

(No Model.)

F. F. ROBB.

NUT LOCK.

No. 326,333.

Patented Sept. 15, 1885.

Fig. 1.

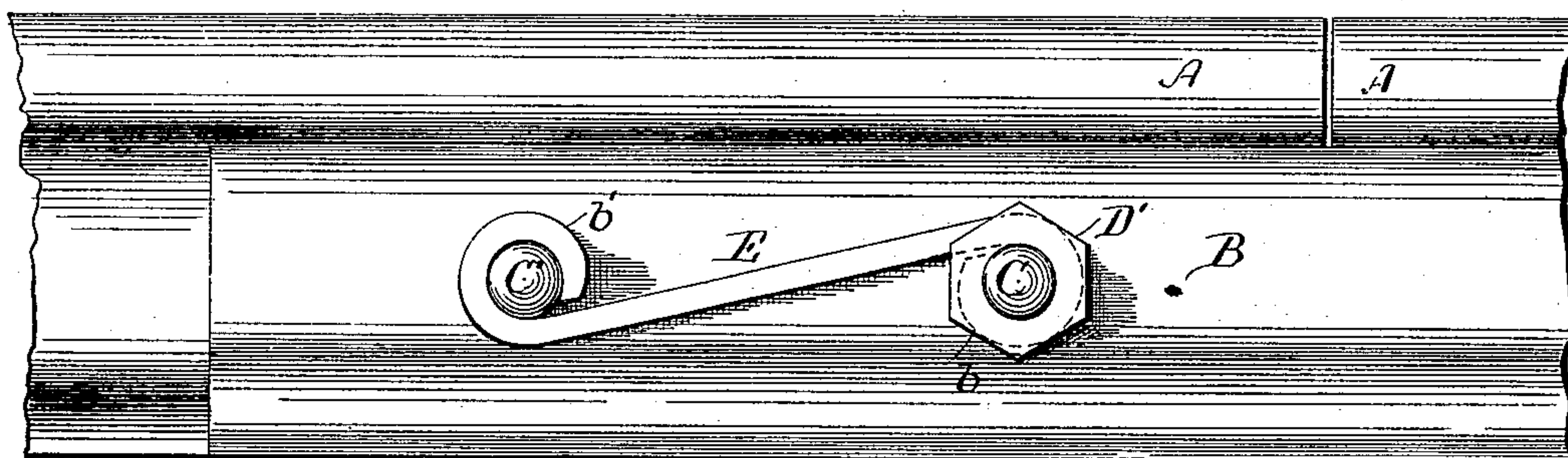


Fig. 2.

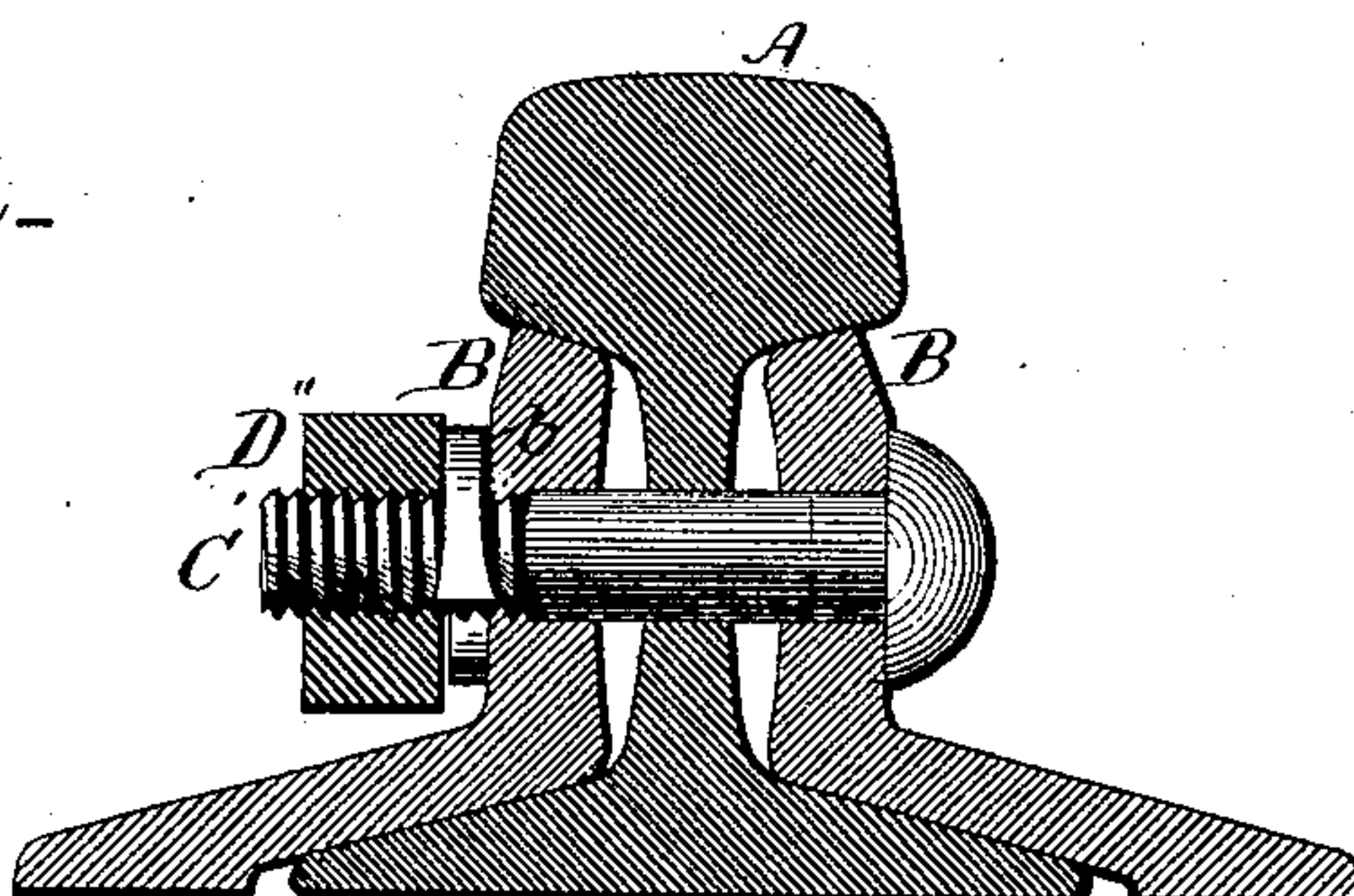
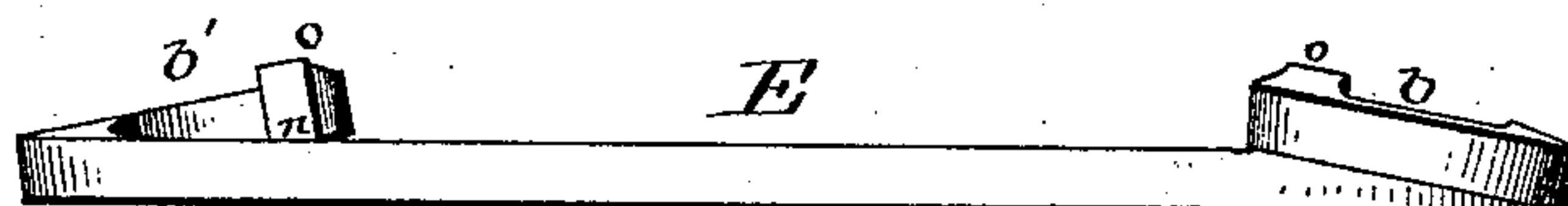


Fig. 3.



WITNESSES

F. L. O'Connell

N. A. Connolly

INVENTOR

Frank F. Robb

By Connolly Bros

Attorneys

UNITED STATES PATENT OFFICE.

FRANK F. ROBB, OF MONONGAHELA CITY, PENNSYLVANIA.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 326,333, dated September 15, 1885.

Application filed February 4, 1885. (No model.)

To all whom it may concern:

Be it known that I, FRANK F. ROBB, a citizen of the United States, residing at Monongahela City, Washington county, Pennsylvania, 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, reference being had to the accompanying drawings, which form part of this specification.

This invention has relation to nut-locks; and it has for its object the provision of a nut-locking device which shall be specially adapted for use on railroad-rails.

In many forms of nut-locking expedients it is necessary to construct the nut itself in a particular shape, so as to afford a purchase or hold for the key or other device which interlocks with or bites into the nut. Hence such nut-locks are, for this reason as well as for others, objectionable, and, except to a limited extent, impracticable, since the ordinary plain nut cannot be used and has to be discarded.

My invention contemplates the use of the common form of nut, and is designed with special reference to the employment thereof, without the addition of any special constructive features.

Where the nuts are applied to the splices or joints of railroad-rails, they are usually arranged in pairs—that is, with two nuts on their bolts in close proximity, there being four bolts to a splice, with two on either side of the joint.

My invention consists in the novel construction and arrangement of a locking-brace, which forms a connection between two adjacent bolts independently of the fish-plates, and which is so formed and placed that the ends of its spiral terminals, which encircle the two bolts in opposite directions, will obtain a firm purchase upon and bite into the under side of the nuts and effectually prevent them from turning on their bolts and becoming loose.

In the accompanying drawings, Figure 1 is a side elevation of the nut-lock as applied to a pair of bolts; Fig. 2, a plan view of the locking-brace; and Fig. 3, a vertical transverse section of a rail with splice-plates, bolts, and nut-locking brace.

A A designate the ends of two meeting-rails. B B are the splice-plates; C C', a pair of bolts

with nuts D' D'', and E is the locking-brace, all conforming to the conditions of my invention.

As suggested, the bolts and nuts are of the ordinary construction, no special shape being required to accommodate and render effective the locking-brace which embodies my improvement. The said brace consists of a bar of steel or other suitable metal, made, preferably, rectangular or square in cross-section, and cut from a straight bar of suitable dimensions, the cuts being taken at right angles to the axis of the bar.

After the blank is made the ends are bent around to form spirals *b b'*, curving, respectively, in opposite directions, and of a diameter to easily encircle the ends of the bolts to which they are to be applied. The pitch or cant of the spirals is toward the outer side of the bar, so as to project at their extremities toward and impinge against the inner faces or surfaces of the nuts. When the brace is applied, as shown in Fig. 1, the spirals encircle the two bolts, one from below and the other from above the bolts respectively.

In forming the brace the extremities thereof are pinched, as shown at *o n*, so as to increase the transverse area of the biting ends of the spirals, in order that, when the spirals are pressed down flat against the splice-plate by the nuts the ends will project outward beyond the surface of the brace sufficiently to bite into the nuts. At the same time, as the expansion of the metal of the brace is in both directions—that is, toward the inner as well as toward the outer surface, as shown in Fig. 3—the ends of the spirals will bite into the splice-plate as well as into the nuts. The interconnection of the two bolts by a single splice effectually prevents either nut from turning reversely. It also prevents the canting or tipping of the spirals that would take place in the oblong holes of the splice-bars—an important condition to be observed in order to render the brace effectual.

I am aware that it is not new to construct a nut-lock in the form of a spiral bar or ring adapted to encircle the bolt, and having its ends bent up out of the helicoidal plane, the object of such construction being to cause the end of the bar to bite into or obtain a purchase on the inner surface of the nut. I there-

fore do not claim such construction, my invention being specifically a spirally-bent nut-locking bar, having the extremity of the spiral spread or flared, by which means I produce a
5 tooth or projection at the end of the spiral, which is not dependent on the bending of the bar, and therefore is not liable to be pressed down by the action of the nut beyond the plane of the spiral.

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

1. The improved twin-nut lock consisting of the brace E, having its ends bent around to form spirals *b b'*, which have their extremi-

ties spread or flared, substantially as described, 15 and for the purpose set forth.

2. A spirally-bent nut-locking bar having the extremity of the spiral spread or flared to form a projection or tooth which will bite into or obtain a purchase on the nut, as set forth. 20

In testimony that I claim the foregoing I have hereunto set my hand this 29th day of January, 1885.

FRANK F. ROBB.

Witnesses:

MCLEOD H. THOMSON,
ERNEST H. CHAVE.