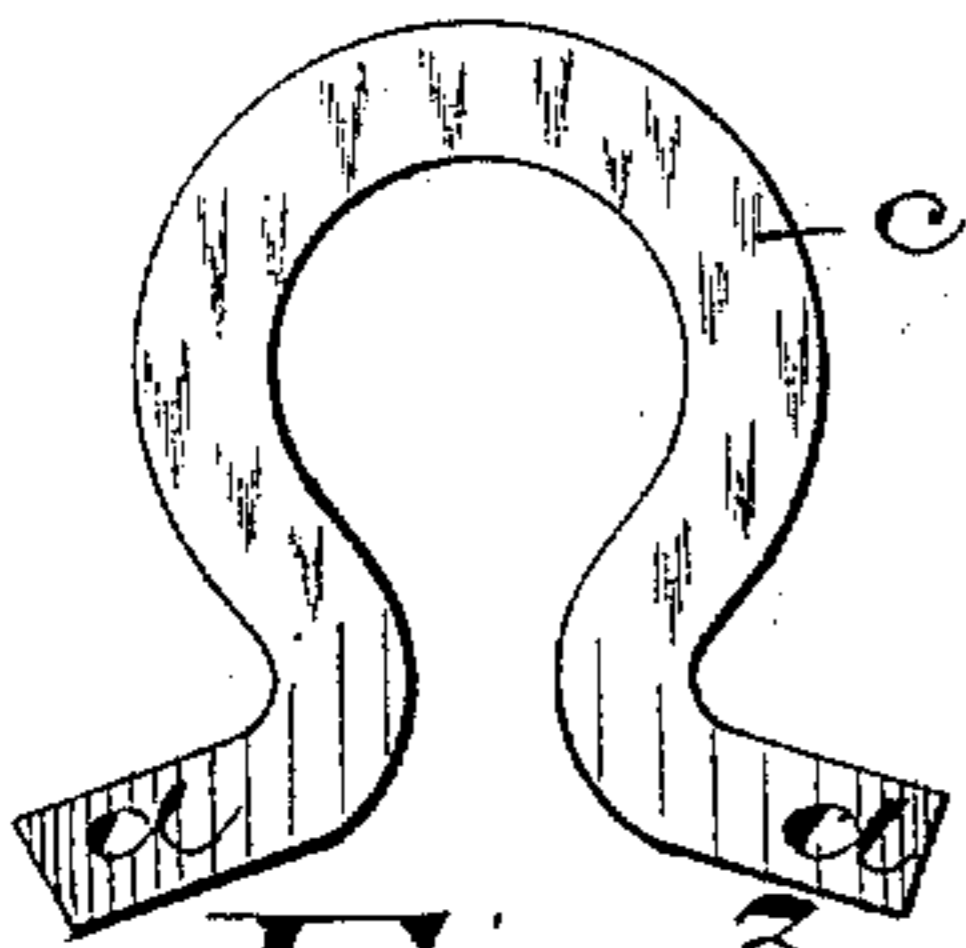


Fig. 3.

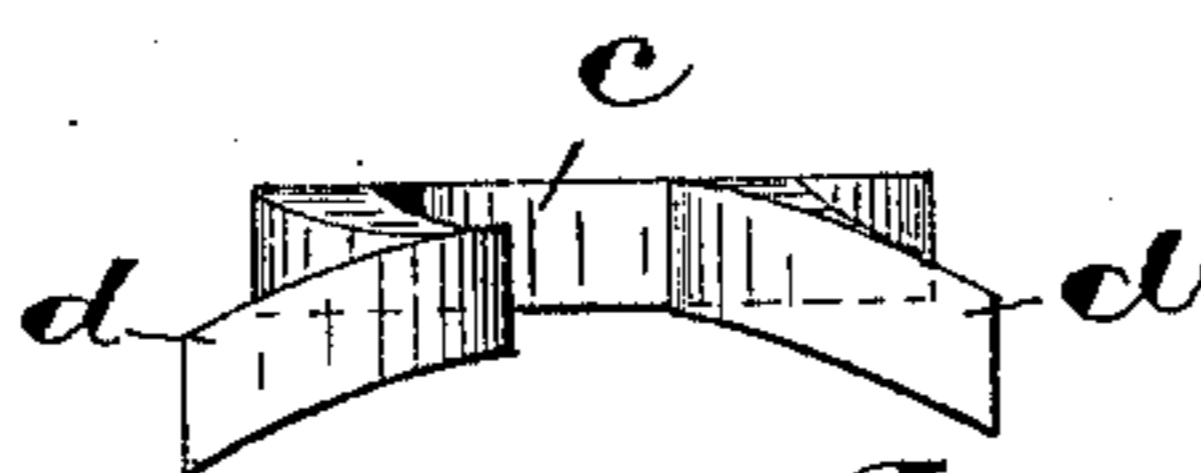


Fig. 4.

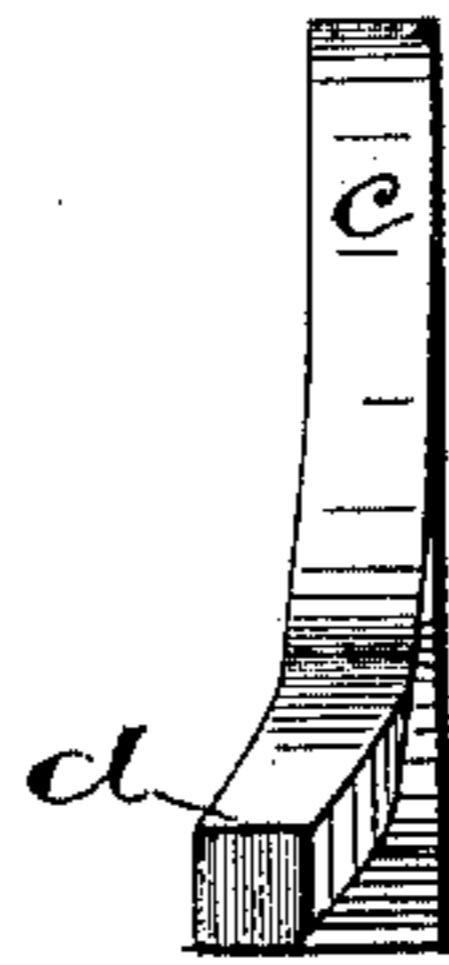


Fig. 5.

Witnesses:

Oscar A. Michel,
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Inventor:

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UNITED STATES PATENT OFFICE.

DANIEL O. WARD, OF NEWARK, NEW JERSEY, ASSIGNOR TO THE STANDARD NUT-LOCK COMPANY, OF SAME PLACE.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 468,754, dated February 9, 1892.

Application filed July 15, 1891. Serial No. 399,573. (No model.)

To all whom it may concern:

Be it known that I, DANIEL O. WARD, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to provide a nut-lock by means of which certain difficulties and objections existing in connection with many nut-locks heretofore produced are overcome and to secure more reliable and positive results.

The invention consists in the improved nut-lock and in the arrangement and combination of the parts thereof, as herein set forth, and finally pointed out in the claims.

Referring to the accompanying drawings, in which similar letters of reference indicate corresponding parts in each of the figures where they occur, Figure 1 represents in elevation two abutting sections of a railway-rail and a fish or angle plate and my improved nut-lock in connection therewith, and Fig. 2 is a vertical section taken through line *x* of the same. Figs. 3, 4, and 5 represent a face elevation, an end and an edge elevation, respectively, of the nut-lock detached from the plate and bolt.

In said drawings, *a* indicates the track-rails, *b* the fish or angle plate, and *c* *d* the nut-lock. Most nut-locks of this character are liable from one cause or another to loose their hold upon the nut or plate after they have been in use for a short time, and thus become worthless, and others again are liable to turn or rotate upon the bolt, and thereby tend to start or loosen the nut. This improvement is designed to overcome these objections.

In carrying out my invention I employ a bar of spring-steel substantially square in cross-section, or nearly so, and form the central portion thereof into a loop *c*, adapted to closely encircle the bolt, and spread the ends

d outward in opposite directions at an angle from a perpendicular line drawn through the center, as indicated in the drawings, so that the said ends or extremities *d* will engage with the face and with the base of the angle-plate or rail, as the case may be, and prevent the loop from turning or rotating upon the bolt.

In order to impart a powerful spring-pressure upon the nut and plate to prevent the former from turning backward or working loose after the nut has been screwed home, I twist the loop out of a level plane, and also bend one or both of the extremities *d* inward, as will be understood upon reference to Figs. 4 and 5, after which the article is tempered. In this way I secure two important advantages or results, to wit: first, an immense spring-pressure, and, second, permanency or fixedness of position in respect of the loop, &c., as will be obvious.

Inasmuch as the distance between the bolts and the base of the fish-plates or of the rails may vary somewhat upon the various roads or tracks, the length of the extremities *d* of the loops or the angles at which they are spread may also be varied accordingly to meet the requirements of the different systems or roads, as will be understood, and owing to the construction of the nut-locks these changes or variations are capable of being readily and quickly made and at a very slight expense. For example, by simply decreasing the angle of the extremities *d* the nut-lock is made longer and by increasing the said angle or spread it is made shorter; or, if preferred, the latter result may be attained by cutting off a portion of the said extremities *d*.

Having thus described my invention, what I claim as new is—

1. The herein-described nut-lock, consisting of a loop of tempered spring-steel closely fitting the bolt, twisted out of plane to give resiliency, and provided with extensions disposed in opposite directions at an angle with each other and with a horizontal plane, the ends of which are adapted to rest upon the base of the plate or rail to prevent turning, substantially as described.

2. The herein-described nut-lock, consisting

of a loop of tempered steel closely fitting
the bolt, twisted out of plane to give resili-
ency, and provided with extensions disposed
in opposite directions at an angle with each
5 other and with a horizontal plane and bent
inward to prevent turning and to aid in the
resilient action between the fish-plate and
nut, substantially as described.

In testimony that I claim the foregoing I
have hereunto set my hand this 20th day of 10
June, 1891.

DANIEL O. WARD.

Witnesses:

OLIVER DRAKE,
OSCAR A. MICHEL.