

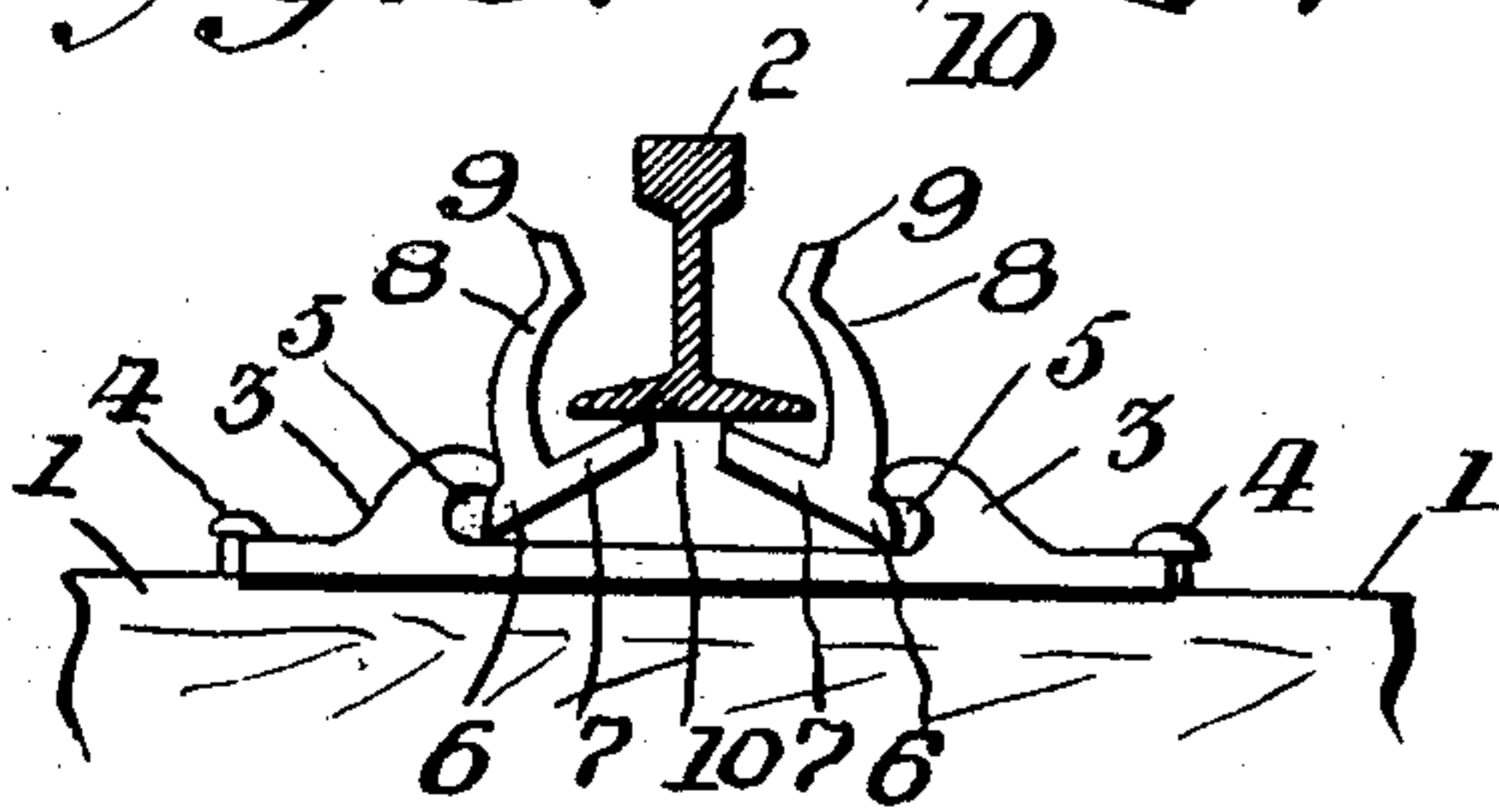
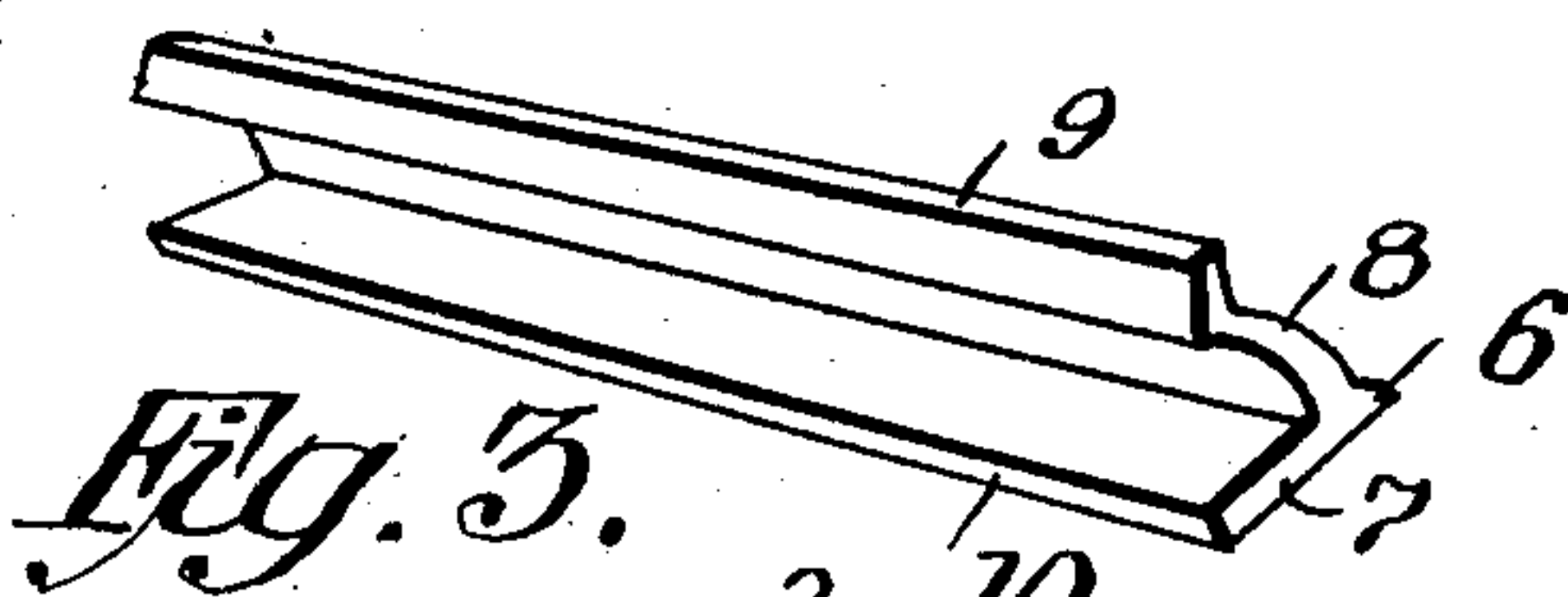
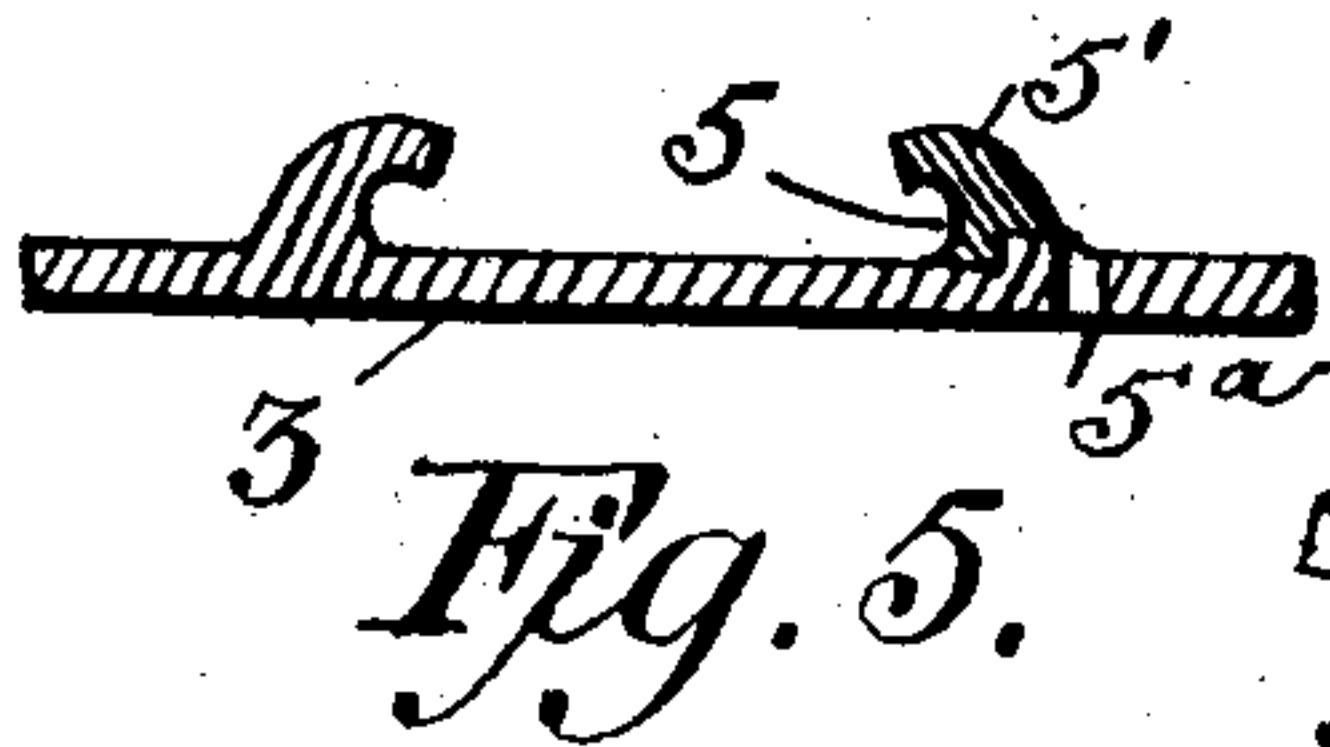
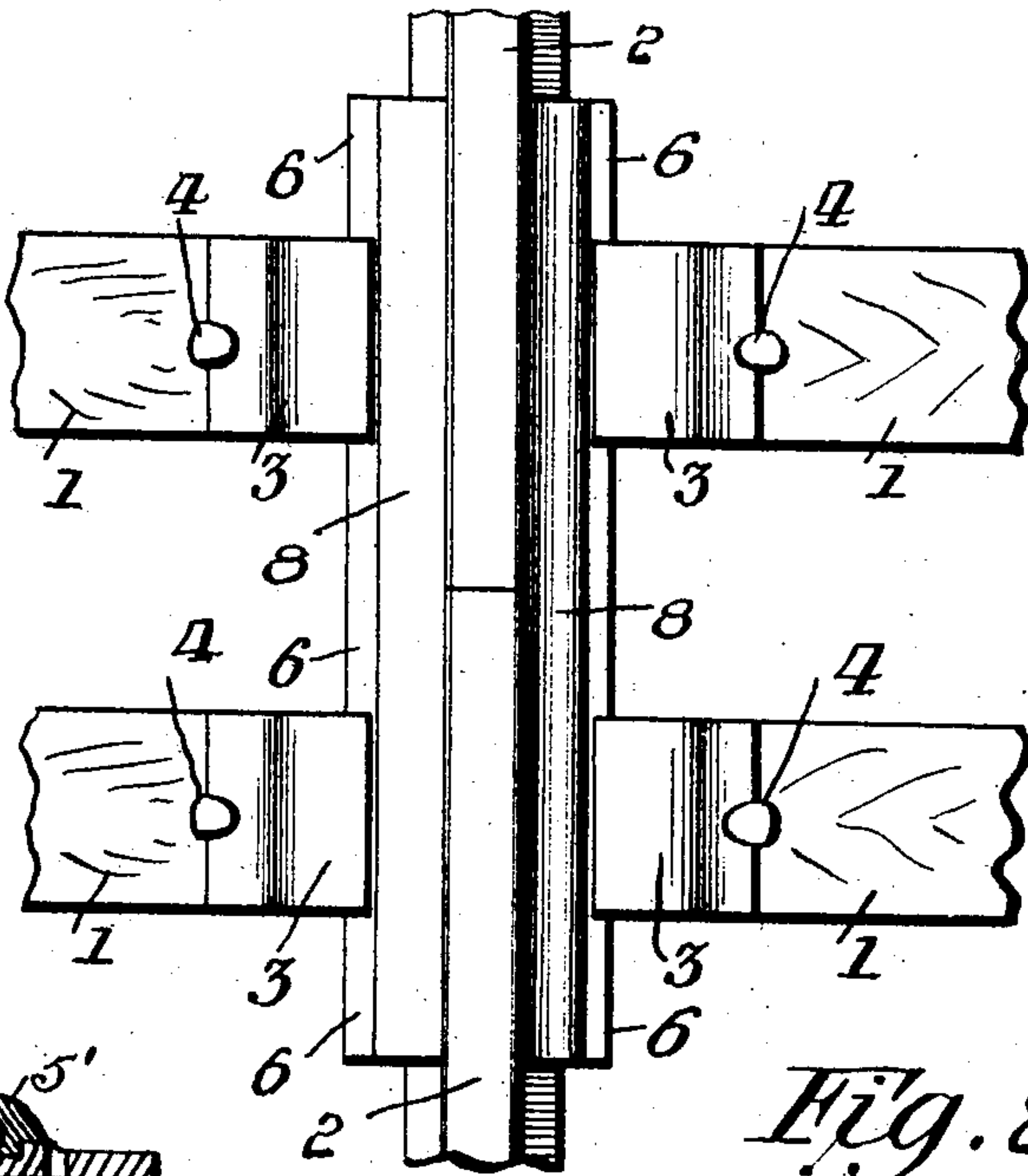
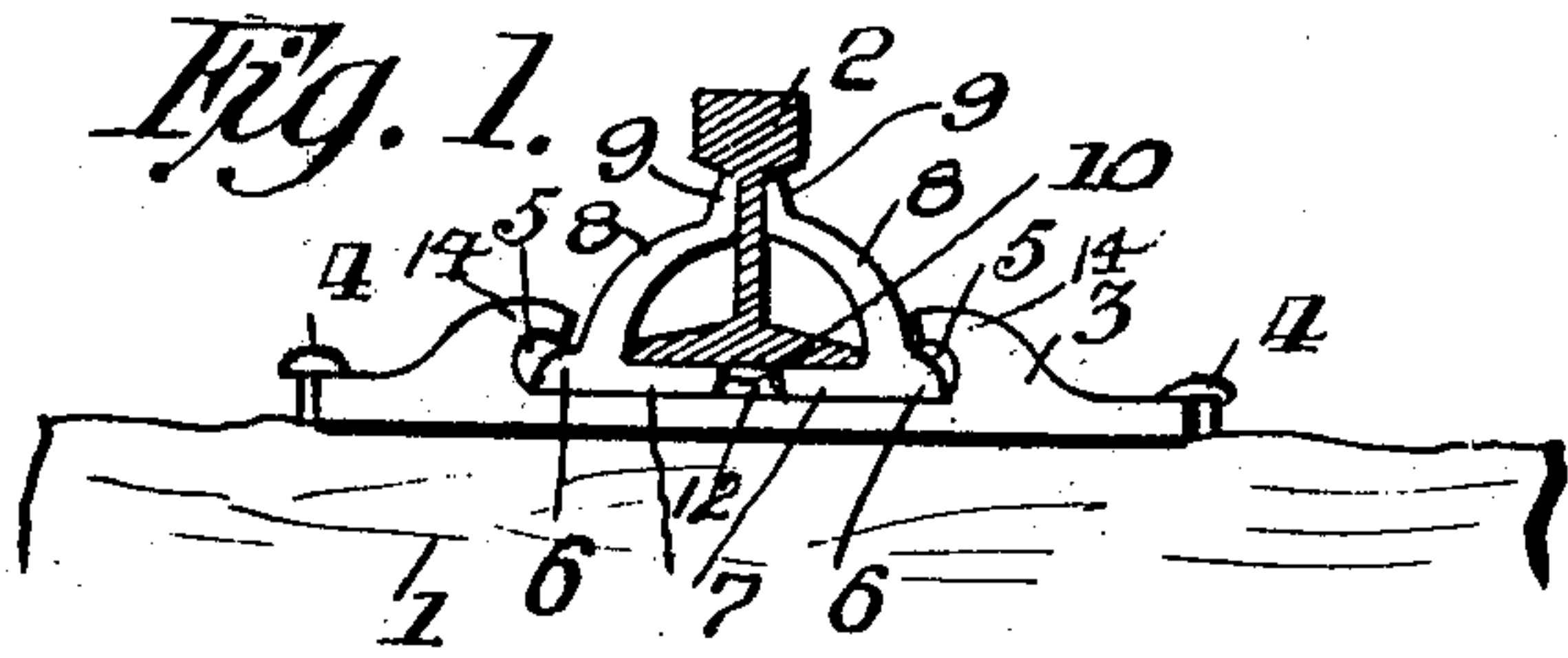
No. 765,011.

PATENTED JULY 12, 1904.

M. B. KATO.
RAIL JOINT.

APPLICATION FILED APR. 25, 1904.

NO MODEL.



Witnesses:
H. W. Butler,
E. E. Butler.

Fig. 4.

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UNITED STATES PATENT OFFICE.

MICHAEL B. KATO, OF DUQUESNE, PENNSYLVANIA.

RAIL-JOINT.

SPECIFICATION forming part of Letters Patent No. 765,011, dated July 12, 1904.

Application filed April 25, 1904. Serial No. 204,699. (No model.)

To all whom it may concern:

Be it known that I, MICHAEL B. KATO, a citizen of the United States of America, residing at Duquesne, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Rail-Joints, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain new and useful improvement in rail-joints, and has for its object the provision of novel means for securely clamping the ends of the rails together without the use of nuts and bolts; furthermore, to provide means that will permit the rail-sections to expand and contract.

My present invention further aims to provide a device of the above-described character that may be placed in position without the necessity of adjusting the rail endwise and which will permit any rail-section to be easily removed from the chair and a new rail to be placed in position.

Another object of my invention is to provide a joint that will be extremely simple in its construction, strong and durable, comparatively inexpensive to manufacture, and one that will be highly efficient to its use.

With the above and many other objects in view my invention consists in the novel construction, combination, and arrangement of parts to be hereinafter more particularly described, and specifically pointed out in the claims.

In describing my invention in detail reference is had to the accompanying drawings, in which—

Figure 1 is a vertical sectional view of a rail, showing my improved rail-joint in end elevation. Fig. 2 is a top plan view of the same. Fig. 3 is a detail perspective view of one of the fish-plates. Fig. 4 is a similar view as illustrated in Fig. 1, showing the manner of placing the rail in position or removing the same when desired; and Fig. 5 is a longitudinal sectional view of a modified form of chair which may be used in connection with my improved rail-joint.

In the drawings the reference-numerals 1 represent the cross-ties, and the rails are re-

ferred to by the reference-numeral 2. Upon the cross-ties 1 are suitably secured chairs 3, which may be fastened by spikes 4, driven in the cross-ties 1, or the chairs may be fastened in any other suitable manner. These chairs have formed therein an interior semicylindrical seat 5 on each side for the reception of the extending flanges 6, carried by the base-plate 7 of the integral fish-plate 8, carrying an upper extension 9. The inner-extending ends of the base-plate 7 are slightly beveled, as shown at 10, and when placed in position form a slight opening 12 under the base of the rail. The chair 3 also carries rounded inwardly-extending flanges 14, which effectually prevent a displacement of the fish-plate 8.

The rail is placed in position, as shown in Fig. 4 of the drawings, the fish-plate being of such length that the same will extend over two cross-ties and will be secured in position in two chairs. When it is desired to remove the rail, the same will be raised, it being only necessary when one section of the rail is to be removed to draw the spikes which hold the removable flanges 5 in position upon the chair and then remove the fish-plate 8 upon the inner side of the rail. One section of the rail can then be taken out, while the other section remains in position upon the base. The base 12 will permit the plates 7 to come in close proximity to one another, and the chair will also permit the fish-plates to assume the position as illustrated in Fig. 4 of the drawings, when the rail may be easily removed and a new one inserted. When the device is placed in proper position, as illustrated in Fig. 1 of the drawings, the upwardly-extending flange 9 of the fish-plates will engage the web of the rail and the upper edge of the flange 9 will engage the under side of the head of the rail, forming a clamp that will prevent both the spreading of the rail or a displacement of the same.

In Fig. 5 of the drawings I have illustrated the modified form of chair, which consists in constructing one of the flanges which forms the semicylindrical seat 5, whereby the same may be removed. This flange, as designated by the reference-numeral 5', is adapted to be held in position upon the chair and upon the

tie by a spike which passes down through an aperture 5", formed in the chair, the head of the spike being adapted to overlie a portion of the flange 5' and securely hold the same in place. This modified form of construction is adapted to be used upon the inner side of the rails, whereby one section of rail may be removed without interfering with the other section of rail or causing the displacement of the same.

The many advantages presented by my improved rail-joint will be readily apparent from the foregoing description, taken in connection with the drawings.

It will be noted that various changes may be made in the details of construction without departing from the general spirit of my invention.

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

1. In a rail-joint, the combination with a chair, having outwardly-extending flanges, upwardly-extending and inwardly-curved flanges and a flat bearing-surface between said inwardly-curved flanges, of fish-plates having outwardly-extending flanges embraced by the inwardly-curved flanges of the chair, upwardly-extending and inwardly-curved flanges adapted to embrace the end of a rail and flat inwardly-extending flanges resting on the flat bearing-surface of the chair and affording a bearing for the base of the rail.

2. In a rail-joint, the combination with a chair comprising a flat base portion, outwardly-extending flanges and an upwardly-extending and inwardly-curved flange formed integral with the base, of an upwardly-extending and inwardly-curved removable flange, and fish-plates, each having an upwardly-extending inwardly-curved flange, an outwardly-extending flange and an inwardly-extending flange and means for securing the removable flange of the chair in position thereon.

3. In a rail-joint, the combination with a plurality of cross-ties, of a plurality of chairs attached one to each of said cross-ties, said chairs having outwardly-extending flanges, upwardly-extending inwardly-curved flanges, and flat bearing-surfaces between said inwardly-curved flanges, of a plurality of fish-plates, each fish-plate extending alongside the rail and over two of said chairs, said fish-plates having outwardly-extending flanges embraced by the inwardly-curved flanges of the chairs, inwardly-extending flanges resting on the chairs and upwardly-extending inwardly-curved flanges, contacting with the web of the rail below the head thereof.

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

MICHAEL B. KATO.

Witnesses:

H. C. EVERT,
W. C. HEITZ.