No. 824,177. PATENTED JUNE 26, 1906.

J. W. GILBERT.

NUT LOCK.

APPLICATION FILED JUNE 2, 1905.

Fig. 1.

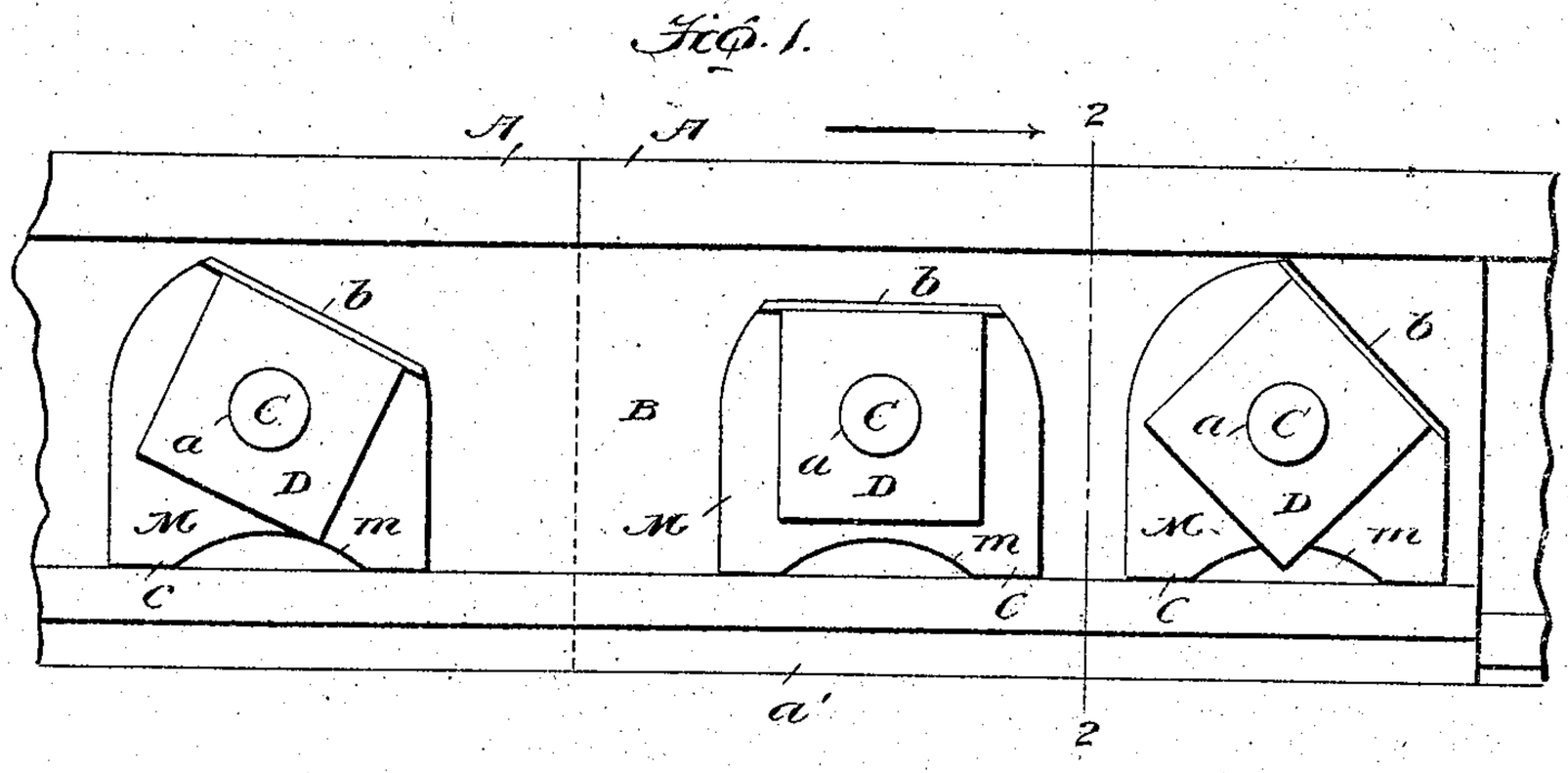


Fig. 2.

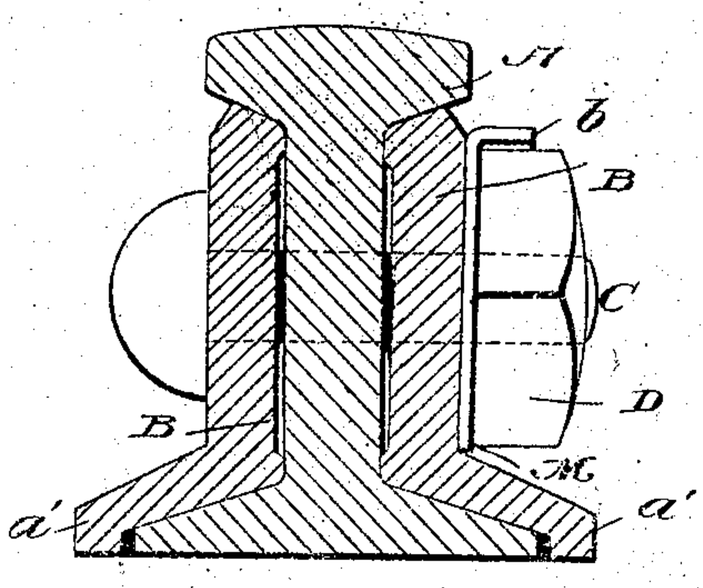
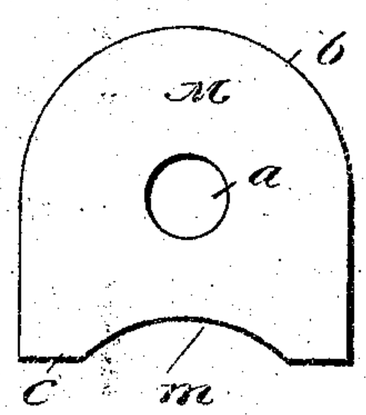


Fig. 3.



Witnesses
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UNITED STATES PATENT OFFICE.

JAMES WILLIAM GILBERT, OF BIRMINGHAM, ALABAMA.

NUT-LOCK.

No. 824,177. Specification of Letters Patent. Patented June 26, 1906.

Application filed June 2, 1905. Serial No. 263,452.

To all whom it may concern:

Be it known that I, JAMES WILLIAM GILBERT, a citizen of the United States, residing at Birmingham, in the county of Jefferson and State of Alabama, have invented new and useful Improvements in Nut-Locks, of which the following is a specification.

My invention pertains to nut-locks; and it contemplates the provision of an economical, easily-applied, and reliable nut-locking washer designed more especially for use in the making of rail-joints.

The invention will be fully understood from the following description and claim when taken in connection with the accompanying drawings, forming part of this specification, in which—

Figure 1 is a side elevation of a rail-joint embodying three of my novel washers. Fig. 2 is a transverse section taken in the plane indicated by the line 2 2 of Fig. 1 looking toward the right, and Fig. 3 is a front elevation of one of the washers as the same appears precedent to application.

Similar letters designate corresponding parts in all of the views of the drawings, referring to which—

A A are the meeting portions of two T-rails. B is a fish-plate disposed at one side of the rails and having the usual base-flange *a'*. C C are bolts extending through the rails and fish-plates, and D D nuts mounted on the said bolts. These parts may be and preferably are of the standard sizes.

M M are my novel washers, three of which are shown in use in Fig. 1. These washers are identical in construction, and therefore a detailed description of the one shown in Fig. 3 will suffice to impart a definite understanding of all. The said washer, Fig. 3, is formed of a single piece of appropriate bendable metal and is provided with a central aperture *a* of a size to receive a bolt C, an upper edge *b*, which describes a semicircle, a lower rectangular portion *c*, and a recess *m* in the horizontal edge of said portion *c*, the wall of which recess *m* preferably describes an arc of a circle concentric with the upper edge *b* for a purpose presently set forth.

The washers M are positioned on the bolts C between the plate B and the nuts D, Figs. 1 and 2, and by reason of the upper edges of the washers describing semicircles it will be observed that the washers may be bent outwardly and against sides of the square nuts throughout the length of said sides to effect secure locking of the nuts irrespective of the points of the circle at which the said sides of the nuts stop.

It will be observed that the nuts D of my improvement are of such size that the distance between opposite corners of the nuts corresponds approximately to the distance between the flange of the fish-plate and the top edge of said plate, this to secure all the strength possible in the nuts. It will also be observed that the upper edges of the washers extend to the upper edge of the fish-plate, so that the nuts can be locked in any of the positions shown in Fig. 1, and this by portions of the washers extending throughout the length of the adjacent sides of the nuts; and it will further be observed that while the corners of the large nuts move in front of the recesses *m* in the washers and barely pass the flange of the fish-plate in rotating on the bolts burs which ordinarily occur at the corners of the nuts are prevented from dragging on the lower edges of the washer, and hence the nuts may be turned tight against the washers with but a minimum amount of effort.

With a view of economizing in the production of the washers M the walls of the recesses *m* are preferably arranged to describe circles concentric with the upper edges *b* of the washers.

I claim—

In a nut-lock, the combination of a T-rail, a fish-plate arranged against the web and between the base and the head of the rail, and having a base-flange, a bolt extending through the web of the rail and the fish-plate, a nut-locking washer of the bendable type having a central aperture receiving the bolt, an upper portion the edge of which describes a semicircle, a lower portion the lower edge of which is horizontal and bears against the flange of the fish-plate, and a recess *m* in said lower edge and arranged concentric with the said upper edge; the said washer corrresponding in height to the distance between the up-

per side of the flange of the fish-plate and the upper edge of said fish-plate, and a nut turned up on the bolt and against the washer; the said nut being of such a size that the distance between opposite corners thereof corresponds approximately to the distance between the upper side of the flange of the fish-plate and the upper edge of said plate.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JAMES WILLIAM GILBERT.

Witnesses:
JOHN M. CALDWELL,
JOE EMBRY.