

H. W. LAYTON.
Nut-Lock.

No. 214,408.

Patented April 15, 1879.

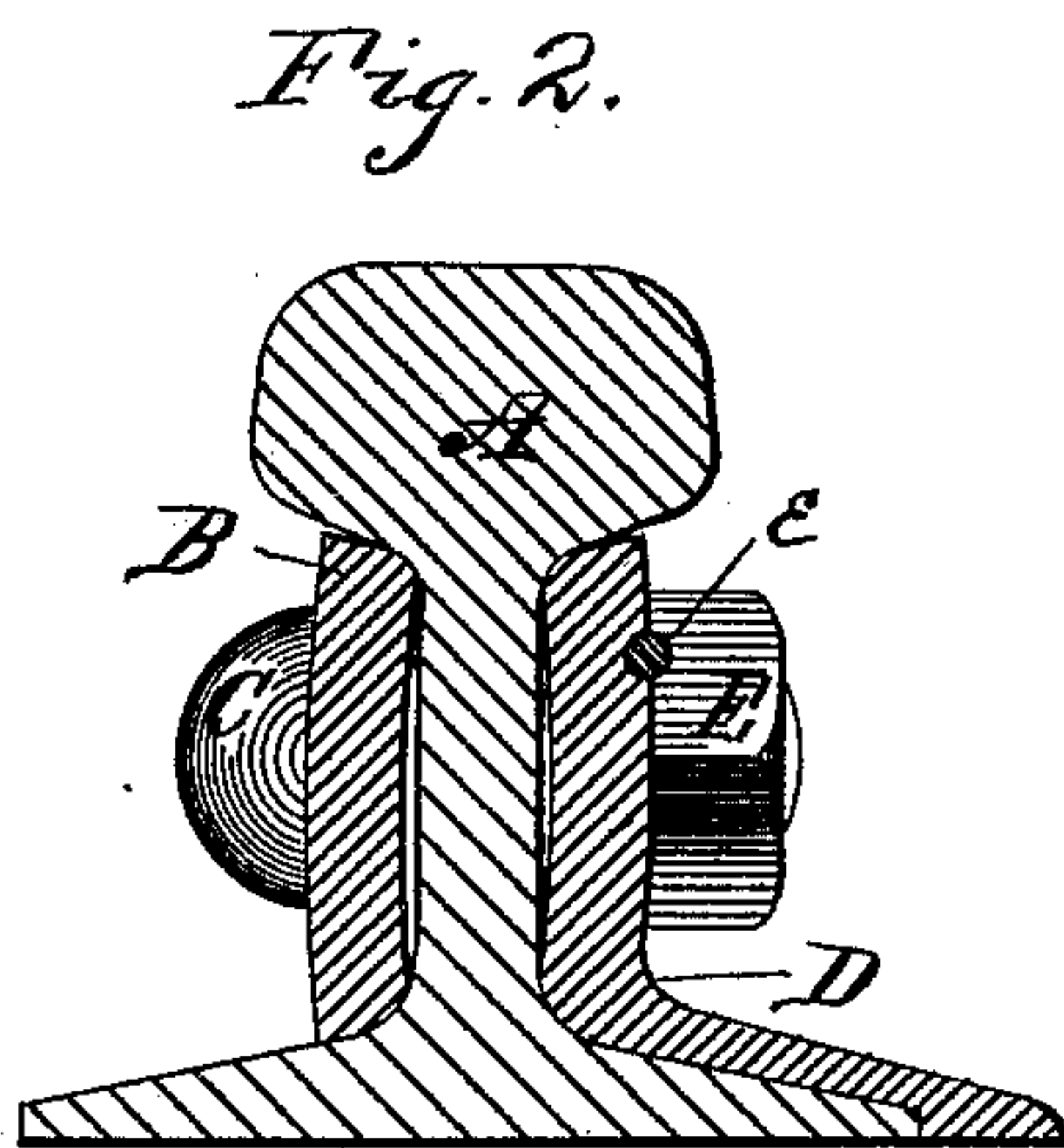
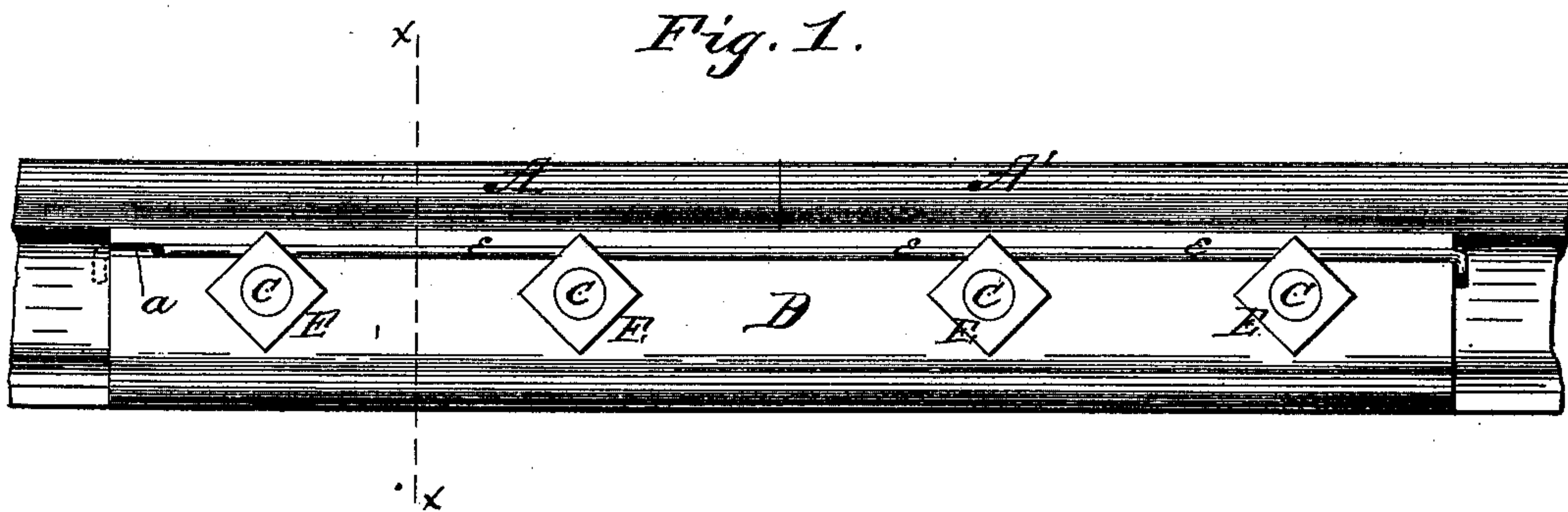


Fig. 3.

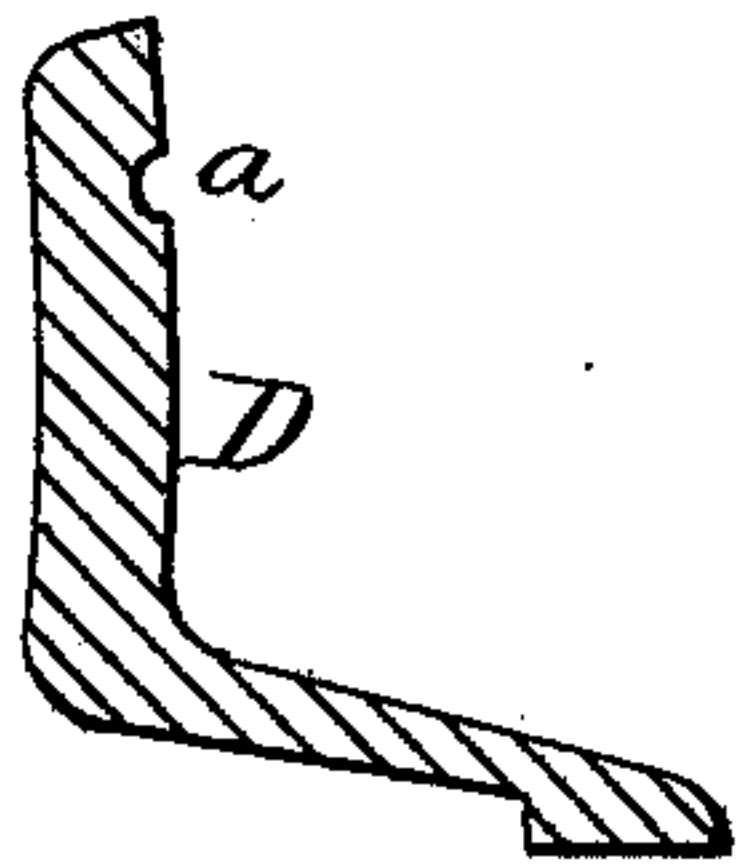


Fig. 4.

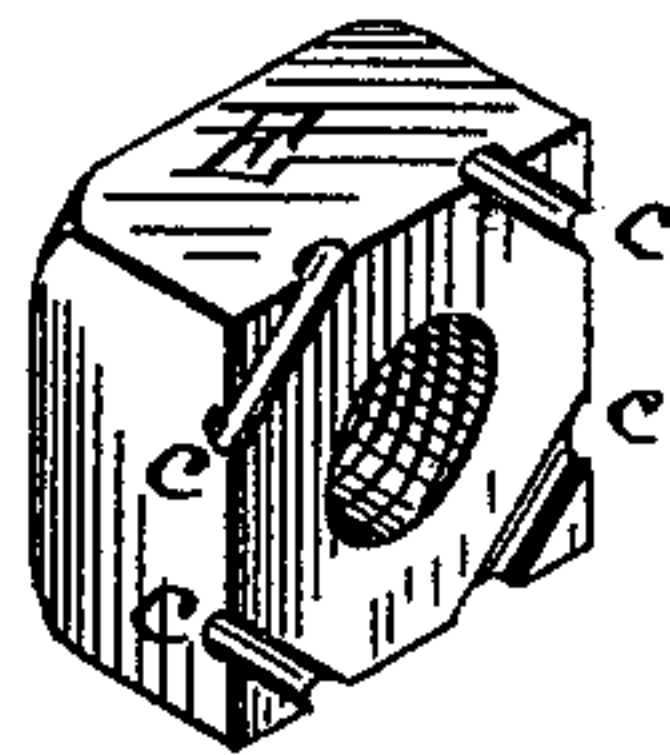
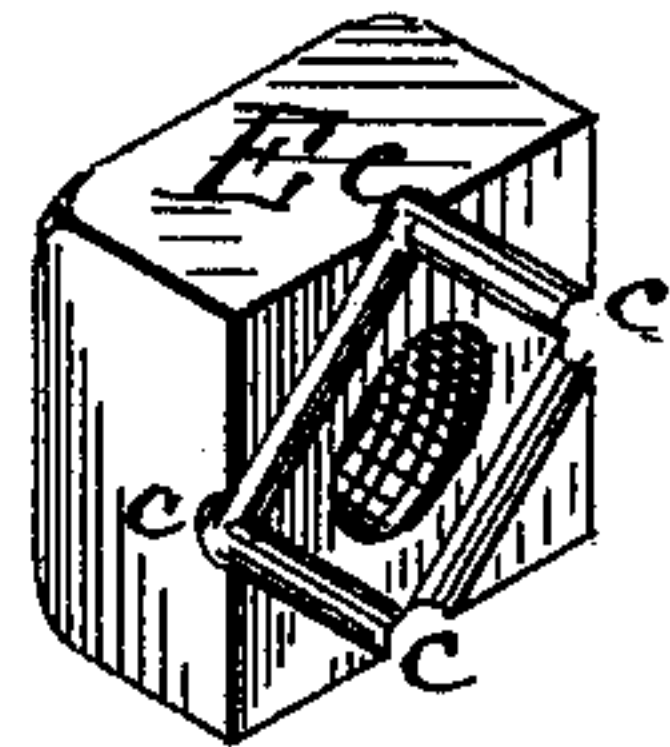


Fig. 5.



Witnesses.

J. A. Pollock.
J. Smith.

Hiram W. Layton, Inventor.

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UNITED STATES PATENT OFFICE.

HIRAM W. LAYTON, OF JOHNSTOWN, PENNSYLVANIA, ASSIGNOR OF ONE-HALF HIS RIGHT TO S. MILTON MILLER, OF SAME PLACE.

IMPROVEMENT IN NUT-LOCKS.

Specification forming part of Letters Patent No. **214,408**, dated April 15, 1879; application filed December 11, 1878.

To all whom it may concern:

Be it known that I, HIRAM W. LAYTON, of Johnstown, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Joints; and I do hereby declare that the following is a full, clear, and exact description of the invention, which 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.

Figure 1 is a side view of a rail-joint. Fig. 2 is a section, *xx*, of Fig. 1. Fig. 3 is a section of the grooved fish-plate. Figs. 4 and 5 are views of two forms of the nuts.

This invention relates to railroad-rail joints; and consists in the construction and combination of parts, as hereinafter fully described.

In the drawings, A A' designate the adjoining railends; B, the usual fish-plate, having the oval-necked bolts C, all as usual. The other fish-plate, D, is of the ordinary form, except that it is rolled with a longitudinal groove, *a*, in its outer face, either above or below the bolt-holes. The inner face of the nuts *e* is grooved tangentially, a groove, *c*, as in Fig. 4, cutting across each corner, making four grooves in each nut, the position of the grooves *c* corresponding with that of the groove *a* in the fish-plate with reference to the center of the bolt-holes. The nuts are placed on the bolts and tightened down in such manner that one groove in each nut lines with the groove in the fish-plate when a wire, *e*, having one end bent as shown, is pushed along the groove and under all the nuts, thereby firmly locking them in place, and preventing loosening and displacement. To insure this the other end of the wire may be bent down over the end of the fish-plate. It is obvious that such effects may be produced by inserting a shorter wire from each end, long enough to pass under two nuts only, the inner ends being bent up against the nuts, as shown in the figure by dotted lines.

The advantages of the foregoing construction are various. The fish-bars can be accurately grooved by the rolls at the time of their original production without extra cost. The nuts can be likewise struck up in finished form without additional cost beyond the expense of the grooving-dies. The wires cost but a trifle, and their cost is almost balanced by the slight decrease in the weight of the plates caused by the groove. The usefulness of both fish-plates and nuts is in no wise impaired for ordinary use, should it at any time be desirable or necessary to leave out the wires. Finally, the lock is rigid and unyielding, and absolutely prevents the slightest slackening of the nuts, which can be effected only after the withdrawal of the wires.

I am aware that it is not new to groove nuts for the bolts of rail-joints, and to form a corresponding groove in the fish-plate for the reception of a key to lock the nut; but the only instance with which I am familiar in which the nuts and plate are correspondingly grooved is where the plate has a central longitudinal groove or channel. Under this arrangement single keys or wedges are required for each nut. I provide, however, for the use of a single key for a set or series of nuts by grooving the fish-plate above or below the bolt-holes, so that the key may cross the bolts.

I claim as my improvement—

The groove *a* in the fish-plate, either above or below the bolt-holes, and the oblique grooves in the face of the nuts, in virtue of which a single wire may be made to lock two or more nuts, substantially as described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

HIRAM W. LAYTON.

Witnesses:

WM. BARNETT,
G. W. MOSES.