

(No Model.)

R. FORSYTH.
RAILWAY RAIL CLAMP.

No. 411,958.

Patented Oct. 1, 1889.

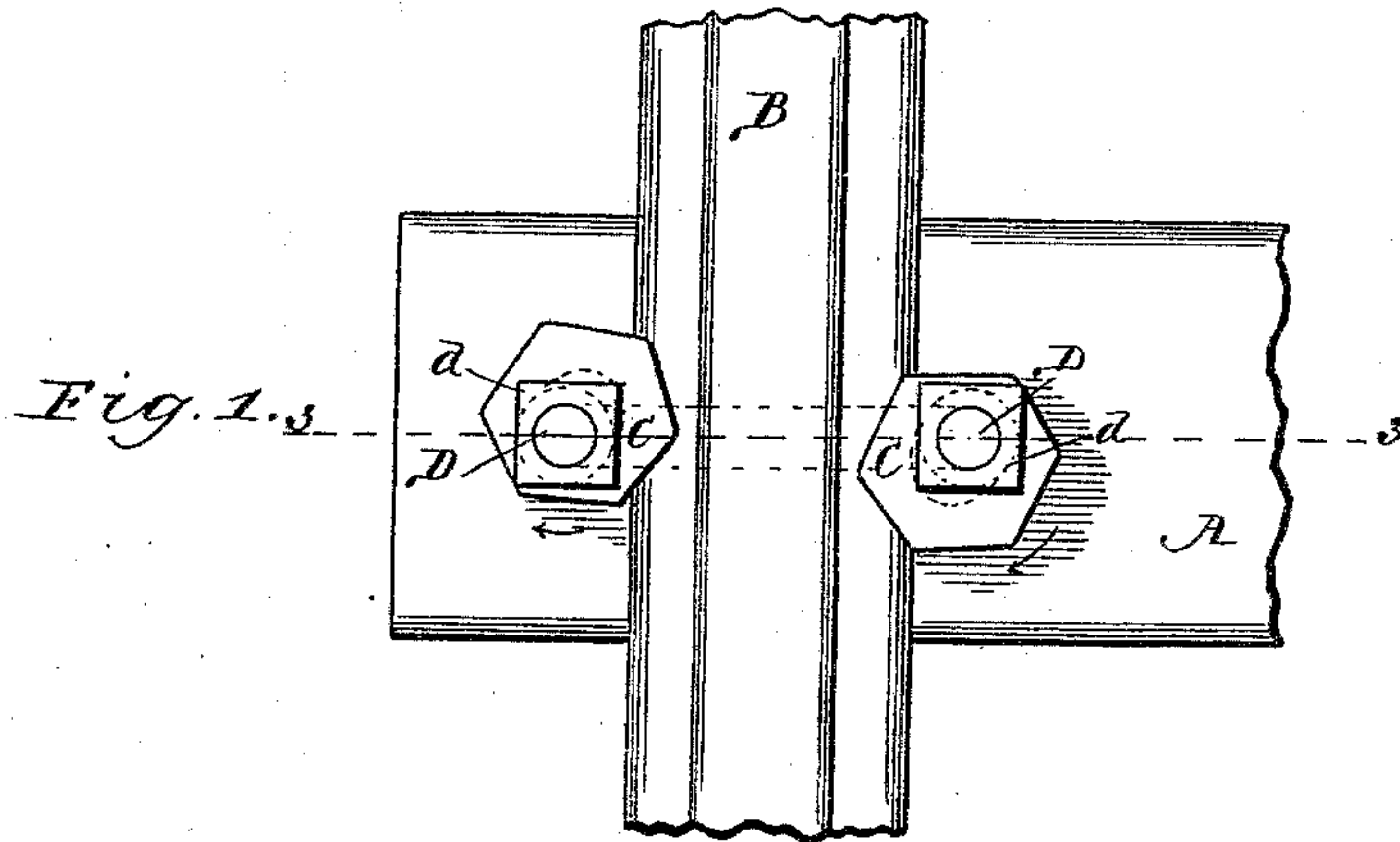


Fig. 2.

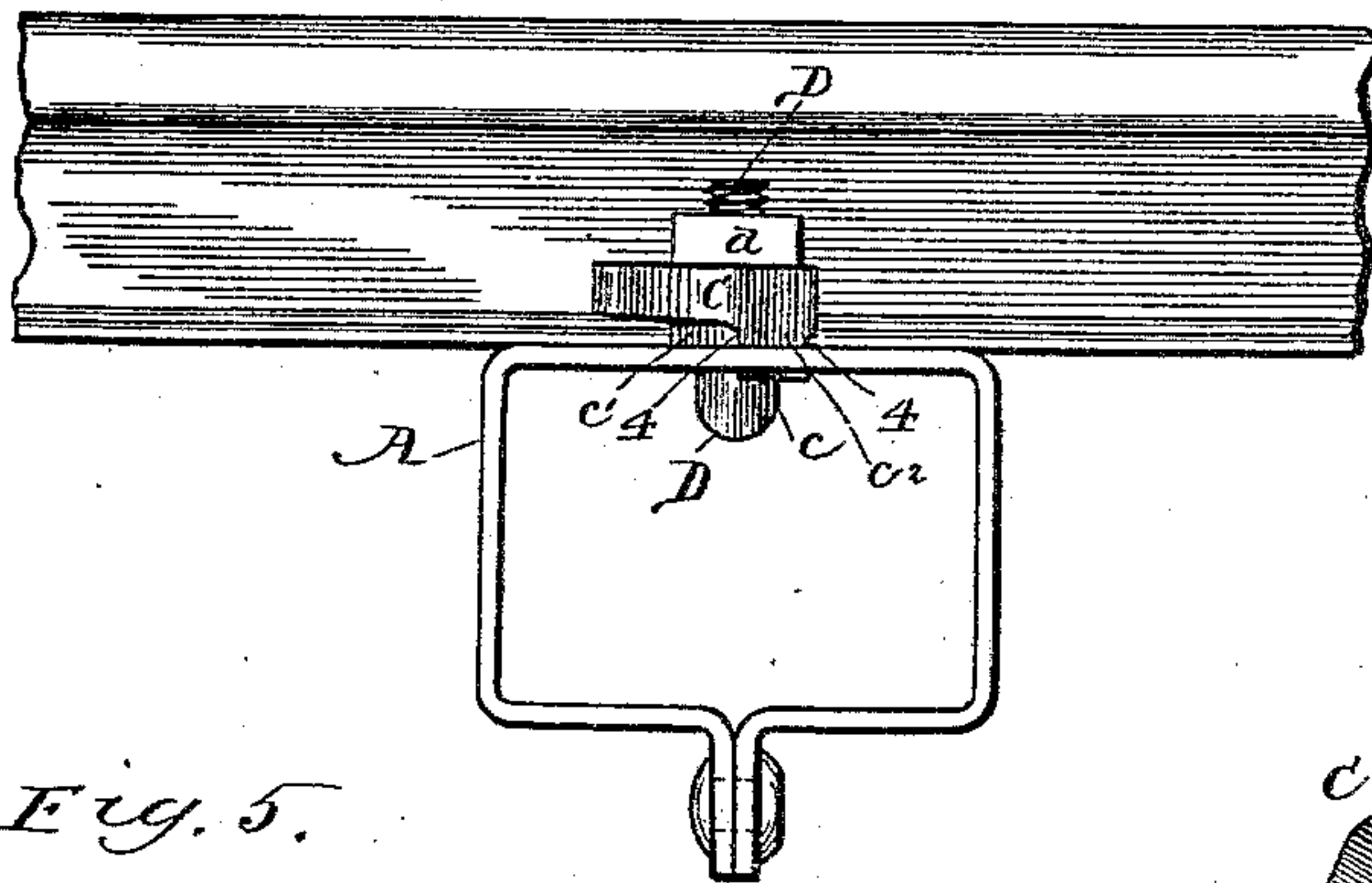


Fig. 5.

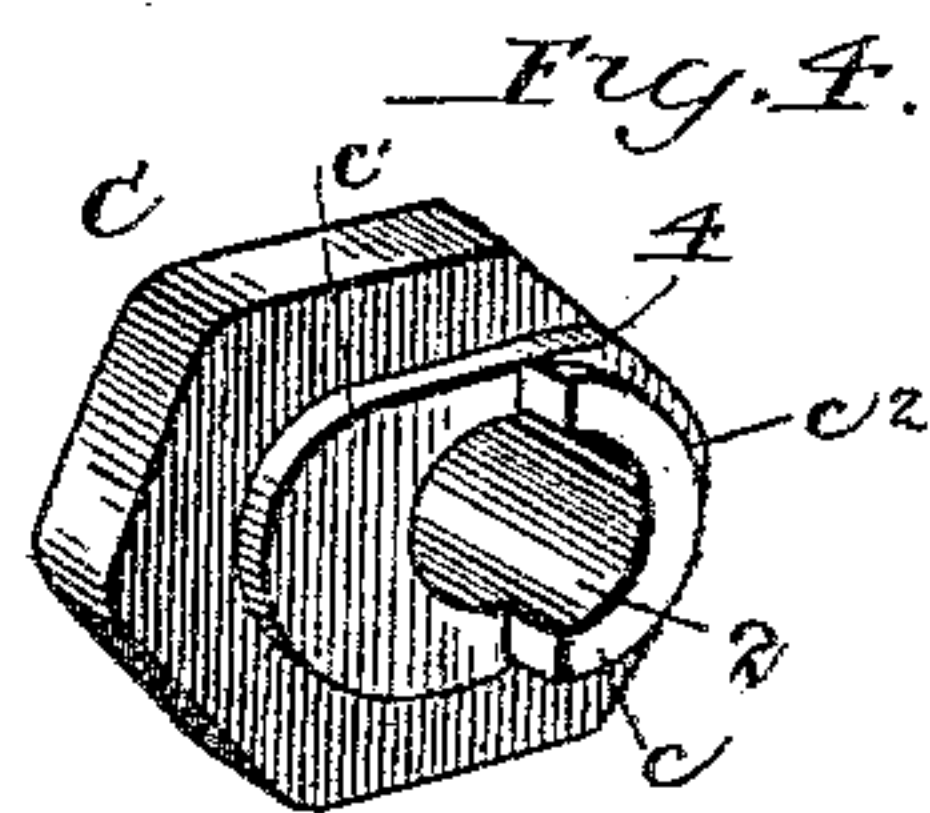
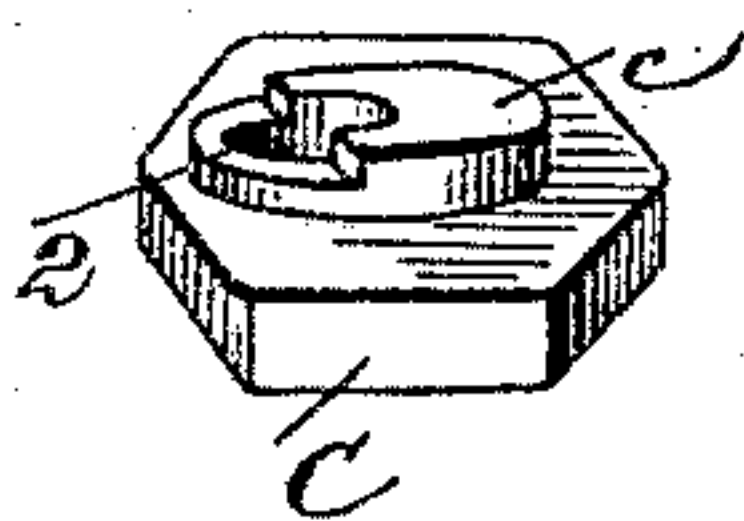
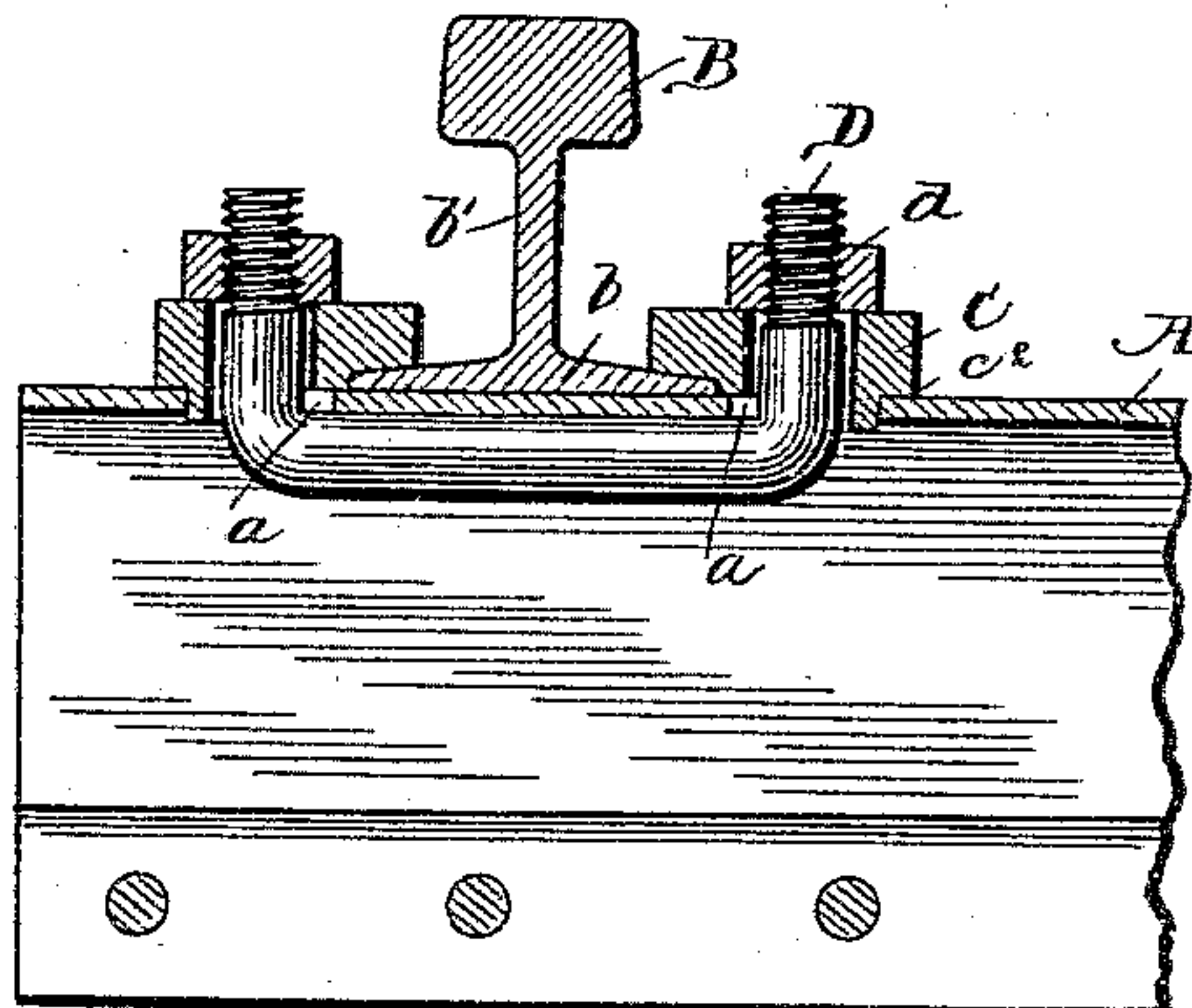


Fig. 3.



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UNITED STATES PATENT OFFICE.

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RAILWAY-RAIL CLAMP.

SPECIFICATION forming part of Letters Patent No. 411,958, dated October 1, 1889.

Application filed March 13, 1889. Serial No. 303,102. (No model.)

To all whom it may concern.

Be it known that I, ROBERT FORSYTH, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Railway-Rail Clamps, of which I do declare the following to be a full, clear, and exact description, reference being had to accompanying drawings, forming part of this specification.

Figure 1 is a plan view of a railway-clamp embodying my invention, a portion of the tie and of the railway-rail being also shown. Fig. 2 is a view in side elevation. Fig. 3 is a view in vertical section on line 3 3 of Fig. 1. Fig. 4 is a detail perspective view of the jam-block of the clamp. Fig. 5 is an inverted view of a modified form of jam-block.

A designates the top plate of a hollow box-shaped metallic tie for use in connection with which my improved rail-clamp is especially well adapted, although it will be found applicable in connection with other forms of ties. In this top plate A is formed the holes or seats *a*, two of these holes being adjacent each end of the tie and at a sufficient distance from each other to admit between them the flange *b* of the railway-rail B. These holes *a* of the top plate A are designed to receive the base shoulders or offsets *c* of the jam-blocks C, the holes being preferably larger than the shoulders or offsets for a purpose to be presently stated. The body of each of the jam-blocks is by preference of polygonal shape, so to permit it to be turned by a suitable wrench, and between this main body and the shoulder or offset *c* is formed the shoulder or extension *c'*, adapted to bear against the edge of the rail-flange *b*. The shoulder or extension *c'* is preferably curved, as seen in Fig. 3, eccentrically with respect to the hole 2, formed in the body of the jam-block, and with respect, also, to the shoulder or offset *c*.

Through the hole 2 of the jam-block passes the retaining-bolt D, which, with the nut *d* on its threaded end, serves to hold the jam-block in position against the flange *b* of the rail, but this hole of the jam-block is by preference somewhat larger than the body of the jam-block, so that when the jam-block is

tightened against the rail, as will be presently explained, the latter strain will not be thrown upon the bolt, but will be borne by the tie-plate. The bolt D is preferably formed, as shown, of U shape, although obviously two single bolts might be substituted for this bolt without departing from the spirit of the invention. So, also, if desired a single bolt and one of the jam-blocks might be employed, a suitable fixed clamp being used upon the opposite side of the rail, although I regard the use of the jam-blocks upon opposite sides of the rail as the preferable construction. The main body of the jam-block C is of such breadth as to overlap the flange *b* of the rail, and by preference the under side of this body portion is inclined or beveled from its edge to the shoulder *c'*, and as well also from its inner part to the corners of the bearing-shoulder *c*, that rests upon the tie-plate adjacent the shoulder or offset *c*. The purpose of thus shaping the under face of the body portion C of the jam-block is not merely to enable it to better conform to the face of the rail-flange, but as well also to insure its tightly binding upon the flange when the parts have been set to position for use.

From the foregoing description it will be seen that if the several parts be set to the position seen in Fig. 1 of the drawings and the jam-blocks be turned by a suitable wrench in the direction of the arrows, the shoulders or offsets *c* will bear against the rear edges of the holes or seats *a* of the plate A, while the eccentric shoulders or extensions *c'* will bear lightly against the edges of the rail-flange *b*. At the same time also the broad body portion C of each jam-block will overlap the corresponding rail-flange, and if the nuts *d* be now forced against the jam-blocks the several parts will be securely held in position to firmly clamp the rail to the tie.

It is plain that by forming the holds or seats *a* of the tie-plate A somewhat larger than the shoulders or offsets *c* of the jam-blocks, as I prefer to do, the lateral thrust of the eccentric shoulders or extensions *c'* of the jam-blocks is resisted by the edges of the holes or seats *a*, instead of being thrown directly upon the bolts.

It is obvious that variations in the precise

details of the construction above set forth may be made without departing from the spirit of the invention. Thus, for example, while I regard the use of the eccentric shoulders c' as the preferable construction, it would still be within the broad scope of the invention to omit these shoulders and so extend the body portion C of the jam-blocks as to bear against the web b' of the rail. So, also, it is plain that instead of making the shoulder or extension c' eccentric with respect to the hole 2 of the jam-block C, its edge might be made concentric with respect to said hole and the lower offset or shoulder c be made eccentric, as seen in Fig. 5. This mere reversal, however, is clearly within the scope of the invention, and I wish its equivalency to be understood.

One of the material advantages incident to my improved construction of clamp is that by means thereof compensation can be readily made for variations in the width of rail-flanges, since by turning the jam-blocks more or less, according as the rail-flange is narrow or broad, the eccentric portion of the jam-block can be caused to firmly bind the flange and lock the rail in position.

I do not wish to be understood as claiming herein the construction of metallic tie shown, as this tie forms the subject-matter of a separate application filed of even date herewith.

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

1. A railway-rail clamp comprising a bolt, and a perforated jam-block upon said bolt, said jam-block having an eccentrically-curved portion to bear laterally against the rail and having a shoulder or offset to enter a hole in the tie-plate, substantially as described.

2. A railway-rail clamp comprising a bolt, and a perforated jam-block upon said bolt, said jam-block having a shoulder to lock the edge of the rail-flange and having a shoulder to enter a hole in the tie (one of said shoulders being eccentrically curved) and having

a broad portion to overlap the rail-flange, substantially as described.

3. A railway-rail clamp comprising a bolt, and a perforated jam-block upon said bolt, said jam-block having an eccentrically-curved shoulder to lock the rail-flange, and having a broader portion to overlap said flange, said broader portion of the jam-block being of polygonal shape to be engaged by a suitable wrench, substantially as described.

4. A railway-rail clamp comprising a bolt, and an eccentrically-perforated jam-block upon said bolt, said jam-block having a shoulder to bear against the edge of the rail-flange and having a shoulder to enter a hole in the tie, (one of said shoulders being eccentrically curved,) and having a polygonal body adapted to overlap the rail-flange, substantially as described.

5. A railway-rail clamp comprising a bolt, and a perforated jam-block upon said bolt, said jam-block having a shoulder to bear against the edge of the rail-flange, and having a shoulder to enter a hole in the tie-plate, (one of said shoulders being eccentrically curved,) in combination with said perforated tie-plate, substantially as described.

6. The combination, with a railway-tie having a perforated plate A, of a rail-clamp comprising a U-shape bolt D, the jam-blocks C, having the shoulders c and c' , and the nuts, substantially as described.

7. The combination, with a suitable perforated plate for supporting the rail, of a bolt, a perforated jam-block upon said bolt, said jam-block having a shoulder to bear against the edge of the rail-flange, and having a shoulder considerably smaller than the perforation of said plate to enter said perforation, (one of said shoulders being eccentrically curved,) substantially as described.

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Witnesses:

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