

J.B. Tarr
Railroad Rail

N^o 61,579.

Patented Jan. 29, 1867.

Fig. 5.

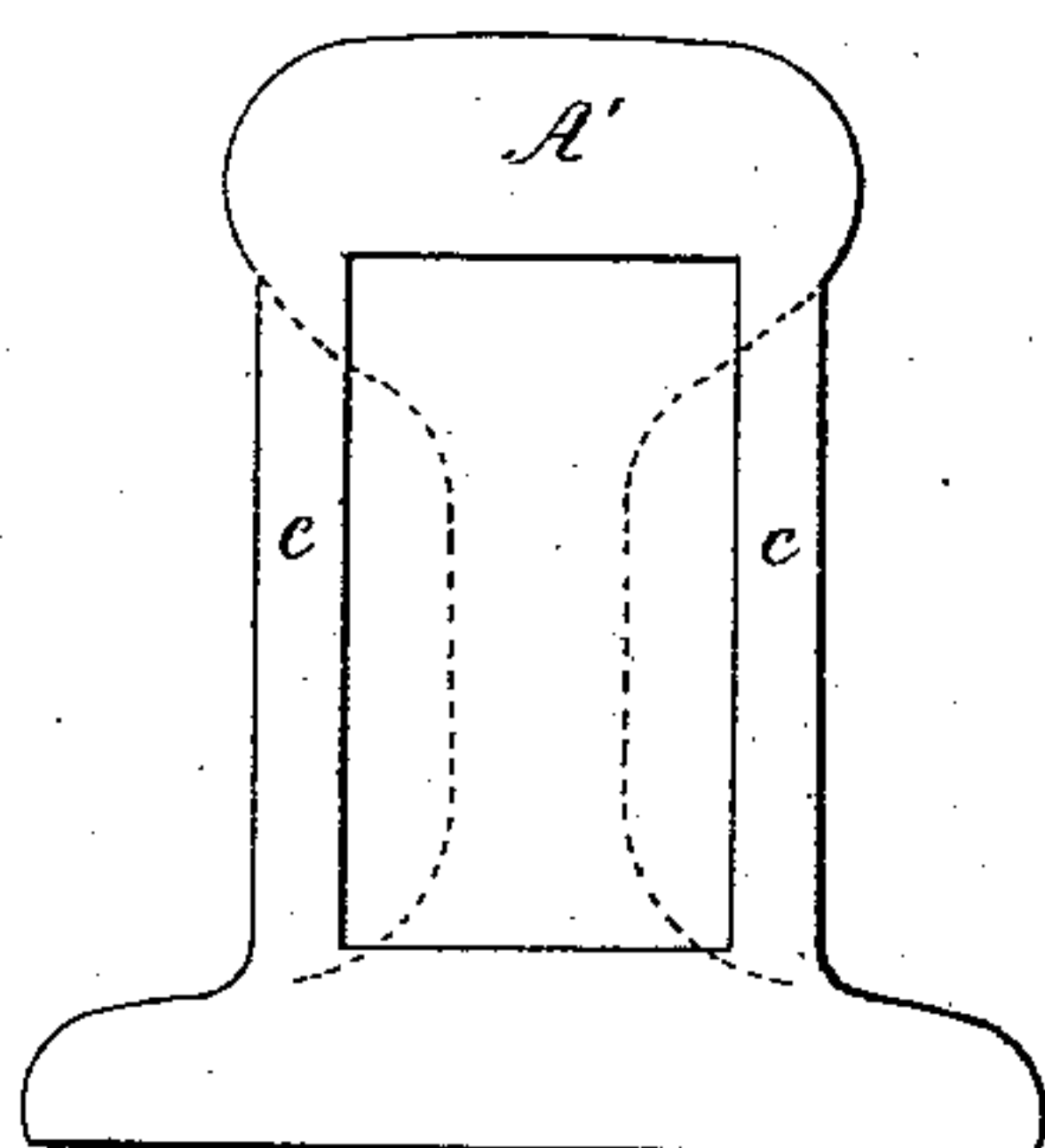


Fig. 1.

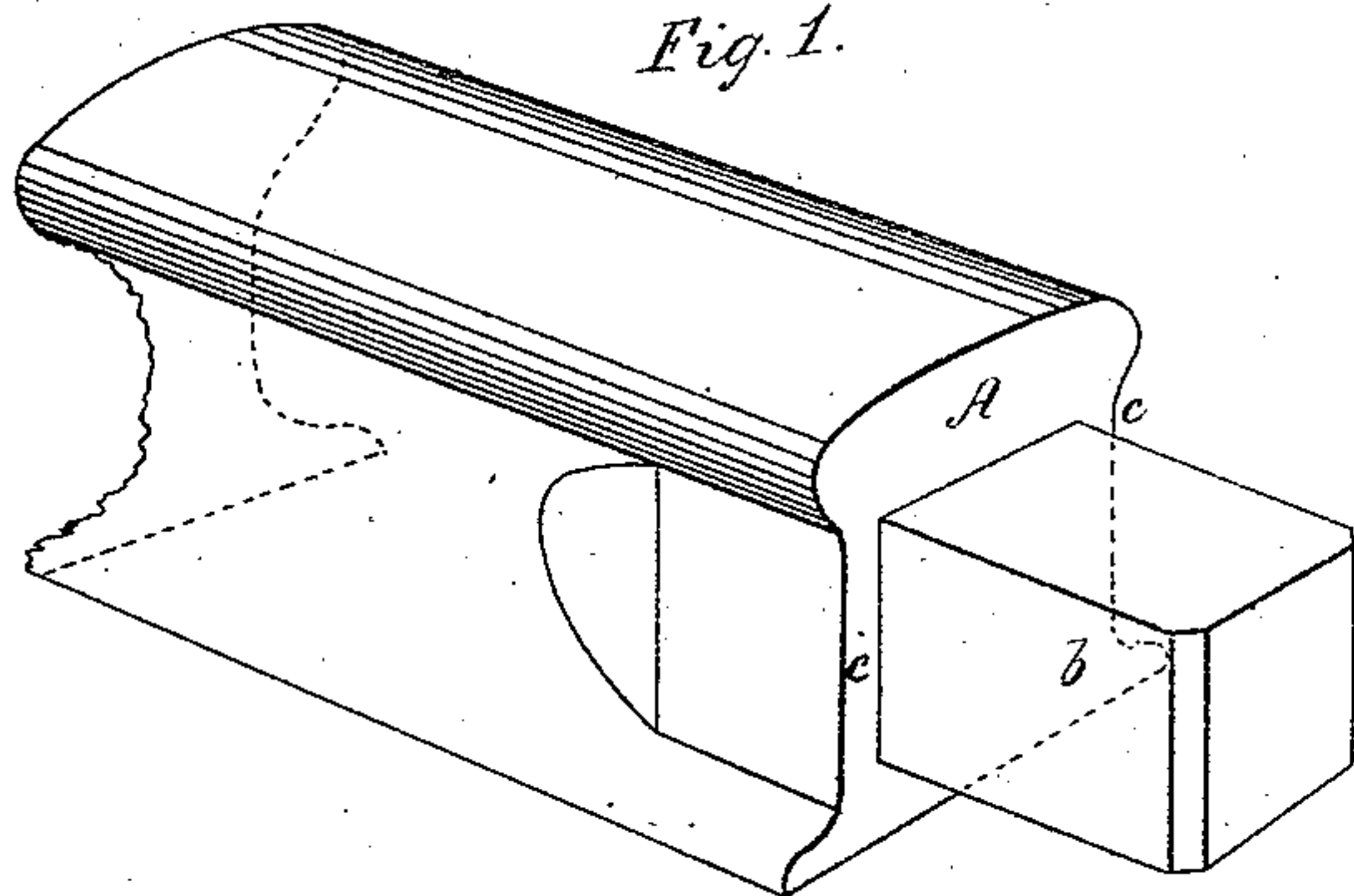


Fig. 2.

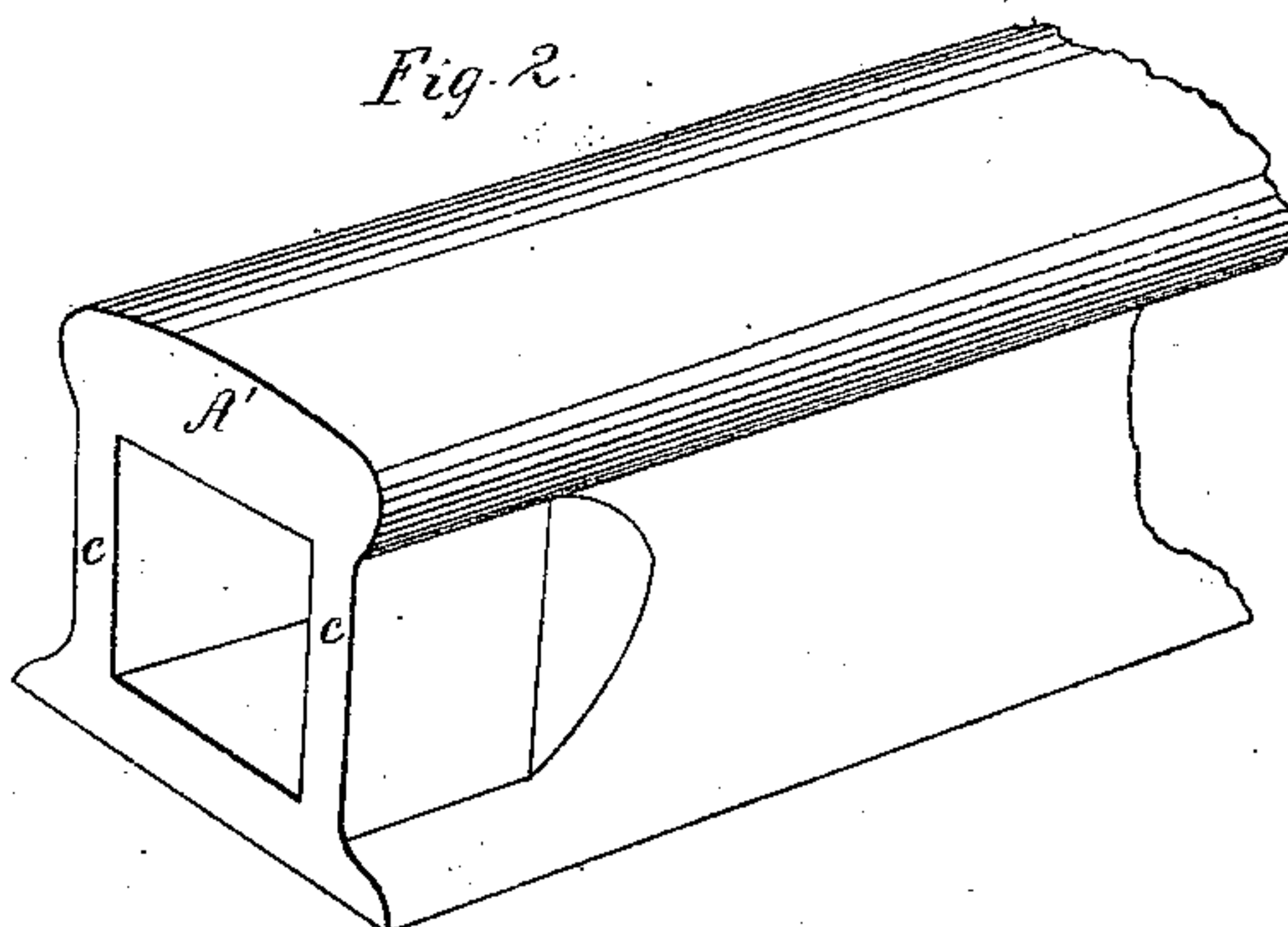


Fig. 3.

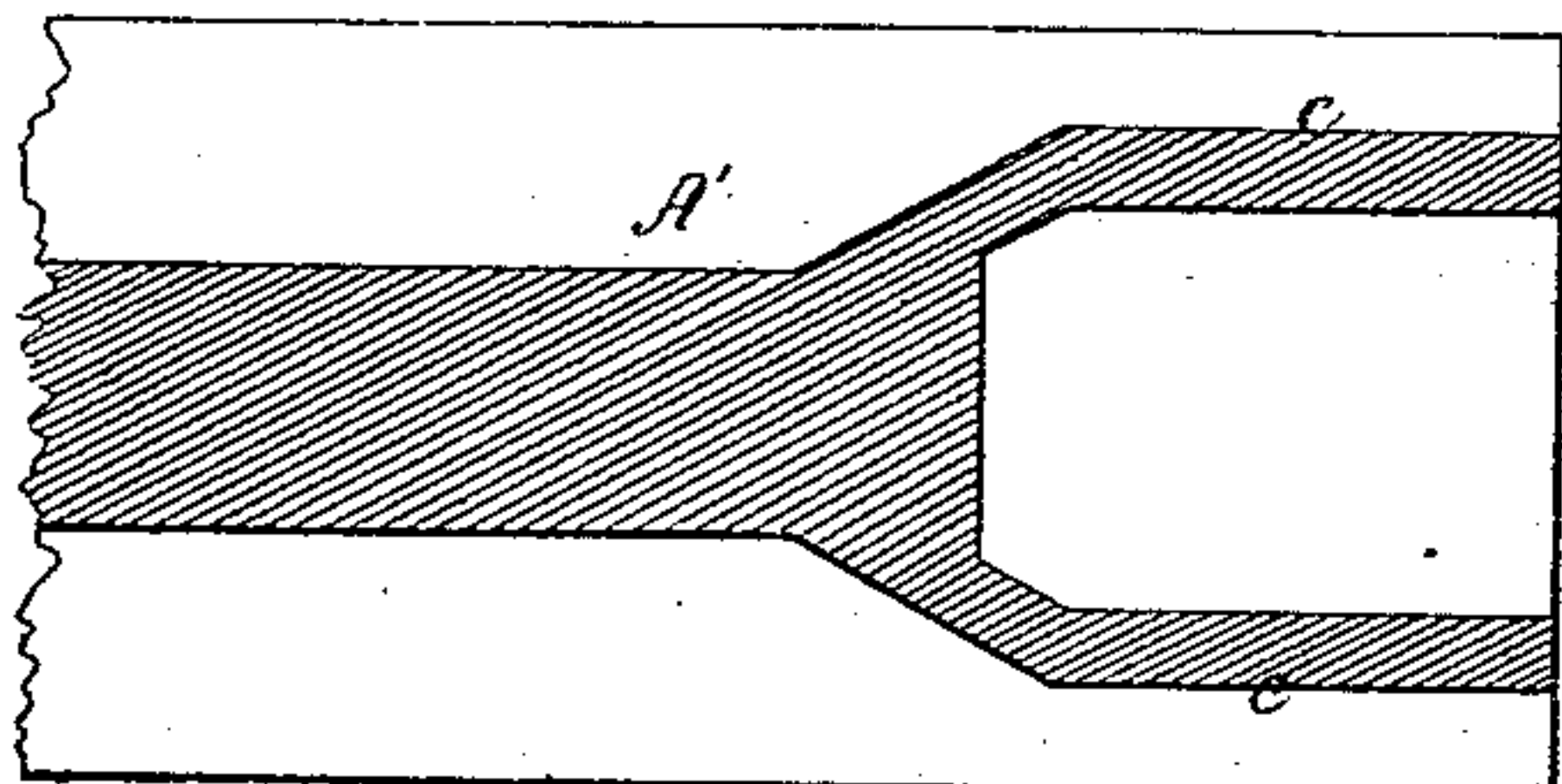
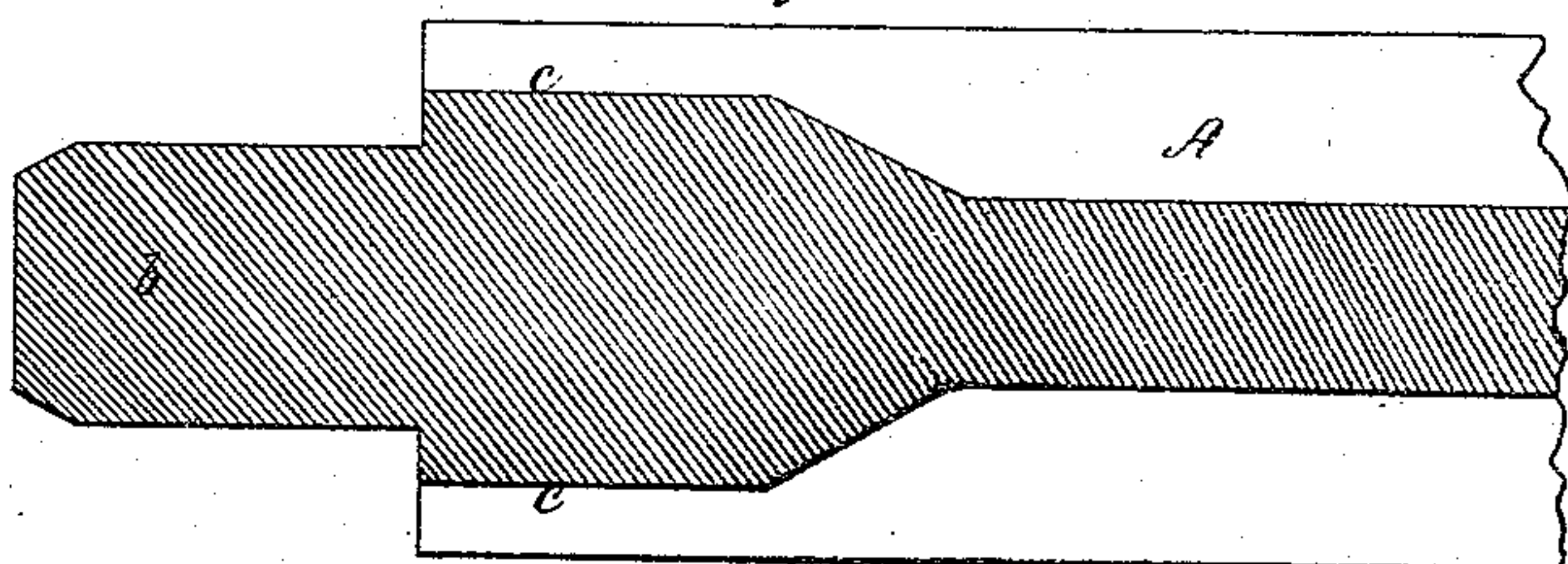


Fig. 4.



Witnesses;
R. H. Kimball
Edw. Schaefer

Inventor
John B. Tarr
Mason, Wheeler & Lawrence atty.

United States Patent Office.

JOHN B. TARR, OF CHICAGO, ILLINOIS.

Letters Patent No. 61,579, dated January 29, 1867.

IMPROVED RAILROAD RAIL.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, JOHN B. TARR, of Chicago, in the county of Cook, and State of Illinois, have invented an improvement in Railroad Rails; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a perspective view of one end of my improved rail, showing a tenon formed on it.

Figure 2 is a perspective view of one end of a rail section which has a recess formed in it.

Figures 3 and 4 are horizontal sections through the ends of two rail sections.

Figure 5 is an end view of the rail section which has a socket formed in it.

Similar letters of reference indicate corresponding parts in the several figures.

This invention relates to an improvement on railroad T-rails which are made solid, in contradistinction to the T-rails which are made with holes through them. It also relates to an improvement on railroad rails which are united together at their joints by means of tenons fitting into sockets and breaking joints with the ends of the rails. The invention further relates particularly to rails which are made of cast steel by a process of compressing the metal while it is in the moulds, for the purpose of expelling air and rendering the metal more dense and tougher than by simple casting without pressure.

The object of my invention is to practically secure rail sections of solid railroad rails together at their joints by means of tenons fitting into sockets, by forming enlargements at the ends of the rails in such manner that they will afford the requisite degree of strength to admit of the formation of tenons and sockets at the ends of the rail sections, as will be hereinafter described.

Another object of my invention is to produce tenons and sockets at the ends of railroad rails by a process of casting the rails, as will be hereinafter described.

To enable others skilled in the art to understand my invention, I will describe its construction and operation.

In the accompanying drawings, A represents one end of a rail section of a -shaped rail, which is constructed with a tenon, b, projecting from its vertical face any required distance. A' represents one end of a T-rail, having a mortise or socket formed in it of such a size and shape as will admit of the tenon b fitting snugly into it and allow the vertical ends of the rails to be brought together. The object of this tenon-and-socket joint is to unite the sections of rails together, and prevent either an upward or downward vertical displacement or lateral thrust, and to dispense with splices, braces, or other supports, which render necessary the use of bolt fastenings, and other contrivances that weaken the rails at their joints.

In order to construct the tenon fastening herein described so that it will afford the requisite strength, I find it necessary to enlarge the necks or webs of the rails at their joints or ends; this is done by the lateral swells c, which may be equal in width to the width of the rail base. These swells need not continue back further than the length of the tenon and its socket, but I prefer to gradually reduce the swells, as shown in the drawings, so that there shall be a sufficient amount of metal to afford great strength. By thus swelling the ends of the rails the tenons and their sockets can be made much wider than the webs of the rails.

For the sake of uniformity in construction and convenience in laying down the rails, I prefer to make each rail section with a tenon upon one end and a socket or recess in the other; but it is obvious that the same result would be secured in practice were the tenons and sockets made upon alternate rails, the tenons being upon both ends of one rail and the sockets in both ends of the alternate rails.

I produce the rails with tenons and sockets by a process of casting cast steel in moulds, the latter being adapted for forming the tenons and mortises; and while the metal is in a molten state in the moulds I subject it to pressure sufficient to expel the air from it and render it very tough and solid. This process of casting I have fully set forth in a previous application for a patent. While I prefer to make my rails of cast steel, I do not desire to confine my invention exclusively to a moulded or cast-metal rail, as solid rails, having the tenons and sockets, may be made of wrought metal, by means of the well-known process of rolling, the tenons and sockets being subsequently produced by swaging devices adapted to the purpose.

I am aware that hollow rails have been provided with tenons, by driving wrought-iron bars into their ends, leaving a sufficient length projecting beyond the ends of the rails to enter the hollows or holes in the ends of other rail sections, thus forming tenon-and-socket junctions; but I am not aware that a solid rail section has

ever been made before my invention with a tenon formed on its end or ends, the tenon constituting a part of the metal of its rail section. In the case of hollow rails, the bars which constitute the tenons are separate pieces, and will in time become loose; besides which the hollow spaces left in such rails are not of sufficient size to admit of the required thickness and strength of tenons being inserted into them; consequently outside auxiliary fastenings must be employed at the joints of such rails.

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

Constructing solid railroad rail sections with tenons formed on one or both ends, which are adapted to fit into the ends of rail sections having sockets formed in them, said tenons constituting part of the metal of their rails, substantially as described.

JOHN B. TARR.

Witnesses:

P. E. MERRIHEW,

W. E. MARRS.