

No. 630,117.

Patented Aug. 1, 1899.

J. SAUR.
NUT LOCK.

(Application filed Apr. 17, 1899.)

(No Model.)

Fig. 1.

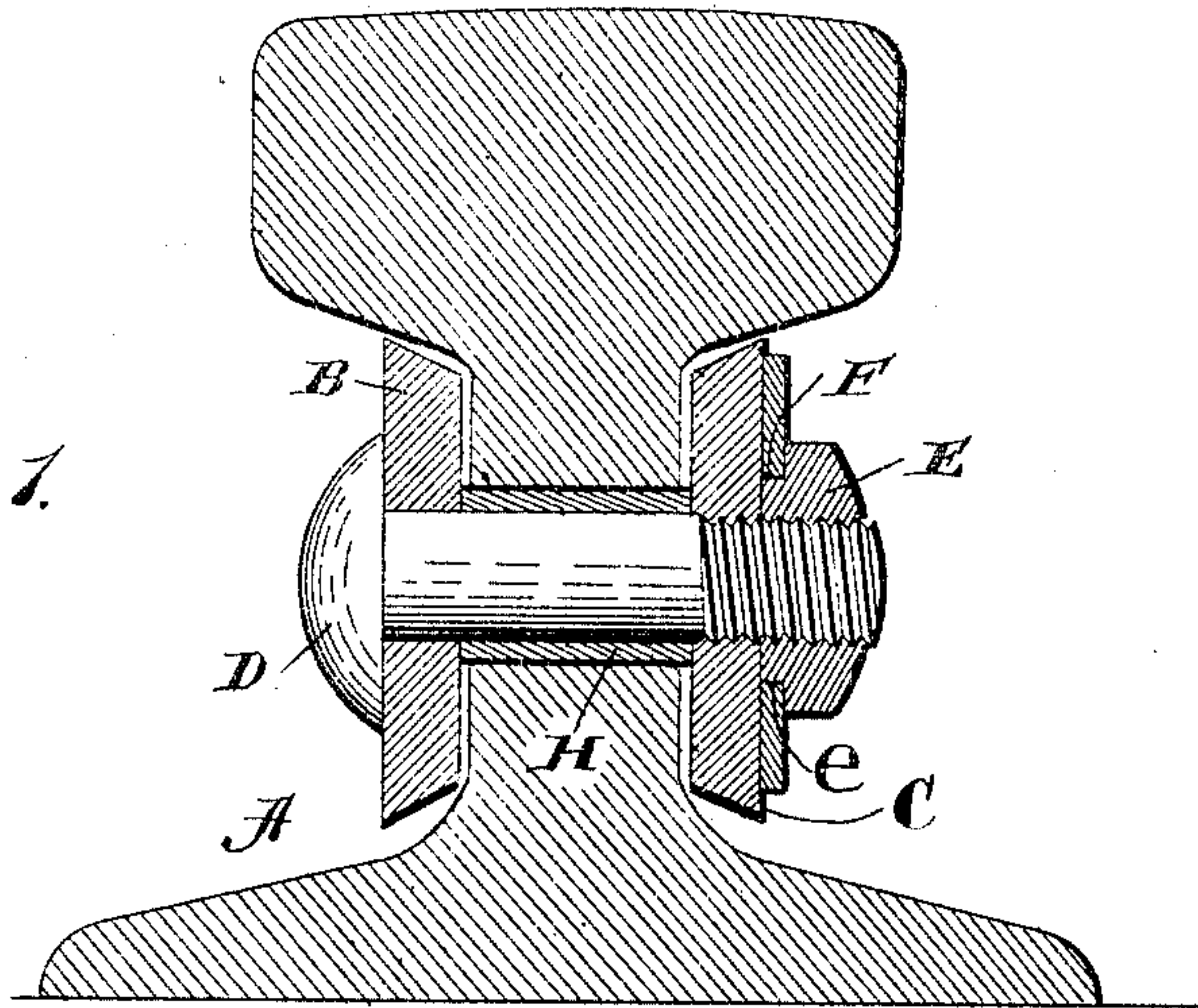


Fig. 2.

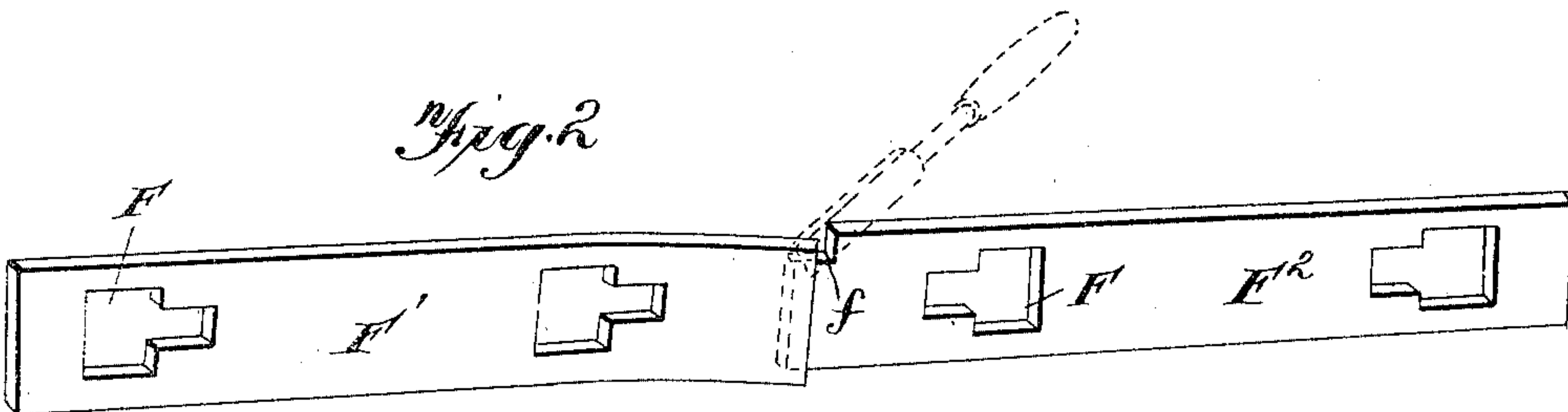


Fig. 3.

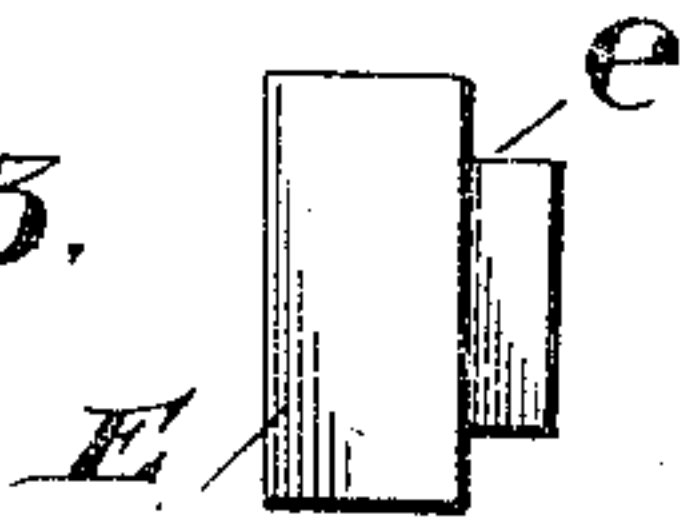


Fig. 5.

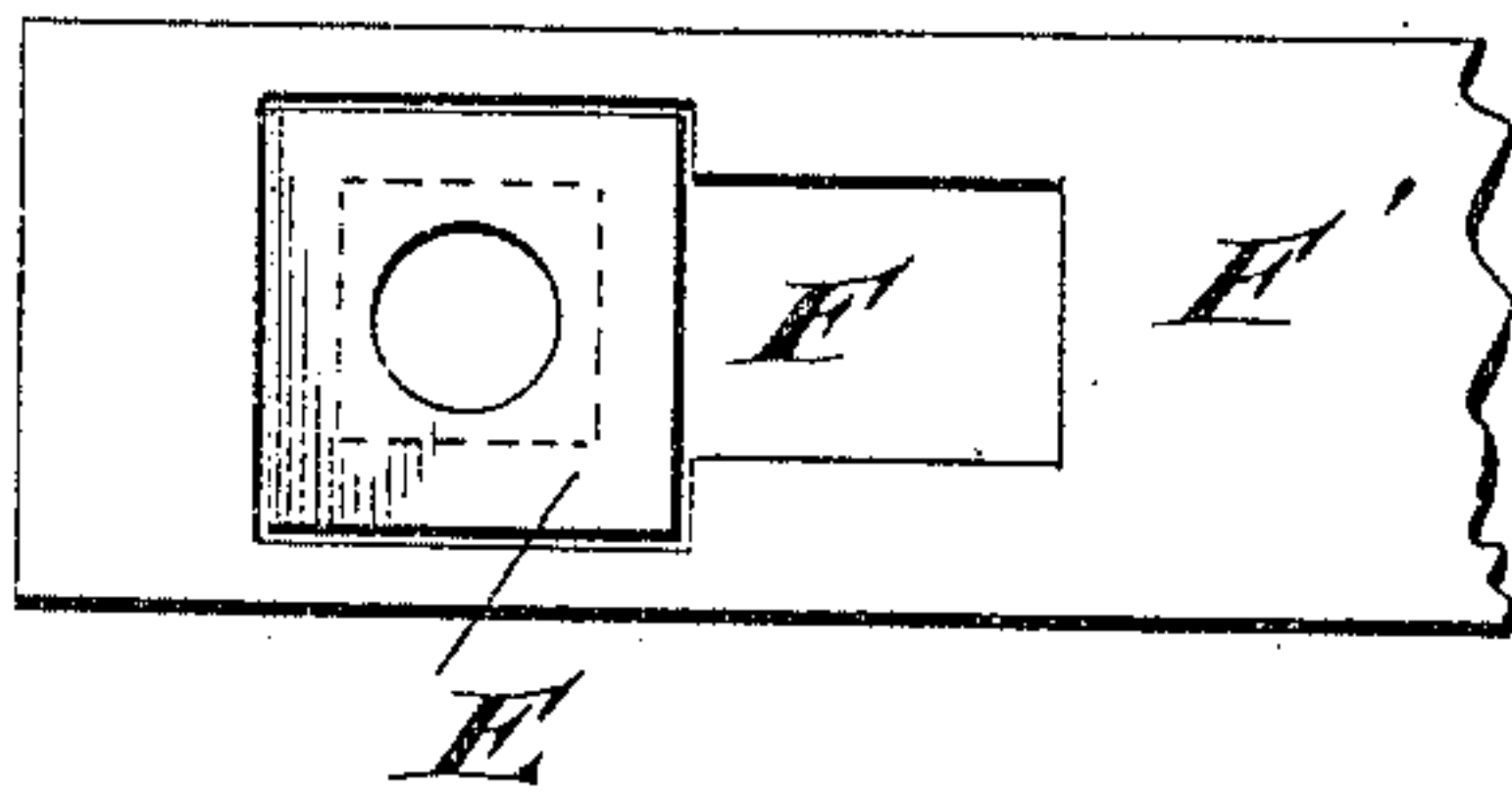


Fig. 4.

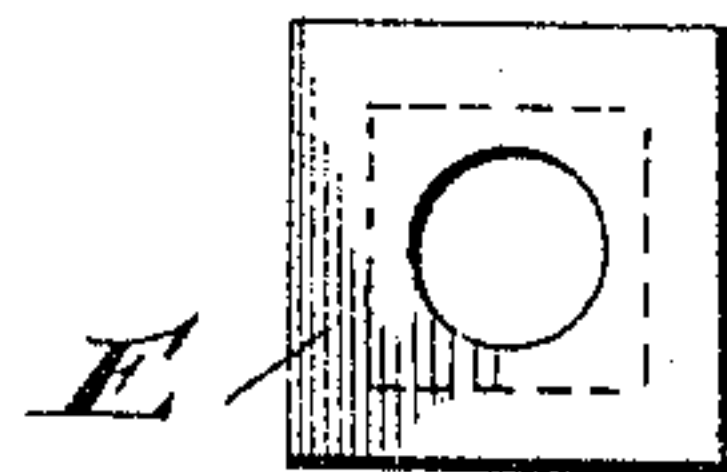


Fig. 6.

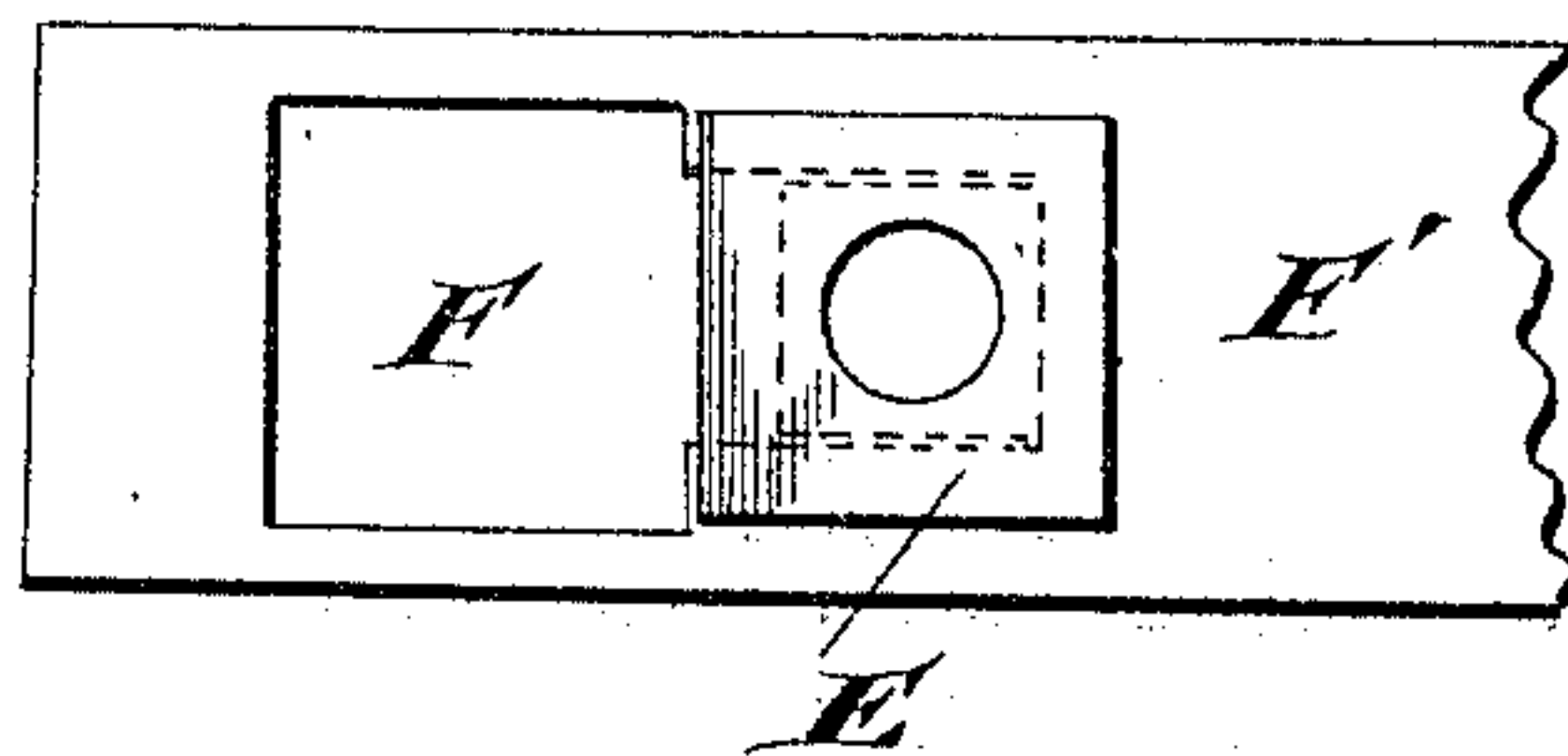
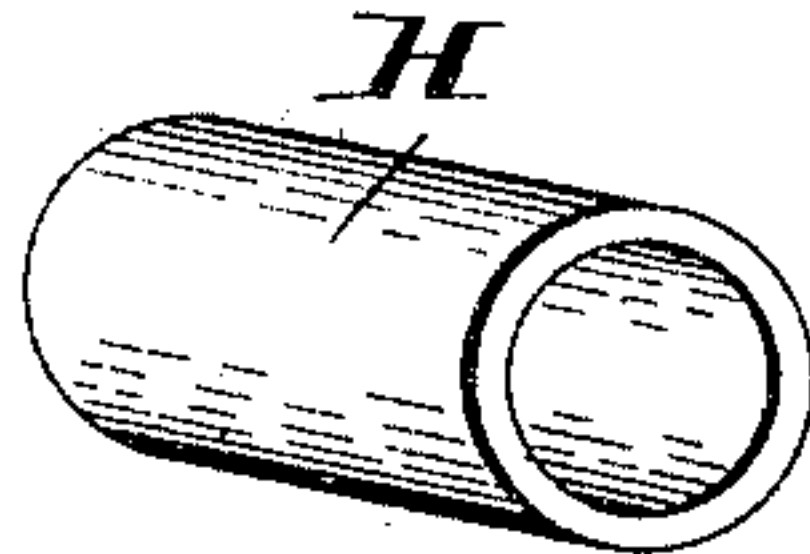


Fig. 7.



Witnesses

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UNITED STATES PATENT OFFICE.

JOHN SAUR, OF RICHMOND, INDIANA.

NUT-LOCK.

SPECIFICATION forming part of Letters Patent No. 630,117, dated August 1, 1899.

Application filed April 17, 1899. Serial No. 713,257. (No model.)

To all whom it may concern:

Be it known that I, JOHN SAUR, a citizen of the United States, residing at Richmond, in the county of Wayne and State of Indiana, have invented certain new and useful Improvements in Nut-Locks; and I do 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 the letters of reference marked thereon, which form a part of this specification.

My invention relates to improvements in nut-locks, and has for its object to furnish an attachment to be used for securely locking nuts in their places on bolts, so that they cannot accidentally become loosened or removed.

With this object in view my invention consists in the improved construction, arrangement, and combination of parts hereinafter fully described and afterward specifically pointed out in the 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 and illustrate its construction and operation in connection with the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a sectional view of a railroad-rail and of my improvements applied thereto and in connection therewith. Fig. 2 is a perspective view of the two plates in locking position, showing how a tool may be inserted in the notch *f* for raising the inner end of the longer plate *F'*. Fig. 3 is an edgewise view of the nut to be used in connection with my invention. Fig. 4 is a face or front view of the nut referred to. Fig. 5 is a detail view of one of the openings, as shown in Fig. 2, with the nut in the large part of the opening. Fig. 6 is the same as Fig. 5, showing the nut in the position in which it is locked; and Fig. 7 is a detail perspective view of the thimble to surround the bolt.

Like letters of reference will mark the same parts wherever they occur throughout the various views.

Referring to the drawings by letters, A is an ordinary railroad-rail. B and C are fish-plates; D, an ordinary bolt for binding the

fish-plates to the rails. All of the above parts need not be materially changed from those now in use to use my invention.

E is a nut to fit the bolt D, and it is provided with a shoulder *e* all around its four inner edges, as shown in Figs. 3 and 4.

F is a plate, preferably of steel, in two parts *F'* and *F²*, Fig. 2, said plates having four or more slots or openings, as shown, two in each part. One of these plates is longer than the other, the shorter one being provided with a notch *f* in its upper left-hand corner, as shown in Fig. 2.

H is a thimble slightly longer than the width of the stem of the rail, one thimble to be used through each hole in the stem of the rail.

The operation of my device may be described as follows: The rails are first put together in the usual manner, using the nut as described with the shoulder next to the rail. The nuts are run up as tight as desired, being careful to leave them square with the rail. The plate *F²* is now placed in position so that the larger part of the openings will go over and around the nuts. It is then pressed back against the fish-plate. It can then be forced to the right, so that the smaller parts of the openings will slide into the shoulder formed on the nuts. The plate *F'* is then likewise placed in position, except that it is entered under the nuts from the opposite direction, as shown, and as soon as it comes to its place the right-hand end of the plate *F'* will drop off of the left-hand end of the plate *F²* and the two inner ends of the plates *F'* and *F²* will abut against each other, so that they cannot work out of their places. It will thus be seen that all four of the nuts are securely locked, so that it would be impossible to turn them or for them to work loose.

If it should be desired to remove the nuts, a chisel or some other tool can be put in the notch *f* in the corner of the plate *F²*, and the end of the plate *F'* can be pried up and slipped to the right, and thus removed.

As previously stated, the thimble H is slightly longer than the width of the stem of the rail. The object of this is that the inner sides of the fish-plates will come against the ends of this thimble without their touching the rail. By the use of the thimble the nuts can be made tighter against the fish-plate

and still leave the rails free to contract and expand. To use this thimble, it will be necessary to either make the holes in the rails larger than now used or the bolt can be made smaller, as desired.

While I have illustrated and described the best means now known to me for carrying out my invention, I wish it to be understood that I do not restrict myself to the exact details of construction shown, but hold that any slight changes or variations in such details as would suggest themselves to the ordinary mechanic would clearly fall within the limit and scope of my invention.

I am aware that the rail A, the fish-plates B and C, and the bolt D are old and I make no claim to these parts, but merely illustrate them to show the manner of using my improvements in connection therewith.

What I do claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination with the meeting ends of two rails provided with the usual bolt-openings, the fish-plates having bolt-holes registering therewith, and thimbles extending through said openings, longer than the thickness of the rail-web, and having their ends abutting against the inner faces of said plates around the openings therein; of a bolt passing through both plates and each thimble, the nut therefor having a shouldered inner end, and locking-plates movable longitudinally upon the outer face of one fish-plate and adapted to have their inner ends contact when the plates aline, both plates being provided with openings adapted to engage said

shouldered inner ends of the nuts, substantially as described.

2. In a nut-lock, the combination with the rail ends having bolt-openings, thimbles extending through them and longer than the thickness of the rail-webs, and fish-plates at the sides of the rail-web and against the ends of said thimbles; of the bolt passing through both plates and the thimble, the nut having a shouldered inner end, and locking-plates movable longitudinally upon the outer face of one fish-plate and adapted to have their inner ends contact when the plates aline, one of said inner ends having a notch in the upper corner of the plate and both plates being provided with openings adapted to engage said shouldered inner ends of the nuts, substantially as described.

3. In a nut-lock, the combination with the rail ends having bolt-openings, and fish-plates at the sides of the rail-web; of the bolt passing through both plates, the nut having a shouldered inner end, and respectively long and short locking-plates movable longitudinally upon the outer face of one fish-plate and adapted to have their inner ends contact when the plates aline, a notch in the upper inner corner of the shorter plate and both plates being provided with openings adapted to engage said shouldered inner ends of the nuts, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN SAUR.

Witnesses:

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EMMA A. SYMONS.