

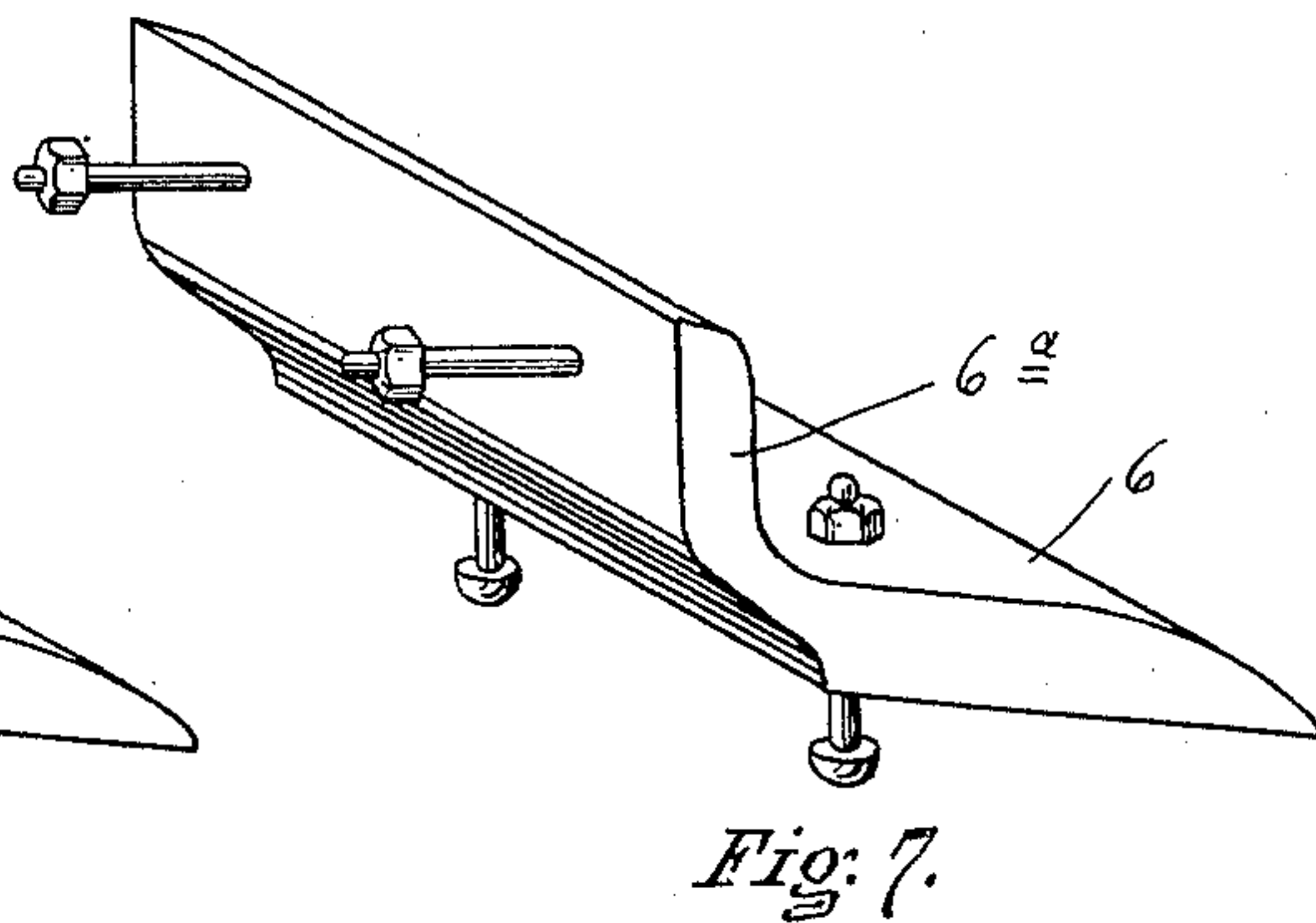
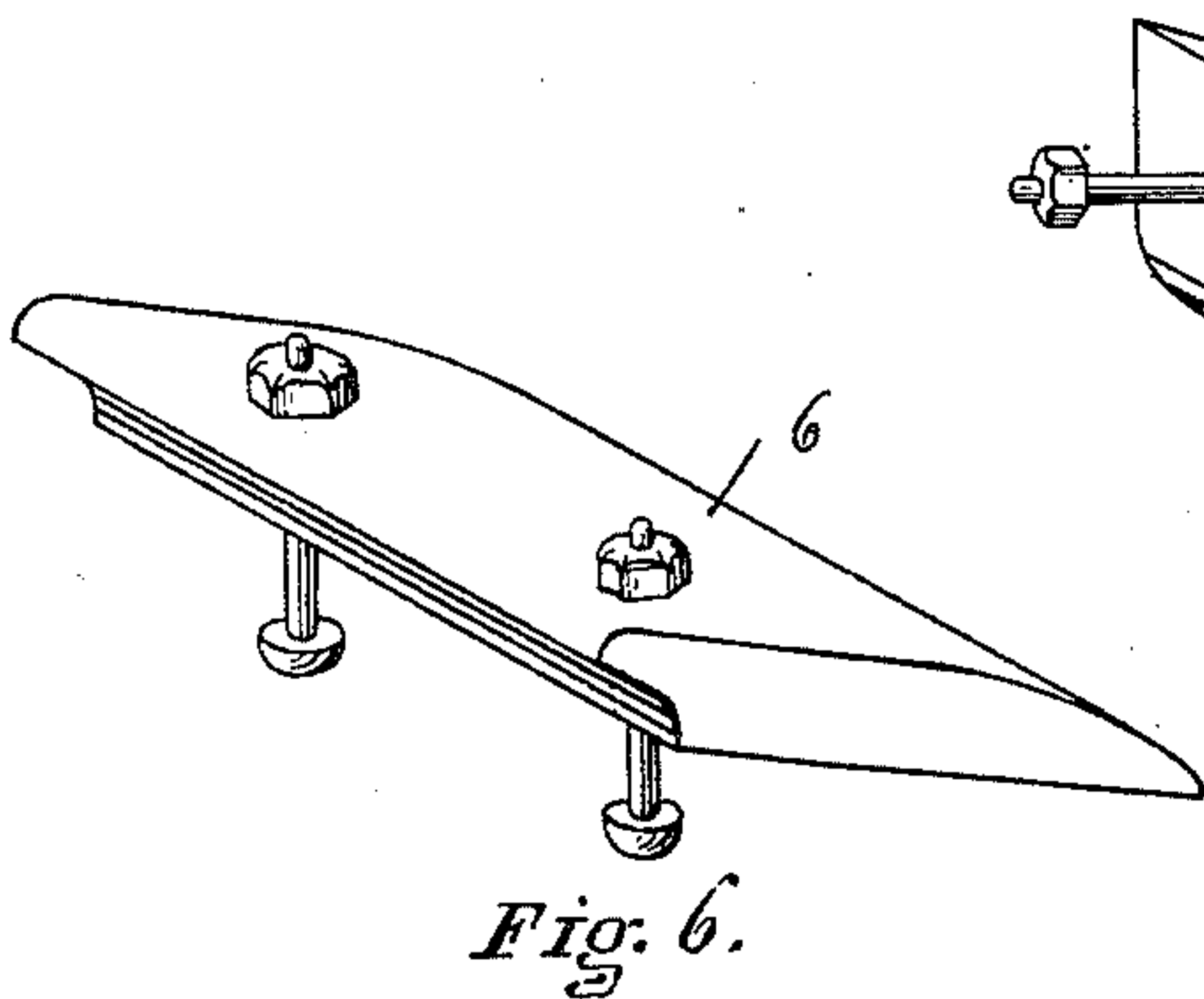
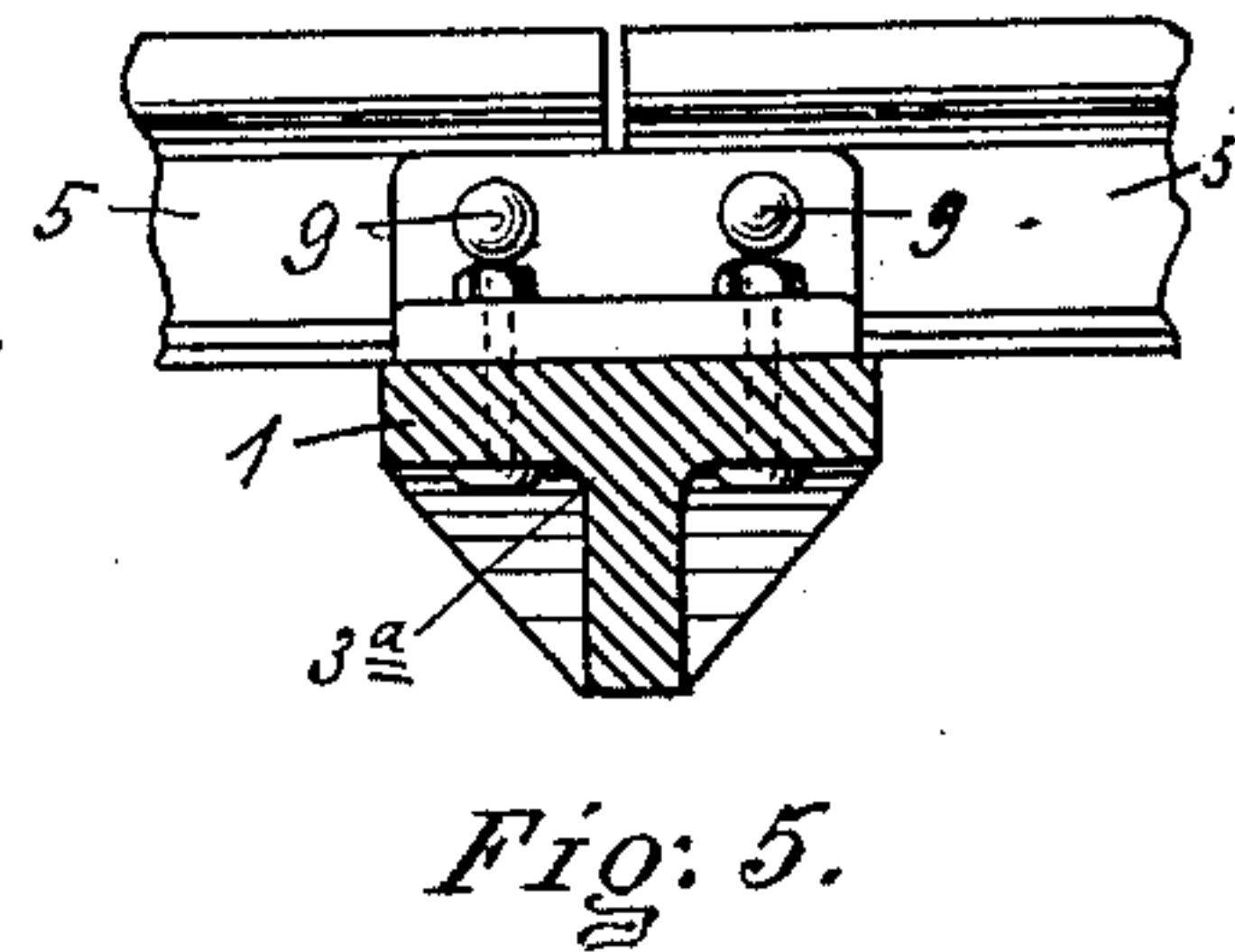
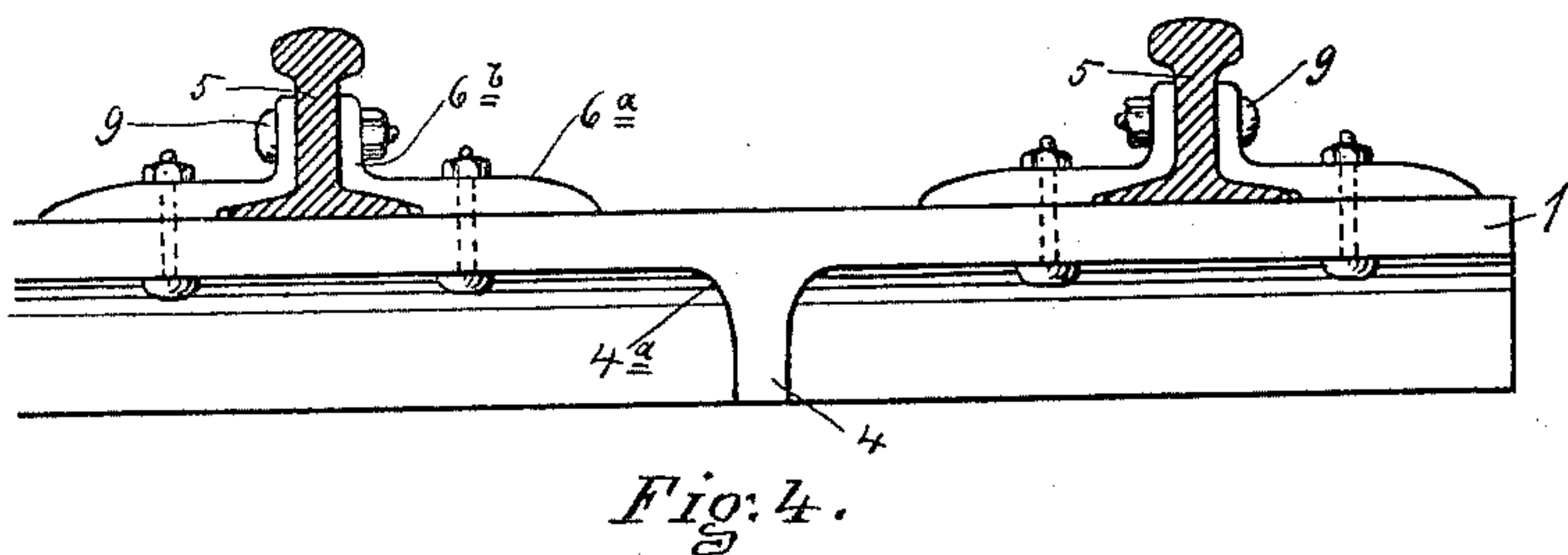
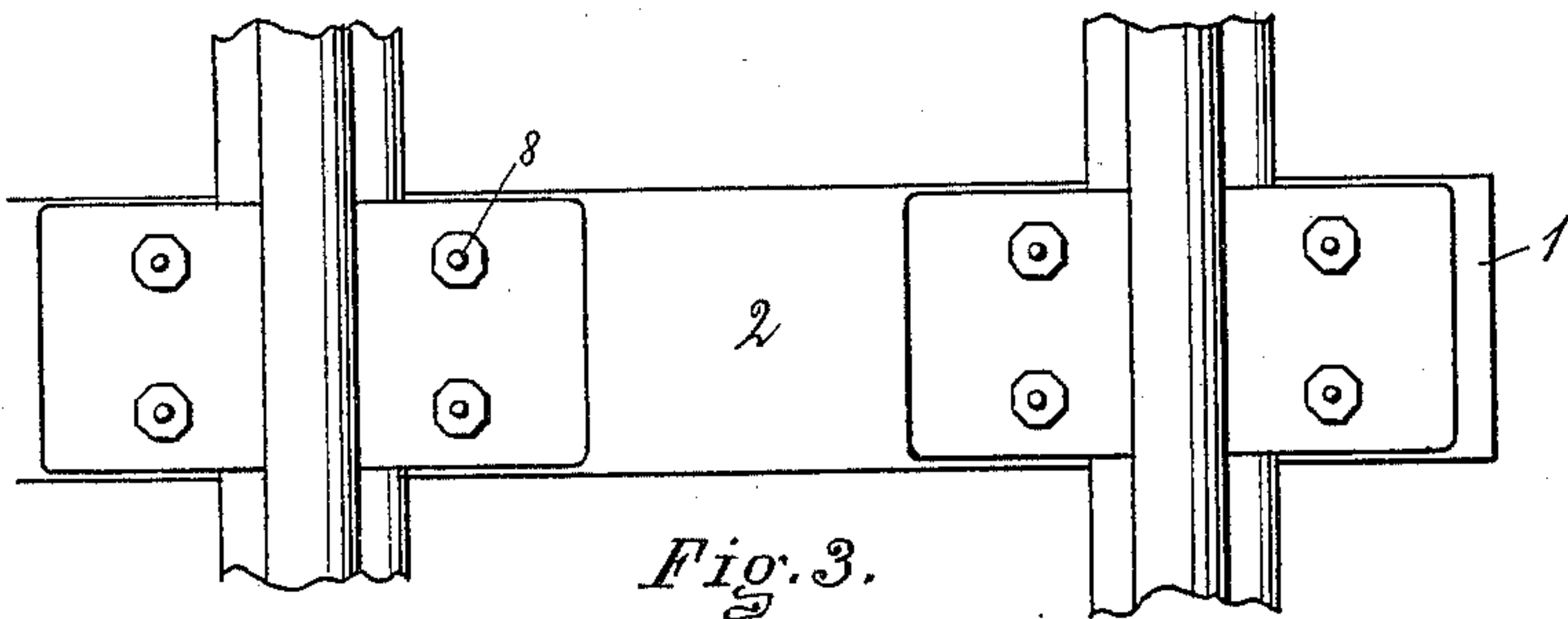
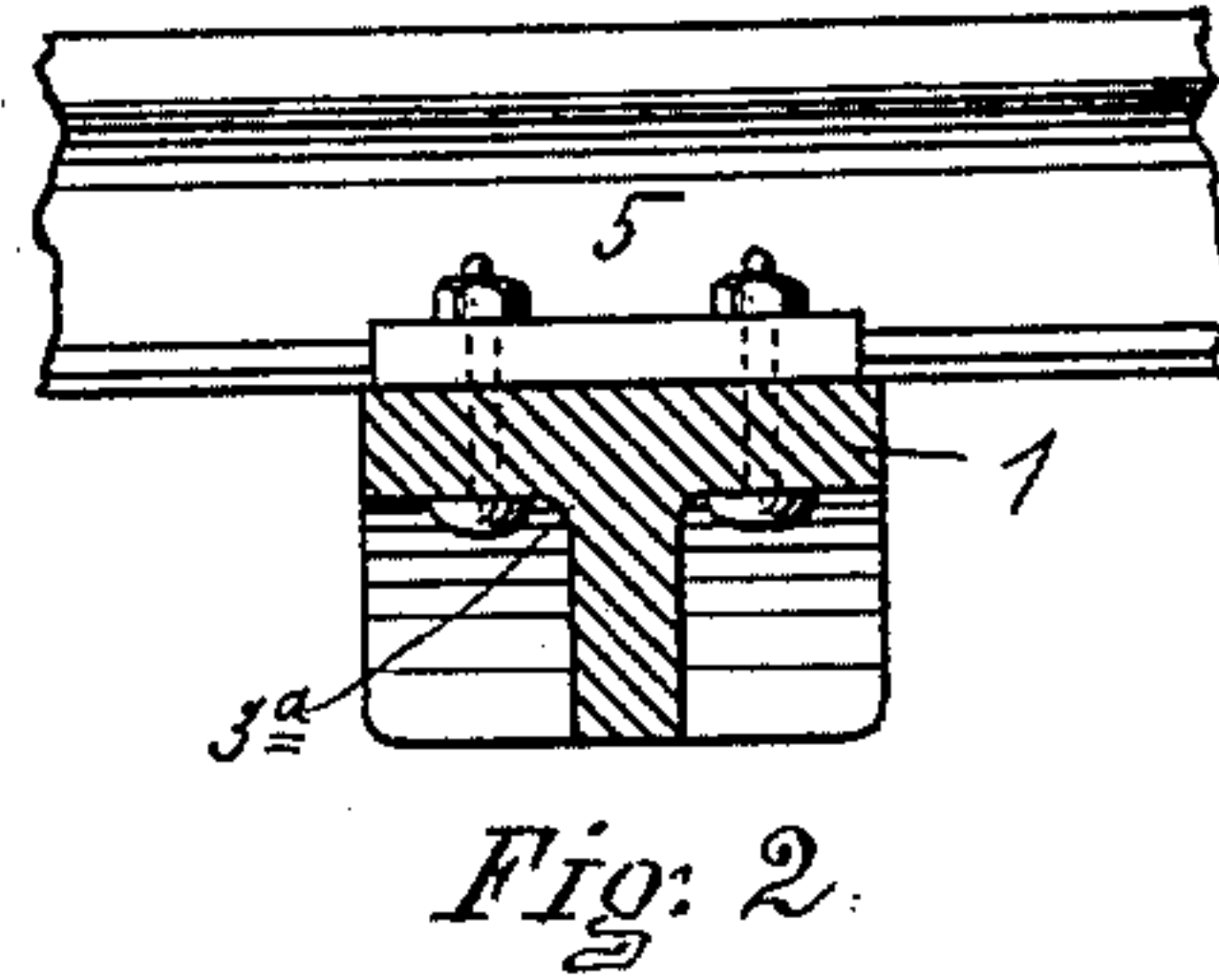
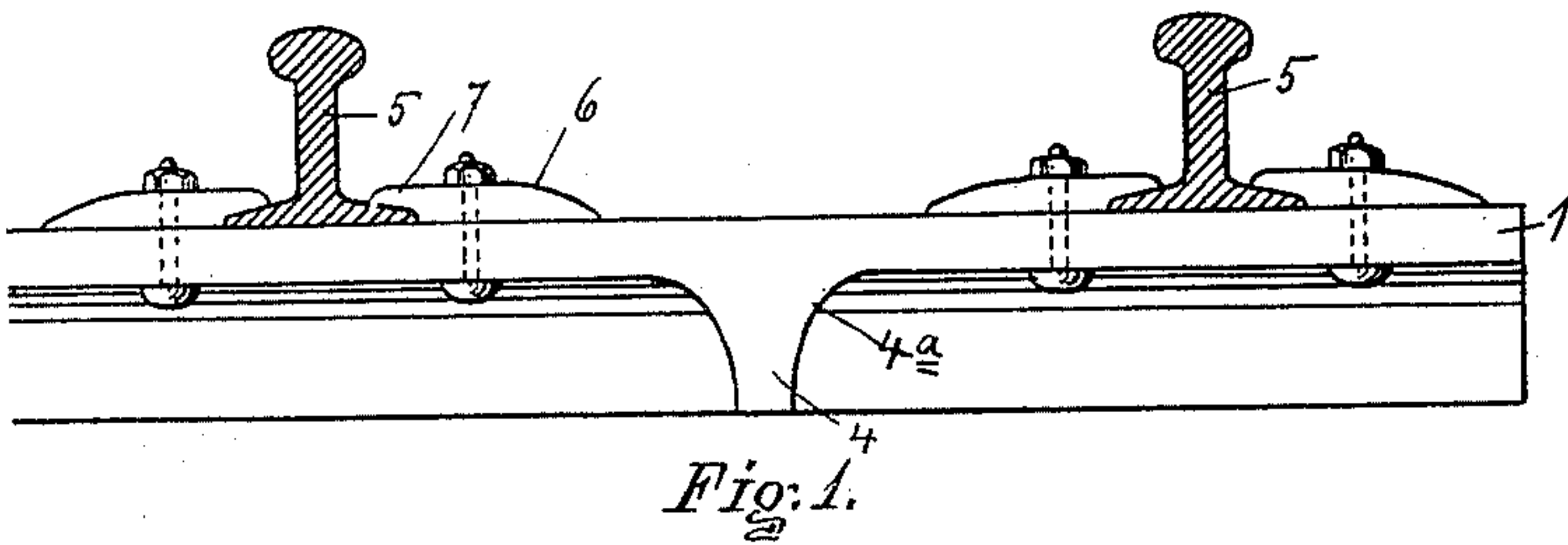
(No Model.)

O. M. KNOX.

RAILWAY TIE AND RAIL SECURING DEVICE.

No. 462,716.

Patented Nov. 10, 1891.



WITNESSES.

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UNITED STATES PATENT OFFICE.

ORVILLE M. KNOX, OF ONEIDA, NEW YORK.

RAILWAY-TIE AND RAIL-SECURING DEVICE.

SPECIFICATION forming part of Letters Patent No. 462,716, dated November 10, 1891.

Application filed July 15, 1891. Serial No. 399,548. (No model.)

To all whom it may concern:

Be it known that I, ORVILLE M. KNOX, of Oneida, in the county of Madison and State of New York, have invented certain new and useful Improvements in Railway-Ties and Rail-Securing Devices; 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 the figures of reference marked thereon, which form part of this specification.

My invention relates to improvements in railway-ties and rail-securing devices therefor.

In the drawings which accompany and form part of this specification, and in which similar figures of reference refer to corresponding parts in the several figures, Figure 1 shows a side elevation of a tie and securing devices and a cross-section of rails mounted thereon. Fig. 2 shows an end elevation of the tie and side elevation of a section of rail thereon. Fig. 3 shows a top view of the tie and rail-securing devices. Fig. 4 shows the same as Fig. 1, with a modified form of fastening device. Fig. 5 shows an end view of the tie and devices shown in Fig. 4. Fig. 6 shows one of the rail-securing pieces, similar to those shown in Figs. 1, 2, and 3, removed. Fig. 7 shows one of the rail-securing devices, as shown in Figs. 4 and 5, removed.

Referring more specifically to the reference numerals marked on the drawings, 1 indicates the tie, having surface plate 2, with downwardly-projecting longitudinal central flange 3, which flange gradually rounds outward from the under surface of the tie, as shown at 3^a, leaving no space or steps into which it is difficult to "tamp" the earth when locating the tie. The tie is also provided with a centrally-located web or projection 4, spanning the angle between the surface portion of the tie and the downwardly-projecting rim, and which portion 4 is connected to the surface portion with a rounded corner, as shown at

4^a, which also makes the tie so that the earth may be readily tamped into all space beneath the tie. The web or wall 4 is provided to prevent longitudinal displacement of the tie and may be provided with a square corner, as shown in Fig. 2, or with the projecting side cut to just span the angle between the surface plate and the vertical projecting plate shown in Fig. 5. The rails 5 are set directly on top of the surface of the tie and are secured thereto, as shown in Figs. 1, 2, and 3, by plates 6, having a base portion adapted to lie on the surface of the tie, and a lip portion 7, adapted to engage the base of the rail. One of the pieces 6 is provided on each side of each rail, and they are secured to the rail by bolts 8, passing through the surface plate and the piece 6.

In the modified form of construction shown in Figs. 4, 5, and 7 the pieces 6^a are provided, having an extension 6^b, conforming with the base and web portions of the rail and acting as "fish-plates," which are secured to the rail by bolts 9, passing through the plates 6^a and the web of the rail.

I am aware that metal ties are not new, broadly considered; but the particular construction herein shown and described and having the several advantages heretofore mentioned is believed to be new. Therefore,

What I claim as new, and desire to secure by Letters Patent, is—

The herein-described metal railway-tie having surface plate 2 and downwardly-projecting central flange 3, formed integral therewith, and having the corner or angle between the surface plate and flange filled and rounded, and a centrally-located web or plate 4 for preventing longitudinal movement of the tie, and also having the angle between the web and surface-plate filled and rounded, as set forth.

In witness whereof I have affixed my signature in presence of two witnesses.

ORVILLE M. KNOX.

Witnesses:

M. E. ROBINSON,
I. S. CLARKE.