

No. 619,722.

Patented Feb. 21, 1899.

R. E. COOPER.
NUT LOCK.

(Application filed May 13, 1898.)

(No Model.)

Fig. 1.

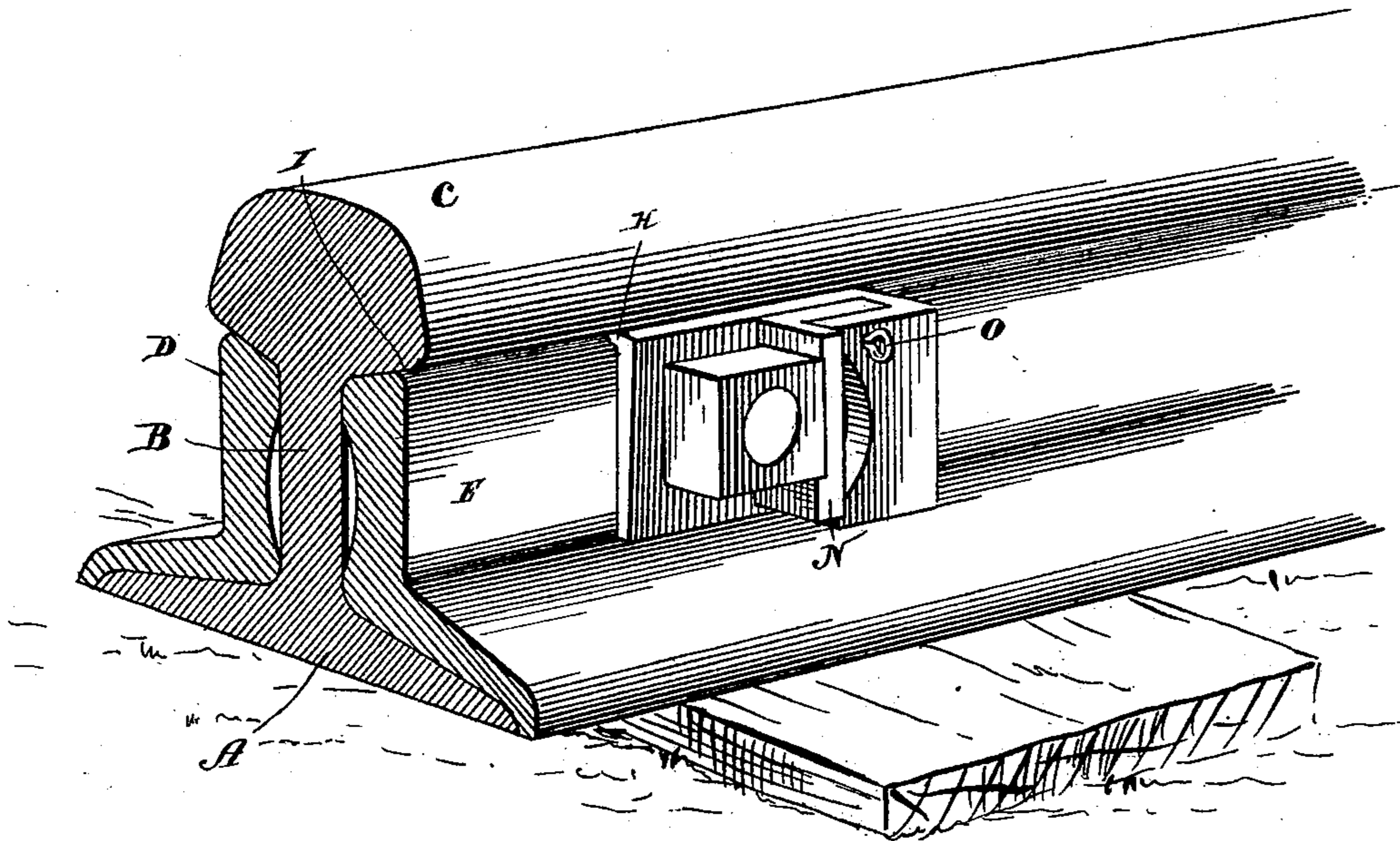


Fig. 2.

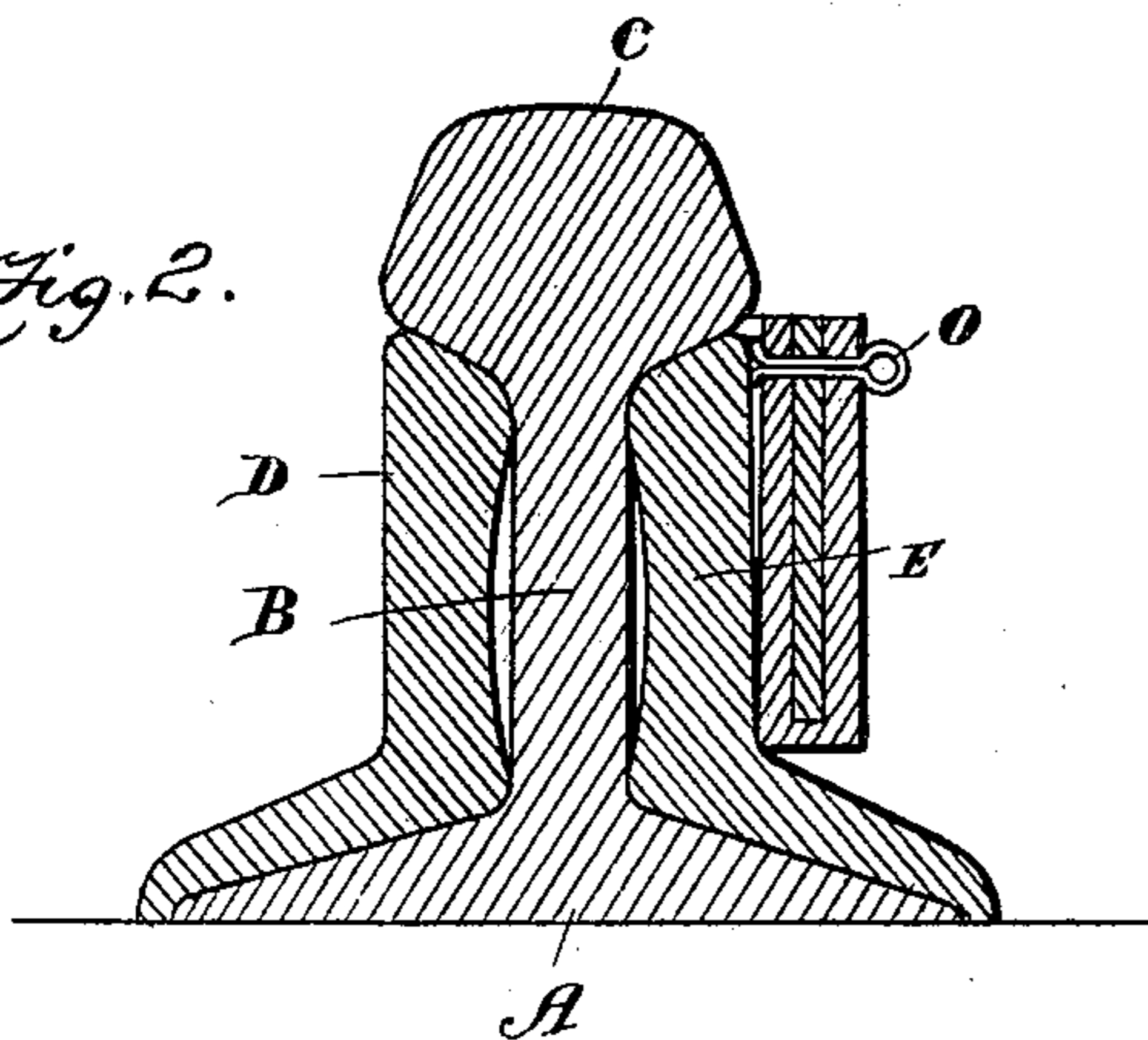


Fig. 3.

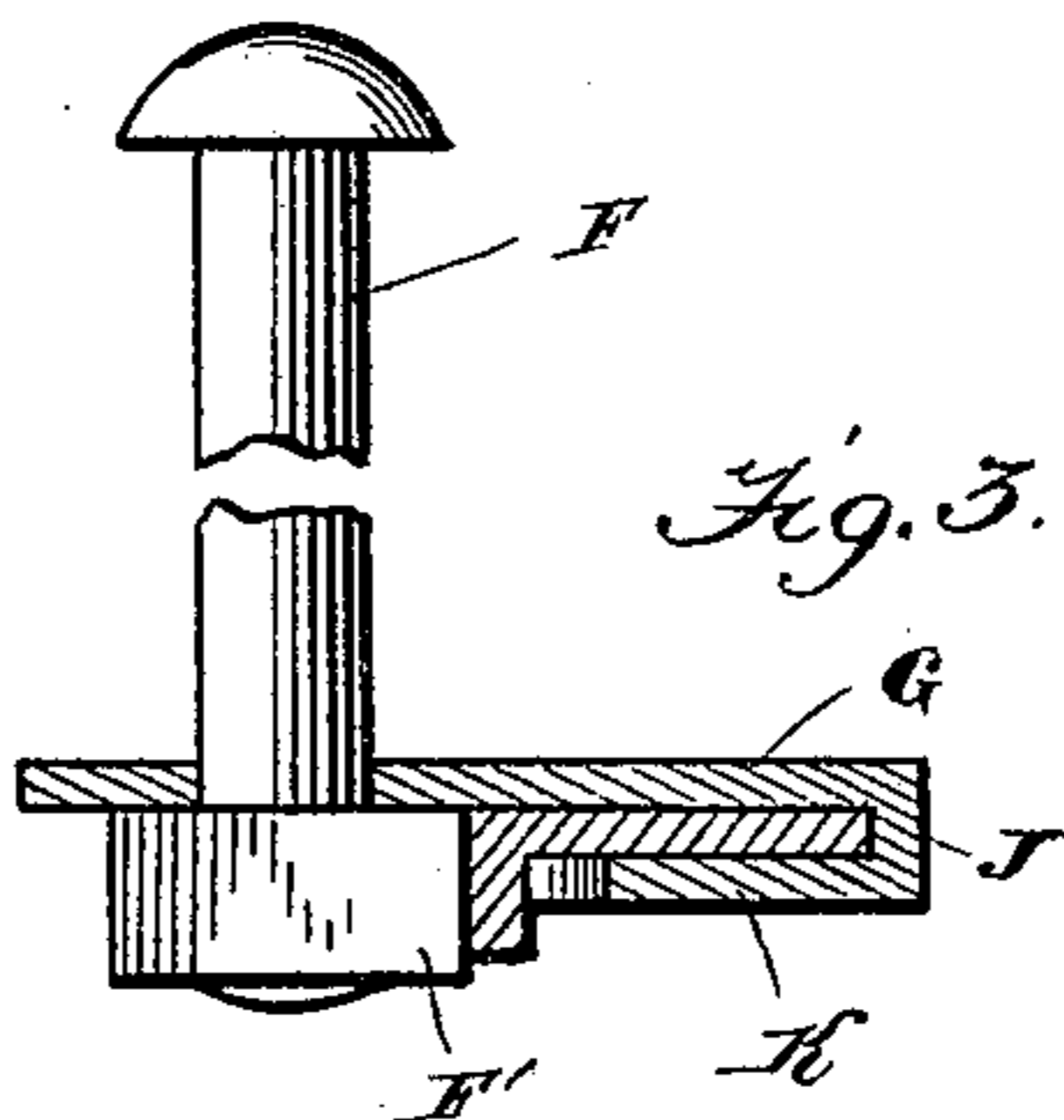
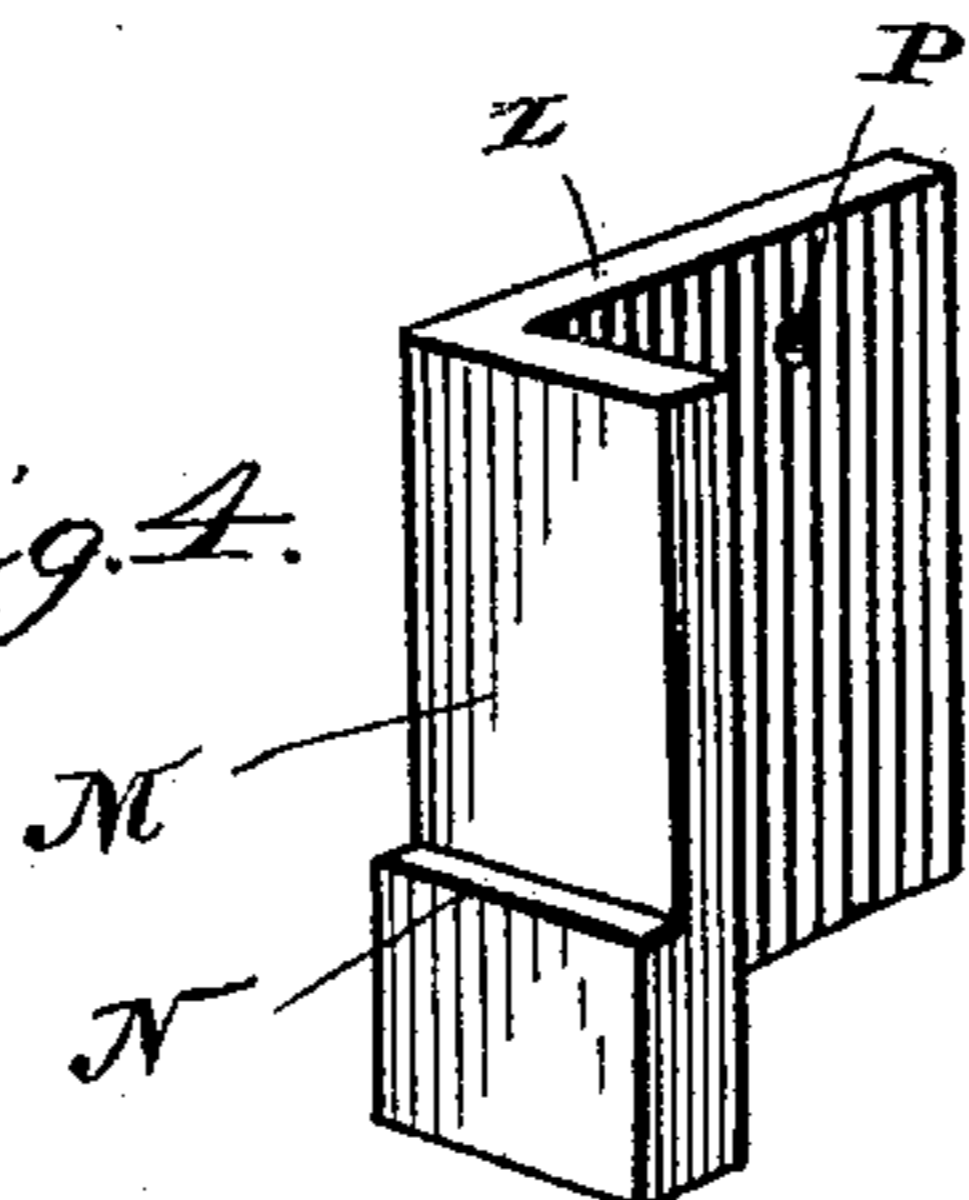


Fig. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

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NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 619,722, dated February 21, 1899.

Application filed May 13, 1898. Serial No. 680,653. (No model.)

To all whom it may concern:

Be it known that I, RICHARD EARL COOPER, residing at Keith, in the county of Catoosa and State of Georgia, have invented a new and useful Nut-Lock, of which the following is a specification.

My invention relates to that class of devices known as "nut-locks," which are removably connected with bolts and nuts for the purpose of preventing the nut from being accidentally jarred or turned off the bolt.

The object of my invention is to provide a device of this class especially adapted for application to the joints of railway-rails, which shall be simple in construction, cheap, durable, and not liable to be easily broken or worn out.

With this object in view my invention consists in a plate adapted to be slipped over the bolt prior to threading the nut thereon, which plate will be held from turning by contact with the head of the rail or the base thereof, or both, and shall be provided with a vertical recess in which to slide a locking-block against the side of the nut when turned up, means being also provided to prevent the locking-block from jolting, jarring, or jumping out of the recess.

My invention further consists in the improved construction, arrangement, and combination of parts hereinafter fully described, and afterward specifically pointed out in the appended claims.

In order to enable others skilled in the art to which my invention most nearly appertains to make and use the same, I will now proceed to describe its construction and operation, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a perspective view illustrating my invention in position for practical operation. Fig. 2 is a transverse section through the same. Fig. 3 is a detail view, partially in plan and partially in horizontal section, the section being about centrally through the locking-bar and retaining-plate, the nut and bolt being shown in plan. Fig. 4 is a detail perspective view of the locking-block.

Like letters of reference mark the same

parts wherever they occur throughout the various figures of the drawings.

Referring to the drawings by letters, A indicates the base, B the web, and C the head, of a railway-rail.

D and E indicate the fish-plates, the web B of the rail and fish-plates D and E being provided with registering perforations (not shown) through which to insert the securing-bolt F.

G indicates a plate which I shall term the "retaining-plate" and which is provided with an opening to pass over the threaded end of the bolt after it is projected through the openings in the web of the rail and the fish-plates and before the nut F' is threaded thereon. This plate is provided at its upper edge with an inwardly-extending flange H, which is adapted to fit in the groove-like recess I, between the upper edge of the fish-plate E and the lower edge of the head C of the rail. The plate G for the greater portion of its extent rests in contact with the fish-plate E, but at one end it is formed with an outwardly-extending portion J and an outer section K, parallel with the main plate itself, leaving a recess between the main plate and the outer section, as clearly shown, said recess extending from the top to the bottom of the plate, and the outer section K being of a length to leave a space between its end and the nut F' when threaded upon the bolt.

L indicates the locking-block, which consists of a main plate and a right-angle flange M, said flange being thicker at the bottom and being provided with a horizontal shoulder N.

The construction of my invention will be readily understood from the foregoing, and its operation may be described as follows: The fish-plates having been placed in position with their openings registering with the opening in the rail, the bolt F is passed through, leaving its threaded end projecting. The retaining-plate G is passed over the threaded end of the bolt until it rests against the fish-plate with its flange H in the groove-like recess I between the upper edge of the fish-plate and the lower edge of the head C of the rail. The nut F' is now threaded upon the bolt and

turned up tight, when the locking-block L is slipped vertically into the recess between the retaining-plate G and its section K, with the flange M of the locking-block between the ends of the section K and the side of the nut. The block is forced downward until its shoulder N passes the lower corner of the nut, as shown in Fig. 1, when a spring-pin O is passed through openings P in the retaining-plate and locking-block, which will prevent the locking-block from being jarred or jolted out of the recess of the retaining-plate. When the parts of my invention are thus adjusted, it will be impossible for the nut to work loose, and all danger from accidents due to the working off of the nuts and loosening of the joints of the rails will be thereby obviated. The retaining-plate and locking-block may both be cast or forged, as may be desired, and will form independent articles of manufacture, as it may often be necessary to renew one while the other is good or to renew either on account of that portion having been lost or mislaid.

While I have illustrated and described what I now consider to be the best means for carrying out my invention, I do not wish to be understood as restricting myself to the exact forms and constructions shown, but hold that any slight variation therefrom, such as might

suggest itself to the ordinary mechanic, would properly fall within the limit and scope of my invention.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination with the rail, fish-plates, bolt and nut, of the retaining-plate G provided with a recess and the locking-plate L adapted to fit in said recess and provided with a right-angle flange M and resting against the side of the nut, substantially as described.

2. The combination with the rail, the fish-plates, the bolt and the nut, of the retaining-plate G provided with an inward flange H on its upper edge, the right-angle portion J and section K, and the locking-block L fitted in the recess in the retaining-plate and provided with a right-angle flange resting between the end of the section K of the retaining-plate and the side of the nut, formed with the shoulder N to engage the lower corner of the nut, substantially as described.

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mark

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