

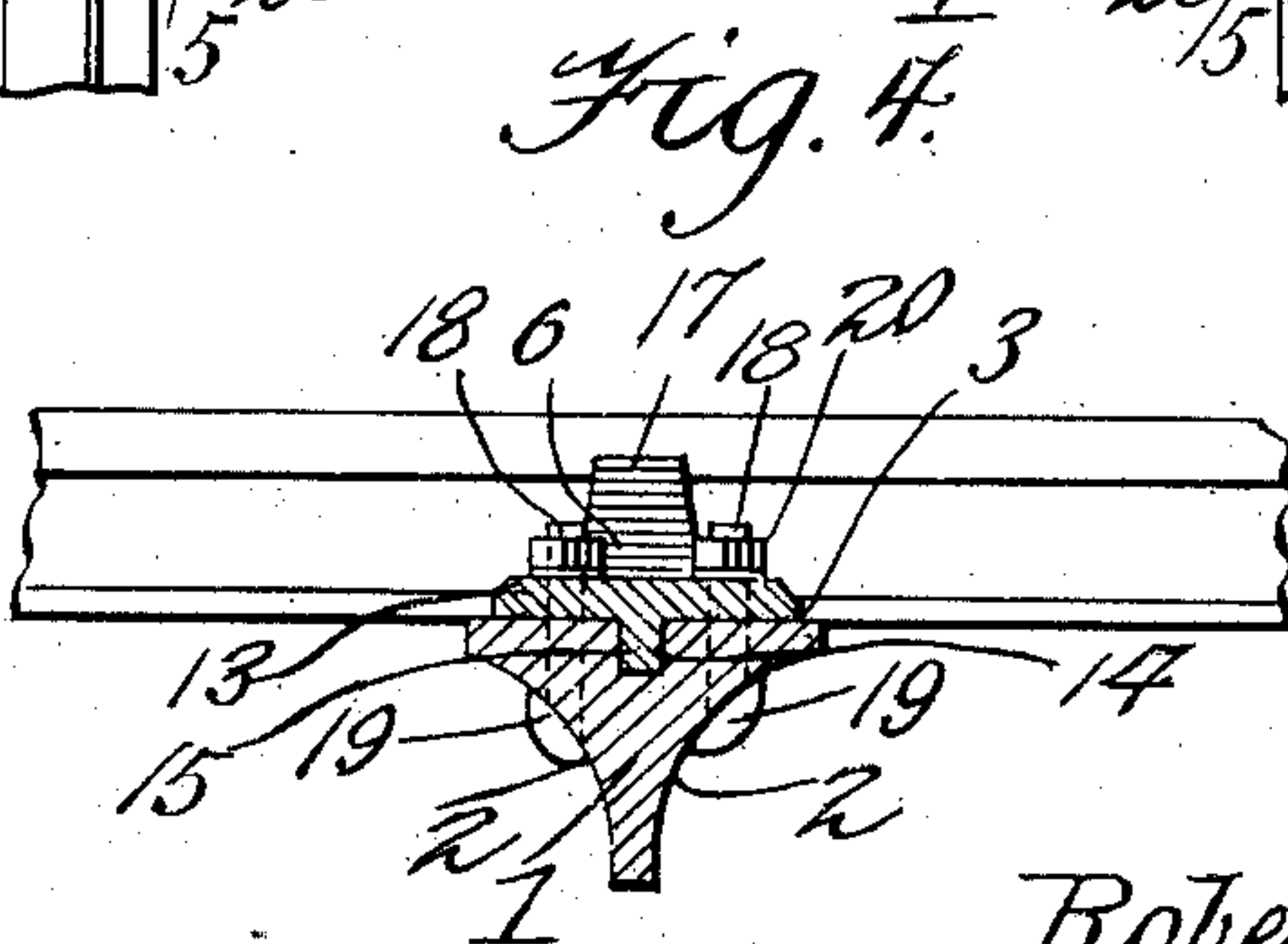
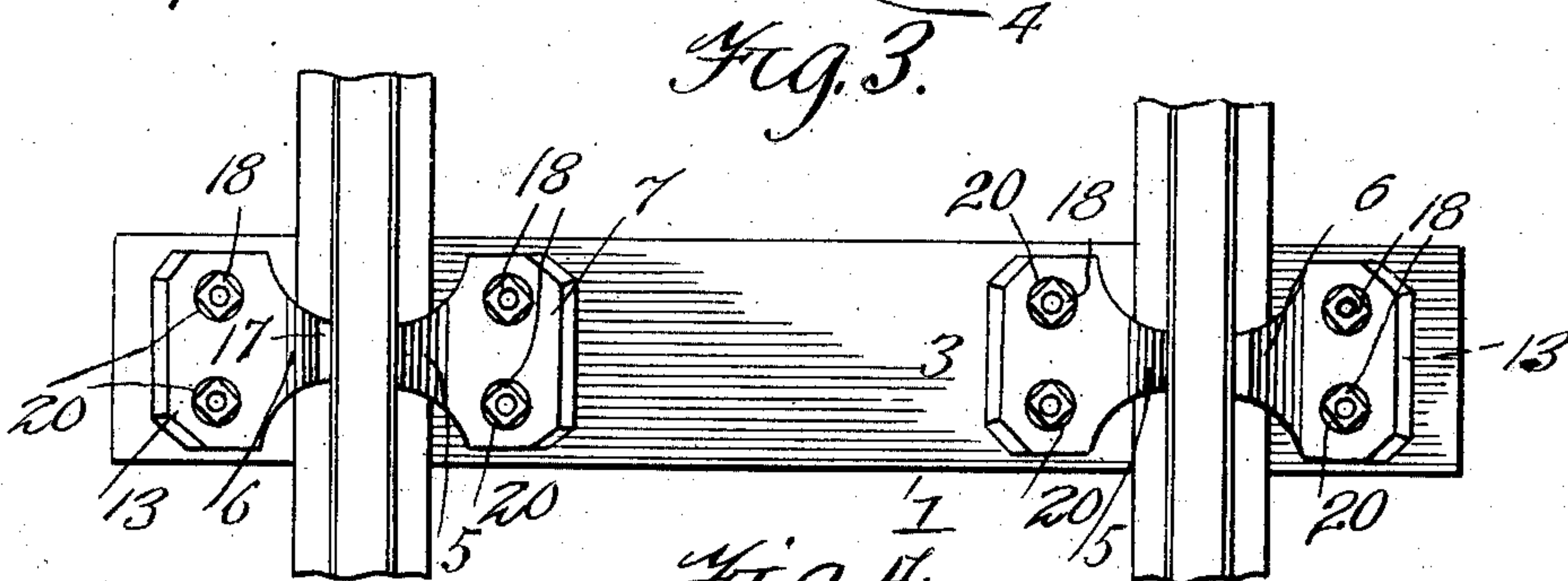
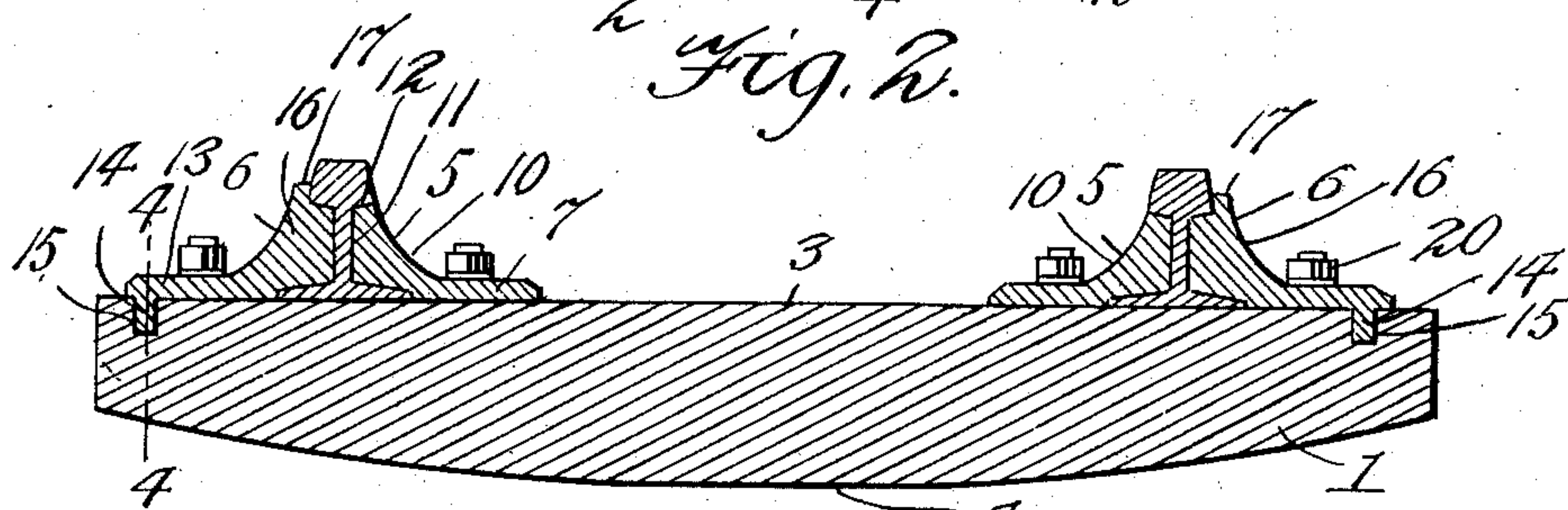
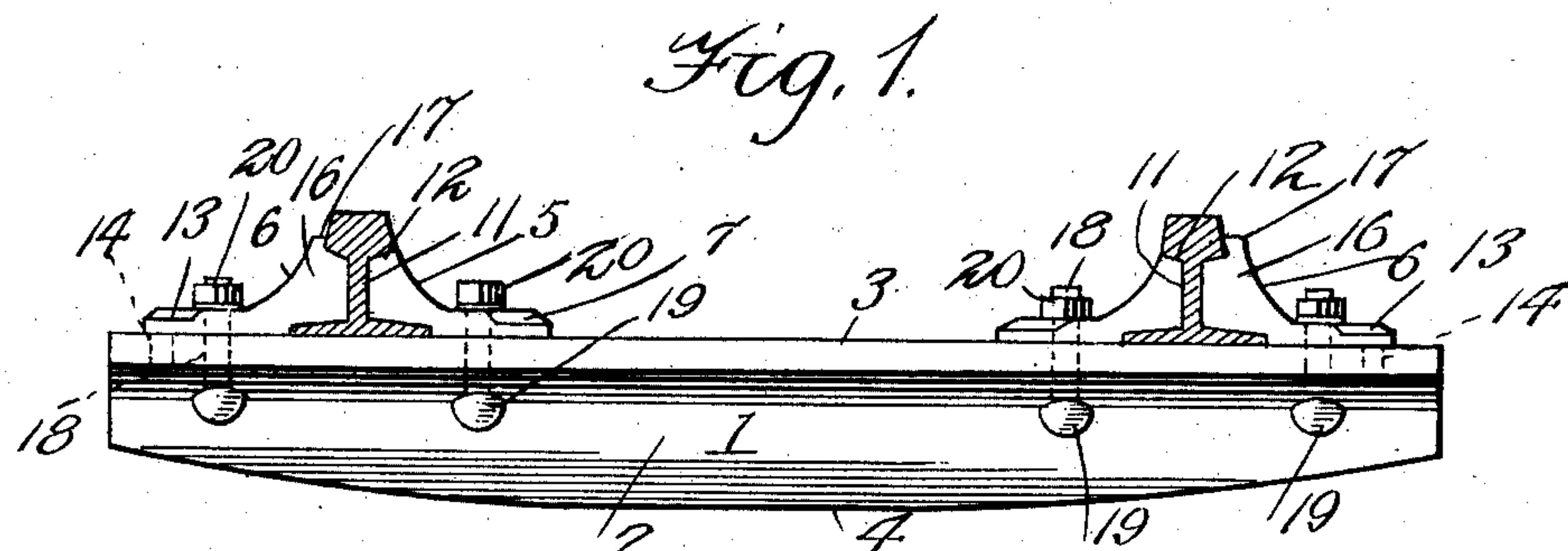
No. 883,562.

PATENTED MAR. 31, 1908.

R. C. NICHOLS.

RAIL TIE.

APPLICATION FILED APR. 6, 1907.



Inventor

Robert C. Nichols,

By Victor J. Evans

Attorney

Witnesses
F. Ackman Jr.
D. W. Gould.

UNITED STATES PATENT OFFICE.

ROBERT C. NICHOLS, OF EVERETT, WASHINGTON.

RAIL-TIE.

No. 883,562.

Specification of Letters Patent.

Patented March 31, 1908.

Application filed April 6, 1907. Serial No. 366,796.

To all whom it may concern:

Be it known that I, ROBERT C. NICHOLS, a citizen of the United States, residing at Everett, in the county of Snohomish and State of Washington, have invented new and useful Improvements in Rail-Ties, of which the following is a specification.

The invention relates to an improvement in rail ties and rail fastening means therefor, comprehending specifically a simple form of all metallic construction, whereby the rails are effectively secured in place and supported from the road-bed.

The main object of the present invention is the provision of a rail tie of particular sectional contour to insure a relatively broad rail bearing surface, the construction including a rail fastening means adapted for particular coöperation with the tie described.

The invention will be described in the following specification, reference being had particularly to the accompanying drawings, in which:—

Figure 1 is a side elevation illustrating my improvement, Fig. 2 is a vertical central section of the same, Fig. 3 a plan of the same, Fig. 4 a transverse section on the line 4—4 of Fig. 2.

Referring particularly to the drawings, my improved tie comprises a metallic body 1 of appropriate length, and of approximately inverted triangular shape in cross section, the sides 2 of the tie being preferably concaved, as shown, while the upper edge 3, forming the base of the triangle provides a relatively broad bearing surface for the rails. The relatively lower edge 4 of the tie is preferably curved in longitudinal section, arranging the greatest depth of the tie at the longitudinal central point thereof and curving upwardly from said central point toward the ends.

In conjunction with the tie I provide rail securing means including rail engaging members 5 and 6, the former bearing against the inner side of the rail and being hereinafter termed the inner member, and the latter bearing against the outer side of the rail and being hereinafter termed the outer member.

The inner member comprises a bearing plate 7 designed to rest upon the surface 3 of the tie. At one end the plate 7 is formed with a head 10 cut away on the under side to embrace the adjacent section of the rail flange and formed with a forward edge 11 to

bear against the rail web, the upper portion 12 of the head bearing snugly beneath the ball or tread portion of the rail. The outer member 6 is practically identical in construction with the inner member, having a bearing plate 13, a depending stud 14 to engage an opening 15 formed in the tie, and a head member 16 formed to embrace the adjacent section of the rail flange and bear beneath the ball portion of the rail, the forward face of the head snugly contacting with the rail web. The outer member is further provided with a head extension 17 to project in contact with the proximate face of the rail bar, so as to prevent a relatively outward movement of said tread or ball portion.

The bearing plates 7 and 13 of the respective members are somewhat wider than the heads of said members, so that in applied position the outer edges of said bearing plates terminate adjacent the respective edges of the tie. Through this arrangement the securing bolts 18, by which the members 5 and 6 are secured to the tie, may be passed upwardly through the tie, the curving edges 2 of said tie affording a thickness of material beneath the bearing plates which is of materially less height than the full height of the tie. The bolts 18 are preferably applied with their heads 19 resting against the curved sides of the tie, the contacting surfaces of the heads being appropriately formed to snugly fit the tie sides. The upper ends of the bolts are provided beyond the bearing plates of the members with securing nuts 20, which may be in any desired form, as they together with the specific form of the bolts proper form no material part of the present invention.

As constructed my improved tie comprises a single metallic body of solid form with the sides so curved as to permit the application of securing bolts beyond the central line of the tie, as shown, the rail securing means being fixed with relation to the tie through the medium of the bolts and stud 14, said means being formed to embrace the rail flanges, webs and tread portion, thereby fixing the rail against independent movement with relation to the tie other than that necessary for its expansion and contraction under extremes of temperature.

Having thus described the invention what is claimed as new, is:—

A railroad tie comprising a solid metallic body of approximately triangular shape in

transverse section, rail securing means arranged on the bearing surface of said tie, said securing means comprising inner and outer members formed to bear against the opposite
5 sides of the rail webs and to embrace the rail flanges, one of said members being formed with a depending stud to enter an opening formed in the tie, and bolts passed through said members and tie, said bolts projecting

through the inclined sides of the tie above the 10 lower edge thereof.

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

ROBERT C. NICHOLS.

Witnesses:

J. R. GOLDMAN,
H. A. DOUGLAS.