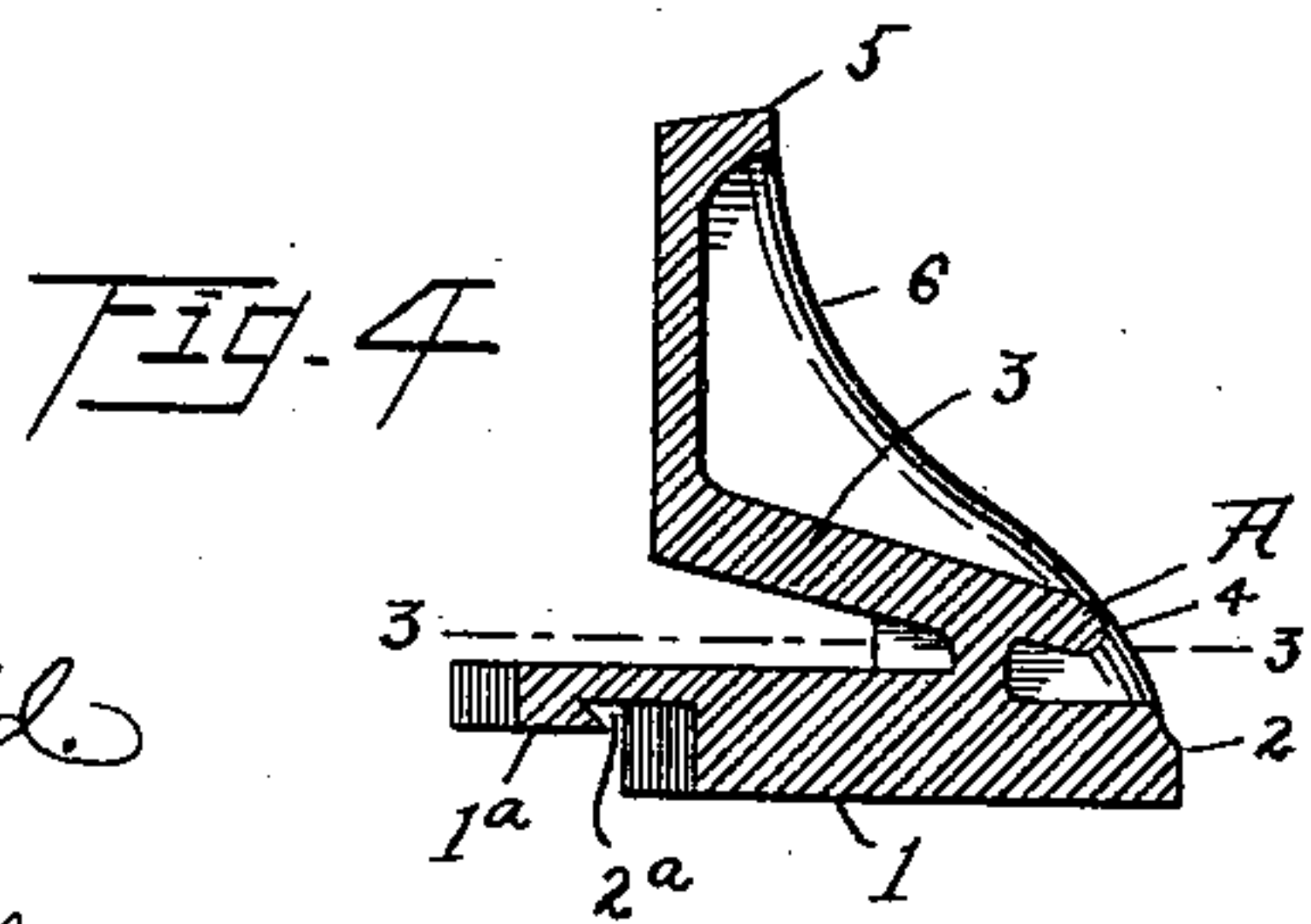
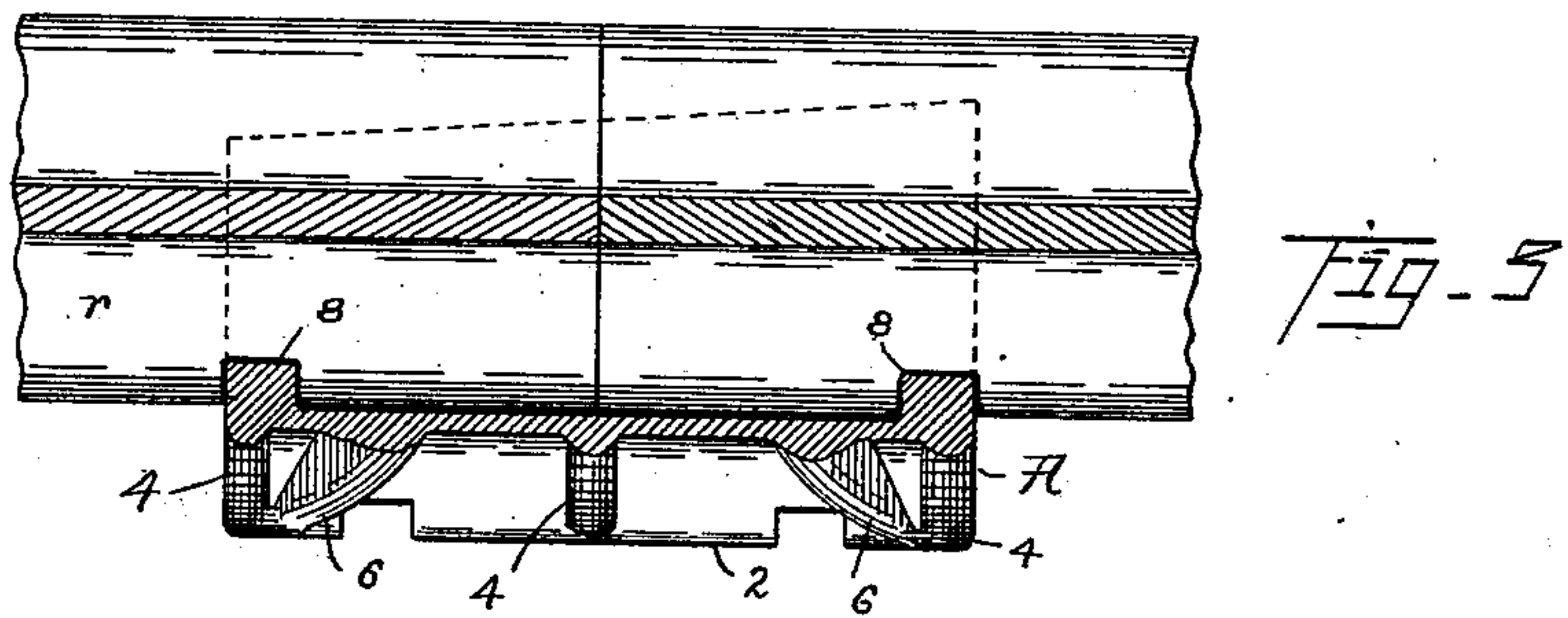
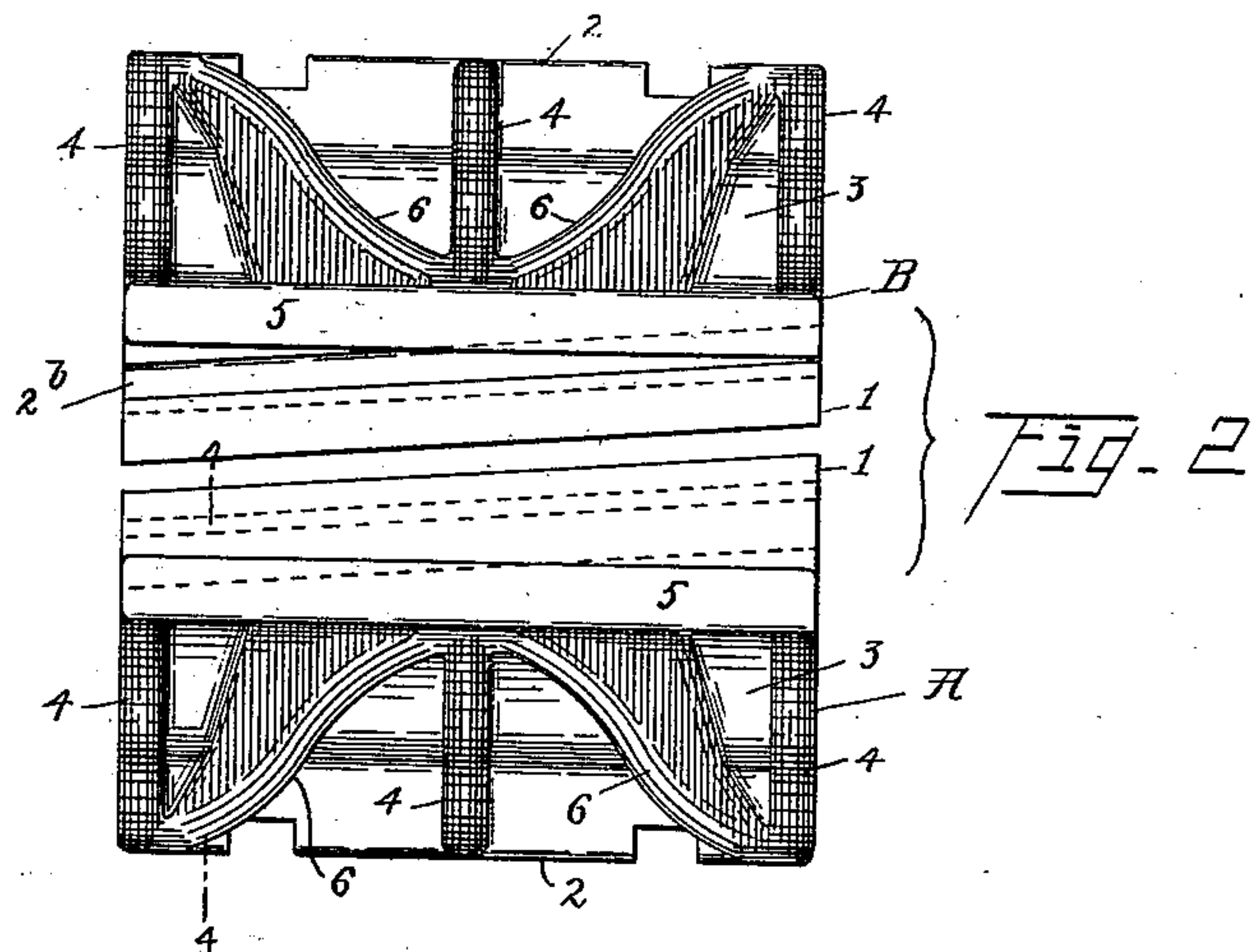
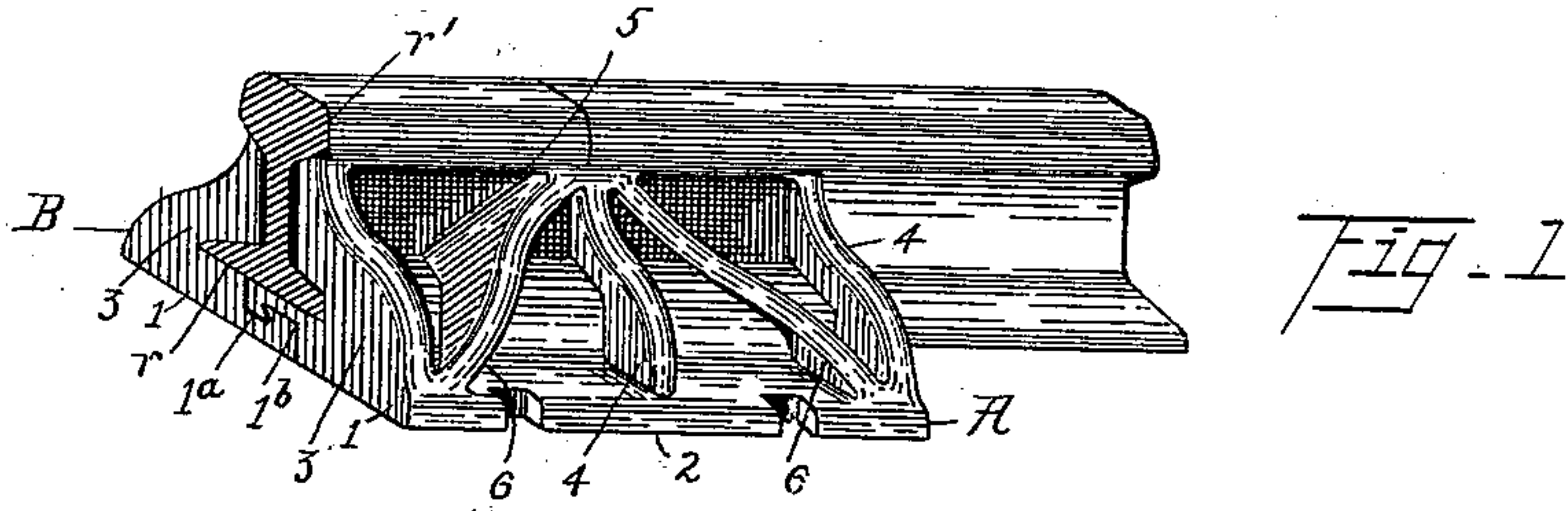


(No Model.)

G. D. CLAFLIN, Jr.
RAIL JOINT.

No. 560,971.

Patented May 26, 1896.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE D. CLAFLIN, JR., OF TOLEDO, OHIO, ASSIGNOR TO THE AMERICAN RAIL JOINT AND MANUFACTURING COMPANY, OF CLEVELAND, OHIO.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 560,971, dated May 26, 1896.

Application filed December 20, 1895. Serial No. 572,818. (No model.)

To all whom it may concern:

Be it known that I, GEORGE D. CLAFLIN, Jr., a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Rail-Joints; and I do hereby 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.

My invention relates to improvements in the class of rail-joints which are shown in Letters Patent No. 506,899 and No. 527,926, granted to G. A. Bartholomew.

The rail-joint shown and described in the first patent named has been found by experience to be somewhat objectionable because it does not afford sufficient support for the balls of the rails, because it is not strong enough for all places in which it is used, and because the formation in the rail-flanges of the peculiar-shaped notches described involves some unnecessary expense. The rail-joint shown and described in the other patent is objectionable because the body parts of the joint members are intended to lie against the webs of the rail, and when they do this they afford practically no support for the balls of the rails unless they happen to exactly fit into the space bounded by the balls, webs, and flanges of the rails to be joined—a condition which rarely happens in practical use.

The object of my invention is to provide a construction for rail-joints which will be stronger than any heretofore made, which will present a comparatively large surface, which will be in contact with the under side of the ball of the rail, and consequently act more effectually as a support therefor.

In the drawings, Figure 1 is a perspective view of my improved rail-joint in position to connect the two rails shown. Fig. 2 is a plan view of the two joint members before they are connected together. Fig. 3 is a horizontal sectional view of the fixed member on line 3 3 of Fig. 4, and Fig. 4 is a vertical section of the fixed member on line 4 4 of Fig. 2.

The invention consists in the construction and combination of parts hereinafter described and claimed.

In the drawings, A and B represent the two

members of the rail-joint, and R R' the ends of the rails to be connected thereby. The members A and B are, except in certain particulars which will presently appear, duplicates of each other. The member A, I shall call the "fixed" member and the part B the "movable" member, because the first is not, and the latter is, moved longitudinally after said parts are engaged with each other with the rails between them. Each member has a horizontal base 1, upon which the rails rest. Near the inner edges of these bases are formed oblique tongues 1^a 1^b and grooves 2^a 2^b, which engage with each other substantially as shown and described in the prior patents named, whereby as the part B is moved longitudinally it is drawn toward the other part, A. Both tongues are undercut, so that they will interlock in such manner that the members cannot be separated, even when they do not embrace the rails, except by their relative longitudinal movement. This makes a better and firmer joint than that shown in the other patents named.

The bases 1 may extend laterally, forming the flanges 2, by means of which the joint members may be secured to the ties. Each member has a body part 3, which extends over and rests upon the flange *r* of the rail and then upward, its upper edge engaging the under side of the ball *r'* of said rail.

On the upper edge of the body part of each joint member is formed an outwardly-extending longitudinal flange 5. The upper surface of said flange has substantially the same inclination as the under side of the ball of the rail with which it is intended to come in contact.

Vertical strengthening-ribs 4 are formed on the outside of the body part and they extend down to the flange 2. Their upper ends join with and support the longitudinal flange 5. Oblique strengthening-ribs 6 are also formed on the outside of said body. Their upper ends join with the flange 5 and one rib 4 and they extend therefrom diagonally, their lower ends joining with the lower ends of the ribs 4 on both sides of said ribs. These oblique strengthening-ribs act as trusses and not only strengthen the body part, but uphold and strengthen the longitudinal flanges, while said

longitudinal flanges furnish a broad and firm support for the ball of the rail, or, in street-car rails, for the ball on one side and the flange on the other side of the web.

5 On the inner face of the body part 3 of the fixed member, at the ends thereof, and at the level of the base-flange of the rail are the ribs 8, which join the base 1 at their lower ends. These ribs may be of any suitable shape, and
10 they are intended to enter corresponding notches in the edge of the rails for the purpose of preventing relative longitudinal movement of the rails and joint member. These ribs also strengthen the joint member at what
15 would be otherwise a weak point.

When the joint is in use, the flange 5 lies against the under side of the ball of the rail and the lower part of the body rests upon the flange of the rail; but the vertical part of said
20 body is not intended to touch the web of the rail. With this construction the longitudinal movement of the movable member B causes the body part of both members to be tightly wedged between the ball and flanges of the
25 rail, where they act as struts which support said ball.

Having described my invention, I claim—

1. In a rail-joint, the combination of fixed
30 and movable joint members, each having a base upon which the rails to be connected rest,

a body part adapted to extend over and onto the rail-flanges and then up to the balls of the rails, a longitudinal flange on the upper edge of said body which is adapted to engage beneath the balls of said rails, transverse external ribs and diagonal truss-ribs, joining
35 said flanges at their upper ends, substantially as and for the purpose specified.

2. In a rail-joint, the combination of fixed and movable members, each having a base
40 upon which the rails to be connected rest, a body part which is adapted to extend over and onto the rail-flanges and then upward, a longitudinal flange upon its upper edge which is adapted to engage beneath the balls of the
45 rails, a plurality of vertical ribs formed on the outer surface of said body part and connected at their upper ends with said flange, and diagonal external ribs connected at their upper
50 ends to said flange and the upper end of one vertical rib, and at their lower ends to the lower end of vertical ribs on both sides of the said rib, substantially as and for the purpose specified.

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

GEORGE D. CLAFLIN, JR.

Witnesses:

E. L. THURSTON,

L. F. GRISWOLD.